



**2017-2018
Program & Course
Catalog**

Hawkeye Community College Accreditation

The Higher Learning Commission

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



2016 Reports

- [Comprehensive Quality Review Report \[pdf\]](#)
- [Systems Portfolio \[pdf\]](#)
- [Systems Appraisal Feedback Report \[pdf\]](#)
- [Federal Compliance – September 2016](#)
- [Quality Highlights Report – 2016 \[pdf\]](#)

2011 Reports

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

2006 Reports

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

Accreditation Visits

- [March 25–27, 2009 Quality Check-up Report \[pdf\]](#)

Iowa Department of Education

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

On-Site Visit

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

Interim Accreditation Visit

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

National Alliance of Concurrent Enrollment Partnership (NACEP)

126 Mallette Street
PO Box 578
Chapel Hill, NC 27516
919-593-5205
877-572-8693 (fax)

Individual programs are recognized as follows:

Dental Assisting and Dental Hygiene

Accredited by the Commission on Dental Accreditation
American Dental Association
211 East Chicago Ave.
PO Box 1900
Chicago, IL 60611

Emergency Medical Services

Accredited by the Commission on Accreditation of Allied Health Education Programs
1361 Park Street
Clearwater, FL 33756
(727) 210-2350
www.caahep.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

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

Occupational Therapy Assistant

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

Physical Therapist Assistant Program

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

Practical Nursing and Associate Degree Nursing

Approved by the Iowa Board of Nursing
400 S.W. 8th Street
Suite B
Des Moines, IA 50309

Respiratory Therapy

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

[STUDENT HANDBOOK](#)

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Institutional Research

Connie Buhr
[Tama Hall](#) 110D
319-296-4281
[Email me](#)

Academic Affairs

[Hawkeye Center](#) 106
319-296-4015
[Email us](#)

ADAMSON, TIMOTHY L., Near Eastern Languages. BA, UNIV CHICAGO; Philosophy . MA, WESLEY THEOLOGICAL SEMINARY; Philosophy . PHD, UNIV OREGON

ADOLPHS, GLEN D., Ag Power Technology. AAS, HAWKEYE COMMUNITY COLLEGE; Diesel Truck

ASCHBRENNER, RENEE G., Mathematics . BS, LORAS COLLEGE; Mathematics . MA, UNIVERSITY

ASHWOOD, PATRICK G., History . BA, AUGSBURG COLLEGE; History . MA, UNIVERSITY

BADREDINOV, EVGENY ., History . PHD, LOUISIANA ST UNIV BATON ROUGE; Mass Comm . MA,

BARTLETT, CASSADY A., Biology . BA, UNIVERSITY NORTHERN IOWA; Physical Therapist Assistant.

BATES, JENNIFER L., Art & Design. BFA, IOWA STATE UNIVERSITY; Fine Arts. MFA, PRATT

BEHM, KIM A., Art . BFA, UNIV NEW MEXICO ALBUQUERQUE; Art . MA, UNIV NEW MEXICO

BENGEN, TODD A., Electronics Engineering Tech. AAS, HAWKEYE COMMUNITY COLLEGE

BENTON, DOUGLAS D., Professional Photography. AAA, HAWKEYE COMMUNITY COLLEGE

BINGHAM, LINDA L., English . BA, UNIVERSITY NORTHERN IOWA; English . MA, UNIVERSITY

BLYTHE, BRENT J., Tool Die Making. AAS, HAWKEYE COMMUNITY COLLEGE

BOND, MEGHAN L., Ag Education . BS, IOWA STATE UNIVERSITY; Ag Education . MS, IOWA STATE

BOYD, CYNTHIA A., Biology . BA, UNIVERSITY NORTHERN IOWA; Environ Science/Tech . MS,

BRALEY, ERIC C., Comm Studies . MA, UNIVERSITY NORTHERN IOWA; Communication/Electronic

BREHM, JENNIFER L., Accounting. BA, UNIVERSITY NORTHERN IOWA; Business Administration.

BUSS, SHARON K., Administrative Assistant. AAS, KIRKWOOD COMMUNITY COLLEGE; Management. BS, UPPER IOWA UNIVERSITY; PostSecndry Ed Std Affairs. MAE, UNIVERSITY

BUTE, JAMIE S., Business Administration. MBA, UNIVERSITY NORTHERN IOWA; Liberal Arts AA. AA, HAWKEYE COMMUNITY COLLEGE; Psychology . BA, UNIVERSITY NORTHERN IOWA; Respiratory Care. AAS, HAWKEYE COMMUNITY COLLEGE; Respiratory Care. BS, CALIFORNIA SCHOOL

CARRIER, REBECCA L., Dental Assisting. DIPL, HAWKEYE COMMUNITY COLLEGE; Educaleadership/Policy Studies. MED, UPPER IOWA UNIVERSITY; Elementary Education . BA, UPPER

CHERNEY, MELISA M., Biochemistry . BS, UNIV MINNESOTA DULUTH; Chemistry . PHD, UNIV

CLARK, CRAIG J., Construction Technology. AAS, KIRKWOOD COMMUNITY COLLEGE; Management.

CLEVELAND, OLE S., . AA, WALDORF UNIVERSITY; Ag Education . BS, IOWA STATE UNIVERSITY

COSTA, BRUCE P., Soviet and East European Studi. MA, UNIVERSITY KANSAS

CROWE - RUBINO, PATRICIA A., Psychology . BA, UNIVERSITY NORTHERN IOWA; Psychology . MA,

CULBERTSON, RUSSELL L., Health Admin. MHA, CHAPMAN UNIVERSITY; Nursing . ATA, LOWER COLUMBIA COLLEGE; Nursing . BS, UNIV NEVADA RENO; Nursing . MSN, AMERICAN SENTINEL

CULPEPPER, TERESA A., Associate Degree Nursing. AAS, HAWKEYE COMMUNITY COLLEGE; Liberal Arts AA. AA, HAWKEYE COMMUNITY COLLEGE; Nursing . BSN, ALLEN COLLEGE; Nursing . MSN, ALLEN COLLEGE; Nursing Assisting. CERT, HAWKEYE COMMUNITY COLLEGE; Practical

DAVIS, ROGER S., Educational Tech. MA, UNIVERSITY NORTHERN IOWA; Radio. BS, SOUTHRN

DEAN, CHAD R., . CERT, KAPLAN UNIVERSITY; Aviation Maintenance. AAS, HAWKEYE COMMUNITY COLLEGE; Information Systems Mgmt. BS, KAPLAN UNIVERSITY; MS Network

DETTMER, JAMIE A., Industrial Sci . BS, TRUMAN STATE UNIVERSITY

DYKE, BRADLEY F., Political Science . BA, UNIVERSITY MISSOURI KANSAS CITY; Political Science . MA, UNIVERSITY KANSAS; Social Science . BA, UNIVERSITY MISSOURI KANSAS CITY

EICH, ROGER J., Liberal Arts . AA, ELLSWORTH CMTY COLL IOWA VLY; Sociology . BA, UNIVERSITY NORTHERN IOWA; Sociology . MA, UNIVERSITY NORTHERN IOWA; Sociology . PHD,

EIKLENBORG, RYON N., Intermed Manufacturing Welding. DIPL, HAWKEYE COMMUNITY COLLEGE;

EINFELT, KASSANDRA K., Biology . BS, UNIVERSITY NORTHERN IOWA; Biology . MA, UNIVERSITY NORTHERN IOWA; General Studies. AA, HAWKEYE COMMUNITY COLLEGE; Nursing Assisting.

ERICKSON, LARRY E., Professional Photography. AAA, HAWKEYE COMMUNITY COLLEGE

ERNST, KAREN K., Liberal Arts AA. AA, NORTH IOWA AREA COMMUNITY COLLEGE; Mathematics . BS, IOWA STATE UNIVERSITY; Mathematics . MA, UNIVERSITY NORTHERN IOWA

EVEN, JANE A., Education . MAE, VITERBO UNIVERSITY; Elementary Education . BA, UNIVERSITY

FISHER, PATRICK H., . AA, MIAMI DADE COMM COLLEGE NORTH; Criminal Justice. BS, FLORIDA INTERNATIONAL UNIV; Psychology . BA, ST LEO UNIVERSITY; Public Admin . MPA, UNIV CENTRAL

FRITCH, TRUDY L., Education . BS, UNIV NEBRASKA LINCOLN; Mathematics . MA, UNIVERSITY

FRY, JEREMY L., Mathematics . BA, UNIVERSITY NORTHERN IOWA; Mathematics . MA,

GAEDE, RUTH A., Nursing . BSN, UNIVERSITY DUBUQUE; Nursing . MS, DRAKE UNIVERSITY

GARDNER, SANDRA J., Health Admin. MS, UNIV ST FRANCIS; Nurse Administrator. DNP, TEXAS CHRISTIAN UNIVERSITY; Nursing . BSN, COE COLLEGE; Nursing . MSN, ALLEN COLLEGE

GEER, PATRICK J., Business Ed . MS, EMPORIA STATE UNIVERSITY

GISLESON, KATHRYN A., Dental Hygiene. AAS, HAWKEYE COMMUNITY COLLEGE; Educational Admin. MHEA, UPPER IOWA UNIVERSITY; Human Resource Management. BA, UNIVERSITY

GRACIA, ASHLEY L., Hospitality Management. AAS, NORTH IOWA AREA COMMUNITY COLLEGE

GRANDY, TRACY J., Clinical Psych . MS, AUBURN UNIV AUBURN UNIV; Elementary Education . MED, AUBURN UNIV AUBURN UNIV; Psychology . BA, UNIVERSITY NORTHERN IOWA

HEATH-SINCLAIR, MARTHA S., Biology . BA, MOUNT MARTY COLLEGE; Genetics . MS, IOWA

HEIMANN, ROXANNE L., . BA, UNIVERSITY NORTHERN IOWA; Comm Studies . MA, UNIVERSITY

HELMUTH, GREGORY J., Health Admin. BS, UPPER IOWA UNIVERSITY

HERRING, MICHAEL J., Chiropractic . DC, NORTHWSTRN HEALTH SCI UNIV; Human Biology. BS,

HOLKE-FARNAM, RODNEY C., Mathematics . BS, BRADLEY UNIVERSITY; Mathematics . MS,

HUNTER, ADAM T., Graphic Communications. AAA, HAWKEYE COMMUNITY COLLEGE

JANTZEN, JEFFREY D., Intermed Manufacturing Welding. DIPL, HAWKEYE COMMUNITY COLLEGE

JENSEN, DANIEL R., Graphic Design. BFA, IOWA STATE UNIVERSITY

JOHNSON, YOLANDA B., Biology . BS, CAMPBELLSVILLE UNIVERSITY; Biotechnology. MS,

JUHL, TERRY D., Art . BA, UNIVERSITY NORTHERN IOWA

KABIR, RUMY M., Education . MAE, IOWA STATE UNIVERSITY

KAPANKA, AMY R., Admin Studies . MS, UNIV SOUTH DAKOTA VERMILLION; Medical Technology.

KASEMEIER, MELISSA R., Elementary Education . BS, IOWA STATE UNIVERSITY; Math Elem &

KINSINGER, BRADLEY R., Ag Education . BS, IOWA STATE UNIVERSITY

KNUTSON, EMILY E., Early Childhood Education. MAE, UNIVERSITY NORTHERN IOWA; Elementary

KOCH, WILLIAM R., . CERT, HAWKEYE COMMUNITY COLLEGE; Heating and Air Conditioning. DIPL,

KOEHN, CINDY M., Occupational Therapy. BS, COLLEGE ST MARY

KRUGER, DOUGLAS J., Electromechanical Maint Tech. BS, UNIVERSITY NORTHERN IOWA

KURT, PAUL L., CNC Machine Technology AAS. AAS, HAWKEYE COMMUNITY COLLEGE

KURTZ, RYAN R., Conservation. BS, UNIV WISC RIVER FALLS; Environ Science/Tech . MS,

LANEVILLE, ANNA A., English . BA, UNIVERSITY SAINT THOMAS MN; English . MA, UNIVERSITY

LAWRENCE, GREGORY L., Business . BS, UPPER IOWA UNIVERSITY; Diesel Truck Tech. AAS, KIRKWOOD COMMUNITY COLLEGE; General Studies. AA, UNIV CENTRAL TEXAS

LEARY, MICHAEL D., Criminal Justice. MA, ST AMBROSE UNIVERSITY; Criminology . BA, UNIVERSITY NORTHERN IOWA; Police Science. AAS, HAWKEYE COMMUNITY COLLEGE

LICHTY, DANIEL J., Horticulture Science. AAS, HAWKEYE COMMUNITY COLLEGE

LINN, SANDRA V., Nursing . BSN, TEXAS TECH UNIVERSITY HLTH SCI; Nursing . MS, DEPAUL

LUVERT, CAROL L., English . BA, UNIVERSITY NORTHERN IOWA; English . MA, UNIVERSITY

MABRY, CHATARA L., Social Work . BS, UNIV WISC MILWAUKEE; Social Work . MSW, UNIV WISC

MALLOY, PATRICK T., African Area Studies. MA, UNIV CALIF LOS ANGELES; History . PHD, UNIV

MCCOY, TAMI R., Early Childhood Education. MED, UNIVERSITY GEORGIA; Elementary Education .

MCRAE, JOHN A., Bioengineering. MS, CLEMSON UNIVERSITY; Biomedical Engineering. BS,

METZ, IRENE K., Chemistry . BS, MICHIGAN TECH UNIVERSITY; Chemistry . MS, UNIVERSITY IOWA

MEYERS, LAURA K., Elementary Education . BA, UNIVERSITY NORTHERN IOWA; Reading . MAE,

MILLER, DOUGLAS J., Horticulture Science. AAS, HAWKEYE COMMUNITY COLLEGE; Horticulture

MUNOZ, LISA J., Liberal Arts AA. AA, DES MOINES AREA COMMUNITY COLLEGE; Sociology . BA, UNIVERSITY IOWA; Sociology . MA, LOYOLA UNIV CHICAGO

NAGLE, KATRINA M., Civil Engineering. BS, UNIVERSITY ILLINOIS; Civil Engineering. MS,

NARIGON, AARON J., English . BA, UNIVERSITY NORTHERN IOWA; English . MA, UNIVERSITY

NEELY, JOHN J., General Studies. AA, HAWKEYE COMMUNITY COLLEGE; Mathematics . BA, UNIVERSITY NORTHERN IOWA; Mathematics . MA, UNIVERSITY NORTHERN IOWA

NELSON, MADALENE A., Communication/Electronic Media. BA, UNIVERSITY NORTHERN IOWA

NICHOLAS, ANDREW J., Physics . BA, UNIVERSITY NORTHERN IOWA; Science Education. MA,

NIERLING, DANIEL G., Education . MED, IOWA STATE UNIVERSITY; Journalism & Mass Comm. BA,

NOVAK, STEVEN J., Electronics Engineering Tech. AAS, DEVRY INST TECH CHICAGO IL

POLAND, JUDY K., Dental Assisting. DIPL, HAWKEYE COMMUNITY COLLEGE; Dental Hygiene. AAS, HAWKEYE COMMUNITY COLLEGE; Human Services. BS, UPPER IOWA UNIVERSITY

READ, ALLAN D., Graphic Communications. AAA, HAWKEYE COMMUNITY COLLEGE

REYNOLDS, KAREN R., Business Mgmt . MBA, UNIV WISCONSIN MADISON; Comm Studies . BA,

RICH, MICHAELA L., Chemistry . BS, UNIVERSITY NORTHERN IOWA; Chemistry . MA, UNIVERSITY

RODGERS, JAMES D., Psychology . BS, EASTERN ILLINOIS UNIVERSITY; Psychology . PHD, SOMERSET UNIVERSITY; Sociology . MA, EASTERN ILLINOIS UNIVERSITY

RYAN, MARK D., Human Resource Mgmt. MBA, UPPER IOWA UNIVERSITY; Marketing Management.

SAVAGE, MIKKI M., Higher Education. EDD, NOVA SOUTHEASTERN UNIV; Kinesology . MS, UNIV ILLINOIS CHICAGO (UIC); Physical Education . BA, LORAS COLLEGE

SCHNEIDER, MELISSA M., Health Admin. BS, UPPER IOWA UNIVERSITY; Physical Therapist

SEIBLE, MARCEA K., English . BA, UNIVERSITY NORTHERN IOWA; English . MA, UNIVERSITY NORTHERN IOWA; English Studies. PHD, ILLINOIS STATE UNIVERSITY

SHETTIGAR, PARESH S., Civil Engineering. MS, UNIV WISCONSIN MADISON; Engineering . BE, OUT

SINDT, ELIZABETH A., Business Ed . BA, GRACELAND UNIVERSITY; Education . MED, IOWA STATE

SMITH, LINDA D., International Stds . MA, AMERICAN UNIVERSITY DC; International Stds . PHD,

SPRAGUE, ROBIN L., English . MA, UNIVERSITY NORTHERN IOWA; Political Science . BA,

STABENOW, TODD A., Business Administration. MBA, UNIVERSITY NORTHERN IOWA; Mathematics

STEED, ROBERT P., Philosophy . BA, UNIVERSITY SOUTH CAROLINA; Religious Studies . MA, UNIVERSITY SOUTH CAROLINA; Religious Studies . PHD, UNIVERSITY IOWA

STRICKERT, BENJAMIN A., . AAS, KIRKWOOD COMMUNITY COLLEGE

SUEDBECK, JESSICA R., Dental Hygiene. BS, OLD DOMINION UNIVERSITY; Dental Hygiene. MS,

SUNVOLD, JOHN W., Counseling . MS, TROY STATE UNIVERSITY TROY; History . MA, LUTHER SEMINARY - ST PAUL; Political Science . MS, MINNESOTA STATE UNIV MANKATO; Strategic

SURLES, STEVEN E., English . BA, WESTRN CAROLINA UNIVERSITY; English . MA, WESTRN

THOMAS, BRIAN J., . AAS, DES MOINES AREA COMMUNITY COLLEGE

TIEMAN, KAREN S., Nursing . BSN, XAVIER UNIVERSITY OH; Nursing . MSN, KAPLAN UNIVERSITY

TOE, JOSEPH A., Economics . BS, OUT COUNTRY COLLEGE; Economics . PHD, SOUTHNRN

ULRICH, DEANNE L., Business . BA, UNIVERSITY NORTHERN IOWA; Computer Appl . MAE, UNIVERSITY NORTHERN IOWA; Health Admin. MBA, WILMINGTON COLLEGE DE

UTLEY, DANIEL V., Electronics Engineering Tech. AAS, HAWKEYE COMMUNITY COLLEGE

WAGNER, JANE A., Justice Admin . MJA, VERMONT COLL AT NORWICH UNIV

WEBER, BRET A., CNC Machine Technology AAS. AAS, HAWKEYE COMMUNITY COLLEGE

WHITE, ALISON N., Liberal Arts AA. AA, HAWKEYE COMMUNITY COLLEGE; Respiratory Care. AAS, HAWKEYE COMMUNITY COLLEGE; Respiratory Care. DIPL, HAWKEYE COMMUNITY COLLEGE

WINBERG, AARON M., Heating and Air Conditioning. DIPL, HAWKEYE COMMUNITY COLLEGE

WULF, DRESDEN D., . AS, COTTEY COLLEGE; Ag Education . BS, IOWA STATE UNIVERSITY;

Liberal Arts AA and AS Degrees

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

[Emphasis areas](#) help you in the selection of your elective 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) Degree

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.

You can complete your AA degree entirely online, in the evening, during the day, or with a combination of these options.

Associate of Science (AS) Degree

The Associate of Science in Liberal Arts degree enables 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.

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.

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](#)

Transferring



PROGRAM OUTCOMES

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

Students receiving an Associate of Arts 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.

TRANSFER TIP SHEETS

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.

PLANNING YOUR TRANSFER

Liberal Arts 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

2017–2018 Suggested Sequence of Study

 Courses are subject to change.

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

I. Natural Science and Mathematics

10 credits (minimum)

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

A. Biological Sciences

3–4 credits (minimum)

BIO-105 Introductory Biology	E	4	◆
BIO-112 General Biology I		4	◆

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

BIO-113	General Biology II		4	◆
BIO-154	Human Biology	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	◆
CNS-121	Environmental Conservation **	O	3	◆

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

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

CHM-122	Introduction to General Chemistry ▶	E	4	◆
CHM-165	General Chemistry I ▶		4	◆
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	◆
PHY-212	Classical Physics I ▶		5	◆

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

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

MAT-110	Math for Liberal Arts ▶	O E	3	◆
MAT-122	College Algebra ▶		5	◆
MAT-128	Precalculus ▶		4	◆
MAT-134	Trigonometry and Analytic Geometry ▶		3	◆
MAT-156	Statistics ▶	O E	3	◆
MAT-210	Calculus I ▶		4	◆

II. Humanities**10 credits (minimum)**

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

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

HIS-117	Western Civilization I: Ancient and Medieval	O E	3	◆
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II. Humanities**10 credits (minimum)**

HIS-118	Western Civilization II: Early Modern	O	3	◆
HIS-119	Western Civilization III: The Modern Period	O E	3	◆

Humanities B**3 credits (minimum)****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	◆
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	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 each from 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 ▶		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		3	◆
SOC-220	Sociology of Aging	O	3	◆

IV. Communications

9 credits (minimum)

Written Communications

6 credits (minimum)

Assessment required

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

Oral Communications

3 credits (minimum)

SPC-101	Fundamentals of Oral Communication	O E	3	◆
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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. Elective Courses

22 credits (minimum)

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

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 AA Degree

21 credits

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

ACC-131 Principles of Accounting I ▶	O E	4	◆
ACC-132 Principles of Accounting II ▶	O E	4	◆
ART-120 2-D Design		3	◆
ART-123 3-D Design		3	◆
ART-133 Drawing		3	◆
ART-134 Drawing II		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	◆
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 ▶		4	◆
CHM-260 Organic Chemistry I ▶		3	◆
CHM-270 Organic Chemistry II ▶		3	◆
COM-140 Introduction to Mass Media		3	◆
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	◆
DRA-110	Introduction to Film	O E	3	◆
DRA-130	Acting I	E	3	◆
ECN-110	Introduction to Economics <i>No credit if ECN-120 or ECN-130 earned</i>		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-214	Exploring PK-12 Education (For UNI only)	E	2	◆
EDU-216	Introduction to Teaching	E	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	◆
FLS-151	Elementary Spanish I		5	◆
FLS-152	Elementary Spanish II ▶	E	5	◆
FLS-241	Intermediate Spanish I ▶		4	◆
FLS-242	Intermediate Spanish II ▶		4	◆
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	◆
HUM-141	J.R.R. Tolkien: Mythology and Methodology		3	
LIT-189	Women and Literature	0	3	◆
LIT-949	Special Topics (1-3 credits)		1	◆
MAT-102	Intermediate Algebra ▶		4	◆
MAT-151	Math Reasoning for Teachers I ▶		3	◆
MAT-216	Calculus II ▶		4	◆
MAT-219	Calculus III ▶		4	◆
MGT-101	Principles of Management	0 E	3	◆
MGT-208	Introduction to Information Systems	0 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	0 E	3	◆
MUA-106	Class Voice		1	◆
MUA-120	Applied Piano ●		1	◆
MUA-121	Applied Piano II		2	◆
MUA-319	Applied Voice II ●		1	◆
MUS-102	Music Fundamentals		3	◆
MUS-154	Chorus		1	◆
MUS-202	World Music		3	◆
PEA-102	Aerobic Fitness I ●		1	◆
PEA-117	Bowling I ●		1	◆
PEA-123	Circuit Training ●		1	◆
PEA-125	Indoor Cycling ●		1	◆
PEA-150	Powerwalking ●	0	1	◆
PEA-176	Volleyball I ●		1	◆
PEA-187	Weight Training I ▶ ●		1	◆
PEA-191	Pilates ●	0	1	◆
PEA-194	Vinyasa Yoga ●	0	1	◆
PEA-196	Iron Yoga-Pilates Infusion ●		1	◆
PEC-110	Coaching Ethics, Techniques, and Theory	0	1	◆
PEC-115	Athletic Development and Human Growth	0	1	◆
PEC-123	Anatomy for Coaching	0	1	◆
PEC-127	Care and Prevention of Athletic Injuries		2	◆
PEH-111	Personal Wellness	0	3	◆
PEH-141	First Aid		2	◆

PEH-193	Sports Nutrition		2	
PEH-266	Leadership Techniques for Fitness Programs ▶		3	◆
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-127	Study Strategies		1	◆
SDV-131	Career Exploration	O	2	◆
SOC-160	Introduction to Social Work	O E	3	◆
SOC-195	Urban Studies ▶	O	3	◆
SOC-850	Cultural Immersion Field Experience ☉		1	◆
SPC-112	Public Speaking		3	
SPC-120	Intercultural Communications	O	3	◆
SPC-122	Interpersonal Communication	O	3	◆
SPC-132	Group Communication ▶		3	◆
SPC-140	Oral Interpretation		3	◆
XXX-924	Honors Project (1-3 credits)		1	◆
XXX-926	Honors Seminar		3	◆

Academic and Transfer Advising

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Liberal Arts 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.

2017–2018 Suggested Sequence of Study


 Courses are subject to change.

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

I. Natural Science and Mathematics

20 credits (minimum)

Requires one 4-hour science laboratory course from area A or B 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

BIO-112 General Biology I	4	◆
BIO-113 General Biology II	4	◆
BIO-168 Human Anatomy and Physiology I	4	◆
BIO-173 Human Anatomy and Physiology II ▶	4	◆

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

BIO-186 Microbiology	4	◆
CNS-121 Environmental Conservation *	3	◆

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

B. Physical Sciences

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 *	3	◆
ENV-116 Environmental Science Lab ▶ *	1	◆
GEO-131 Physical Geography	3	◆
GEO-132 Physical Geography Lab ▶	1	◆
PHS-152 Astronomy ▶	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)**

MAT-122 College Algebra ▶	5	◆
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	◆

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	3	◆
HIS-118 Western Civilization II: Early Modern	3	◆
HIS-119 Western Civilization III: The Modern Period	3	◆

B. Literature and Fine Arts

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

C. Philosophy and Religion

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

D. Non-Western Cultures

CLS-130	African Cultures	3	◆
CLS-141	Middle Eastern History and Culture	3	◆
CLS-150	Latin American History and Culture	3	◆
CLS-160	East Asian Cultures	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	3	◆
SOC-110	Introduction to Sociology	3	◆

B. American Society**3 credits (minimum)**

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

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

IV. Communications**9 credits (minimum)**

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

B. Oral Communications**3 credits (minimum)**

SPC-101 Fundamentals of Oral Communication	3	◆
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V. Social Diversity**3 credits (minimum)**

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

VI. Distributed Requirement**4 credits (minimum)**

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

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

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

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

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

B. Suggested Elective Courses for the Liberal Arts AS Degree**16 credits**

ACC-131 Principles of Accounting I ▶	4	◆
ACC-132 Principles of Accounting II ▶	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-119	Herbaceous Plant Materials	2	
AGH-161	Irrigation Systems	3	
AGH-211	Advanced Turfgrass Management	3	
AGH-221	Principles of Horticulture	3	
AGH-280	Botany for Horticulture	3	
AGP-333	Precision Farming Systems	3	
AGP-401	Introduction to GIS Software ▶	1	◆
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	◆
ART-134	Drawing II	3	◆
ART-143	Painting	3	◆
ART-144	Painting II ▶	3	◆
ART-173	Ceramics	3	◆
ART-184	Photography	3	◆
BCA-201	Introduction to Information Systems ▶	3	◆
BIO-151	Nutrition	3	◆
BIO-163	Essentials of Anatomy and Physiology	4	◆
BUS-102	Introduction to Business	3	◆
BUS-180	Business Ethics	3	◆
BUS-183	Business Law	3	◆
BUS-210	Business Statistics ▶	3	◆
BUS-230	Quantitative Methods for Business Decision Making ▶	3	◆
COM-140	Introduction to Mass Media ◎	3	◆
CSC-110	Introduction to Computers ▶	3	◆

DRA-110	Introduction to Film	3	◆
ECN-110	Introduction to Economics	3	◆
	<i>No credit if ECN-120 or ECN-130 earned.</i>		
ECN-120	Principles of Macroeconomics ▶	3	◆
ECN-130	Principles of Microeconomics ▶	3	◆
ENG-221	Creative Writing	3	◆
FLS-151	Elementary Spanish I	5	◆
FLS-152	Elementary Spanish II ▶	5	◆
FLS-241	Intermediate Spanish I ▶	4	◆
FLS-242	Intermediate Spanish II ▶	4	◆
HIS-201	Iowa History	3	◆
HIS-251	U.S. History 1945 to Present ▶	3	◆
HIS-257	African American History	3	◆
HIS-277	History of Women in the U.S. ▶	3	◆
HUM-140	Shakespeare: Dramatist, Psychologist, Historian ●	3	◆
LIT-189	Women and Literature	3	◆
LIT-949	Special Topics ●	1	◆
MAT-102	Intermediate Algebra ▶	4	◆
MGT-101	Principles of Management	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	3	◆
PEA-102	Aerobic Fitness I ●	1	◆
PEA-117	Bowling I ●	1	◆
PEA-123	Circuit Training ●	1	◆
PEA-125	Indoor Cycling ●	1	◆
PEA-150	Powerwalking ●	1	◆
PEA-176	Volleyball I ●	1	◆
PEA-187	Weight Training I ▶ ●	1	◆
PEA-191	Pilates ●	1	◆
PEA-194	Vinyasa Yoga ●	1	◆
PEA-196	Iron Yoga-Pilates Infusion	1	◆
PEC-110	Coaching Ethics, Techniques, and Theory	1	◆
PEC-115	Athletic Development and Human Growth	1	◆
PEC-123	Anatomy for Coaching	1	◆
PEC-127	Care and Prevention of Athletic Injuries	2	◆
PEH-111	Personal Wellness	3	◆
PEH-141	First Aid ●	2	◆

PHI-121	Classical/Medieval Philosophy	3	◆
PHY-100	Physics in Everyday Life	3	◆
POL-121	International Relations	3	◆
POL-125	Comparative Government and Politics	3	◆
PSY-121	Developmental Psychology	3	◆
PSY-241	Abnormal Psychology ▶	3	◆
PSY-251	Social Psychology ▶	3	◆
PSY-261	Human Sexuality	3	◆
SDV-127	Study Strategies	1	◆
SDV-131	Career Exploration	2	◆
SOC-115	Social Problems	3	◆
SOC-120	Marriage and Family	3	◆
SOC-135	Death and Dying	3	◆
SOC-160	Introduction to Social Work	3	◆
SOC-195	Urban Studies ▶	3	◆
SOC-208	Introduction to Cultural Anthropology	3	◆
SOC-220	Sociology of Aging	3	◆
SOC-850	Cultural Immersion Field Experience ☉	1	◆
SPC-120	Intercultural Communications	3	◆
SPC-122	Interpersonal Communication	3	◆
SPC-132	Group Communication ▶	3	◆
XXX-924	Honors Project	1	◆
XXX-926	Honors Seminar	3	◆

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Agricultural Science Transfer Program

The Agricultural Science Transfer Program is designed to allow you to complete the first two years of a bachelor's degree program. You will earn your Associate of Science degree and can transfer to a public or private four-year college or university as a junior. In addition to Liberal Arts and general education course, you will gain knowledge in:

- Agronomy
- Agriculture markets
- Precision farming systems
- Soil science
- Animal industry

Hands-On Learning Opportunities

- [Hawkeye's 400-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.
- 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.

Transfer Information

You can transfer your Agricultural Science coursework to the Iowa State University or Northwest Missouri State University and continue your education in agricultural studies, agronomy, agricultural business, and agricultural systems technology. Hawkeye also has transfer relationships with South Dakota State University, University of Wisconsin—Platteville, Upper Iowa University, and Morningside College.

Work closely with a program advisor for approved agriculture courses, to ensure courses transfer, and that you meet program requirements for the college or university of your choice.

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](#)

Agricultural Science Transfer Courses

Award: Associate of Science (AS)

Required number of credits: 66

Program Start: Fall, Spring, Summer

2017–2018 Suggested Sequence of Study

» The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

» When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

◆ General education course

▶ Course has a prerequisite and/or corequisite.

Semester 1

AGA-114 Principles of Agronomy	3
AGS-113 Survey of the Animal Industry	3
BIO-112 General Biology I	4 ◆
SOC-115 Social Problems	3 ◆
Social Diversity Course	3
Total Credits 16	

Semester 2

AGA-154 Fundamentals of Soil Science	3
BIO-113 General Biology II	4 ◆
ENG-105 Composition I ▶	3 ◆
MAT-156 Statistics ▶	3 ◆
Humanities: Literature and Fine Arts Course -OR-	3
Humanities: Philosophy and Religion Course	3
Total Credits 16	

Semester 3

AGP-333 Precision Farming Systems	3
CHM-165 General Chemistry I ▶	4 ◆

Semester 3

HIS-151	U.S. History to 1877 -OR-	3	◆
HIS-152	U.S. History Since 1877 -OR-	3	◆
POL-111	American National Government	3	◆
PSY-111	Introduction to Psychology -OR-	3	◆
SOC-110	Introduction to Sociology	3	◆
SPC-101	Fundamentals of Oral Communication	3	◆

Total Credits 16

Semester 4

ACC-131	Principles of Accounting I ▶	4	◆
AGB-235	Introduction to Agriculture Markets	3	
CNS-121	Environmental Conservation	3	◆
ENG-106	Composition II ▶	3	◆
MAT-122	College Algebra ▶	5	◆

Total Credits 18

Social Diversity Courses

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

Humanities: Literature and Fine Arts Courses

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

Humanities: Philosophy and Religion Courses

PHI-101	Introduction to Philosophy	3	◆
PHI-105	Introduction to Ethics	3	◆
REL-101	Survey of World Religions	3	◆

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Business Administration Transfer Program

The Business Administration Transfer Program is designed to allow you to complete the first two years of a bachelor's degree program. You will earn your Associate of Arts degree and can transfer to a public or private four-year college or university as a junior. In addition to Liberal Arts and general education course, you will gain knowledge in:

- Statistics
- Accounting
- Information systems
- Economics

Flexible Class Schedule

You can take classes during the day, in the evening, online, or take a combination to fit your schedule.

Transfer Information

You can transfer your Business Administration coursework to the College of Business Administration at the University of Northern Iowa and continue your studies in Accounting, Business Teaching, Economics, Entrepreneurship, Finance, International Business, Management, Management Information Systems, Marketing, Real Estate, and Supply Chain Management.

You can also transfer to Iowa State University, the University of Iowa, or a private college or university of your choice.

Work closely with a [program advisor](#) for approved business courses, to ensure courses transfer, and that you meet program requirements for the college or university of your choice. Also see [Transfer Tip Sheets](#).

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 Administration Transfer Program Courses

Award: Associate of Arts (AA)

Required number of credits: 64

Program Start: Fall, Spring, Summer

Planning Your Class Schedule

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

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

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

2017–2018 Suggested Sequence of Study

 Courses are subject to change.

- ◆ General education course
- ▶ Course has a prerequisite and/or corequisite.
- UNI specific or preferred courses.

Semester 1

ECN-120 Principles of Macroeconomics ▶ ●	3	◆
ENG-105 Composition I ▶	3	◆
MGT-208 Introduction to Information Systems ● - OR- Business Elective	3	◆
PSY-111 Introduction to Psychology -OR-	3	◆
SOC-110 Introduction to Sociology	3	◆
SDV-108 The College Experience -OR-	1	◆
SDV-109 College 101	3	◆
SPC-101 Fundamentals of Oral Communication	3	◆

Total Credits 16

Semester 2

ECN-130 Principles of Microeconomics ▶ ●	3	◆
ENG-106 Composition II ▶	3	◆
HIS-117 Western Civilization I: Ancient and Medieval -OR-	3	◆
HIS-118 Western Civilization II: Early Modern -OR-	3	◆
HIS-119 Western Civilization III: The Modern Period	3	◆
MAT-156 Statistics ▶ ●	3	◆
Social Diversity Course	3	
Total Credits 15		

Semester 3

ACC-131 Principles of Accounting I ▶ ●	4	◆
BUS-210 Business Statistics ▶ ● - OR-	3	◆
Business Elective	3	
CLS-130 African Cultures -OR-	3	◆
CLS-141 Middle Eastern History and Culture -OR-	3	◆
CLS-150 Latin American History and Culture -OR-	3	◆
CLS-160 East Asian Cultures -OR-	3	◆
CLS-164 Japanese History and Culture -OR-	3	◆
CLS-172 Russian Civilization	3	◆
HIS-151 U.S. History to 1877 -OR-	3	◆
HIS-152 U.S. History Since 1877 -OR-	3	◆
POL-111 American National Government	3	◆
Biological Science Course -OR-	4	
Physical Science Course	4	
<i>Must complete one 4-hour science laboratory course. Complete a total of 7 credits from Biological Sciences and Physical Sciences.</i>		
Total Credits 17		

Semester 4

ACC-132 Principles of Accounting II ▶ ●	4	◆
BUS-230 Quantitative Methods for Business Decision Making ▶ ● - OR-	3	◆
Business Elective	3	
Biological Science Course -OR-	3	
Physical Science Course	3	
<i>Complete a total of 7 credits from Biological Sciences and Physical Sciences.</i>		
Social Science: Topics in Social Science Course	3	
Humanities B: Literature and Fine Arts Course -OR-	3	
Humanities B: Philosophy and Religion Course	3	
Total Credits 16		

Business Electives

BUS-102	Introduction to Business	3	◆
BUS-183	Business Law	3	◆
CSC-110	Introduction to Computers ▶	3	◆
MGT-101	Principles of Management	3	◆
MKT-110	Principles of Marketing	3	◆

Biological Science Courses

BIO-105	Introductory Biology ●	4	◆
BIO-112	General Biology I	4	◆
BIO-113	General Biology II	4	◆
BIO-154	Human Biology ●	3	◆
BIO-163	Essentials of Anatomy and Physiology	4	◆
BIO-168	Human Anatomy and Physiology I	4	◆
BIO-186	Microbiology	4	◆
CNS-121	Environmental Conservation ● *	3	◆

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

Physical Science Courses

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

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

Humanities B: Literature and Fine Arts Courses

ART-101	Art Appreciation	3	◆
ART-203	Art History I	3	◆
ART-204	Art History II	3	◆
DRA-107	Theatrical Arts and Society	3	◆

Humanities B: Literature and Fine Arts Courses

LIT-101	Introduction to Literature ▶	3	◆
MUS-100	Music Appreciation	3	◆

Humanities B: Philosophy and Religion Courses

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

Social Science: Topics in Social Sciences

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

Social Diversity Courses

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

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Criminal Justice Transfer Programs

The Criminal Justice program is designed to enable you to complete the first two years of a bachelor's degree program. You will earn your Associate of Arts degree and can transfer credits to a public or private four-year college or university. In addition to Liberal Arts and general education course, you will gain knowledge of:

- the criminal justice and corrections systems
- ethics
- criminology
- juvenile behaviors and court system

This program is ideal if you plan to work at the state or federal level in probation, parole, law enforcement, juvenile court services, or the Department of Human Services.

Transfer Information

You can transfer to the Criminology program or Criminal Justice emphasis at the University of Northern Iowa or the Criminal Justice programs at Iowa State University, Upper Iowa University, or St. Ambrose University

You must work closely with a [program advisor](#) at Hawkeye and the college or university of your choice for approved criminal justice courses, to ensure all courses transfer, and that you meet program requirements. Also see [Transfer Tip Sheets](#).

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



After completing the two-year Criminal Justice programs, graduates can find careers in county and municipal-level corrections, juvenile corrections, and law enforcement, as well as further their education through a four-year degree program.

After completing a four-year degree, graduates can find careers at the state and federal level in the court system, law enforcement, juvenile court services, probation and parole systems, Department of Human Services, and more.

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.](#)

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 Transfer Program Courses

Award: Associate of Arts (AA)

Required number of credits: 64

Program Start: Fall, Spring, Summer

2017–2018 Suggested Sequence of Study

» The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

» When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

- ◆ General education course
- ▶ Course has a prerequisite and/or corequisite.
- UNI specific or preferred courses.

Semester 1

CRJ-100 Introduction to Criminal Justice	3	◆
ENG-105 Composition I ▶	3	◆
MAT-110 Math for Liberal Arts ▶ -OR-	3	◆
MAT-122 College Algebra ▶ -OR-	5	◆
MAT-128 Precalculus ▶ -OR-	4	◆
MAT-134 Trigonometry and Analytic Geometry ▶ -OR-	3	◆
MAT-156 Statistics ▶ ● -OR-	3	◆
MAT-210 Calculus I ▶	4	◆
SOC-205 Diversity in America ● -OR-	3	◆
Social Diversity Course	3	
SPC-101 Fundamentals of Oral Communication	3	◆
Total Credits 15		

Semester 2

CRJ-120 Introduction to Corrections	3	◆
CRJ-320 Criminal Justice Ethics	3	◆
ENG-106 Composition II ▶	3	◆
PSY-111 Introduction to Psychology -OR-	3	◆
SOC-110 Introduction to Sociology	3	◆

Semester 2

Humanities B: Literature and Fine Arts Course -OR-	3
Humanities B: Philosophy and Religion Course -OR-	
Humanities B: Non-Western Cultures	
<i>Two courses from Humanities B in two different areas.</i>	

Total Credits 15

Semester 3

CRJ-200 Criminology	3	◆
CRJ-233 Probation, Parole, Community-Based Corrections ►	3	◆
HIS-117 Western Civilization I: Ancient and Medieval -OR-	3	◆
HIS-118 Western Civilization II: Early Modern -OR-	3	◆
HIS-119 Western Civilization III: The Modern Period	3	◆
Social Science: Topics in Social Science Course	3	
Biological Science Course -OR-	4	
Physical Science Course	4	
<i>Must complete one 4-hour science laboratory course. Complete a total of 7 credits from Biological Sciences and Physical Sciences.</i>		

Total Credits 16

Semester 4

CRJ-201 Juvenile Delinquency	3	
CRJ-316 Juvenile Justice ► -OR-	3	◆
CRJ-317 White Collar Crime ► -OR-	3	◆
CRJ-318 Crime Analysis ►	3	◆
<i>Must complete 6 credits total.</i>		
CRJ-316 Juvenile Justice ► -OR-	3	◆
CRJ-317 White Collar Crime ► -OR-	3	◆
CRJ-318 Crime Analysis ►	3	◆
<i>Must complete 6 credits total.</i>		
HIS-151 U.S. History to 1877 -OR-	3	◆
HIS-152 U.S. History Since 1877 -OR-	3	◆
POL-111 American National Government	3	◆
Humanities B: Literature and Fine Arts Course -OR-	3	
Humanities B: Philosophy and Religion Course -OR-		
Humanities B: Non-Western Cultures		
<i>Two courses from Humanities B in two different areas.</i>		
Biological Science Course -OR-	3	
Physical Science Course	3	
<i>Must complete one 4-hour science laboratory course. Complete a total of 7 credits from Biological Sciences and Physical Sciences.</i>		

Total Credits 18

Biological Science Courses

BIO-105	Introductory Biology	4	◆
BIO-112	General Biology I	4	◆
BIO-113	General Biology II	4	◆
BIO-154	Human Biology	3	◆
BIO-163	Essentials of Anatomy and Physiology	4	◆
BIO-168	Human Anatomy and Physiology I	4	◆
BIO-186	Microbiology	4	◆
CNS-121	Environmental Conservation *	3	◆

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

Physical Science Courses

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

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

Humanities B: Literature and Fine Arts Courses

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

Humanities B: Philosophy and Religion Courses

PHI-101	Introduction to Philosophy	3	◆
PHI-105	Introduction to Ethics	3	◆
REL-101	Survey of World Religions	3	◆

Humanities B: Philosophy and Religion Courses

[REL-130](#) Introduction to Religions of the East 3 ◆

Humanities B: Non-Western Cultures Courses

[CLS-130](#) African Cultures 3 ◆

[CLS-141](#) Middle Eastern History and Culture 3 ◆

[CLS-150](#) Latin American History and Culture 3 ◆

[CLS-160](#) East Asian Cultures 3 ◆

[CLS-164](#) Japanese History and Culture 3 ◆

[CLS-172](#) Russian Civilization 3 ◆

Social Science: Topics in Social Sciences

[GEO-121](#) World Regional Geography 3 ◆

[POL-121](#) International Relations 3 ◆

[POL-125](#) Comparative Government and Politics 3 ◆

[PSY-121](#) Developmental Psychology 3 ◆

[PSY-251](#) Social Psychology ► 3 ◆

[SOC-115](#) Social Problems 3 ◆

[SOC-120](#) Marriage and Family 3 ◆

[SOC-135](#) Death and Dying 3 ◆

[SOC-208](#) Introduction to Cultural Anthropology 3 ◆

[SOC-220](#) Sociology of Aging 3 ◆

Social Diversity Courses

[COM-148](#) Diversity and the Media 3 ◆

[EDU-223](#) Multicultural Education 3 ◆

[LIT-133](#) Minority Voices in U.S. Literature ► 3 ◆

[PSY-262](#) Psychology of Gender ► 3 ◆

[SOC-200](#) Minority Group Relations 3 ◆

[WST-101](#) Women's Studies 3 ◆

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Agricultural Business Management

The Agricultural 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 400-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 Agricultural 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

EMPLOYERS



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

Example Careers and Average Wages

	Entry	Average	Experienced
Agricultural Equipment Operators	\$26,700	\$35,500	\$39,900
Precision Agriculture Technicians	\$31,800	\$48,300	\$56,500
Farm Product Buyers and Purchasing Agents	\$34,100	\$56,700	\$67,900
First-Line Supervisors of Farming, Fishing, and Forestry Workers	\$38,600	\$54,300	\$62,100

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
MaxYield Cooperative	Emmetsburg, IA
Pioneer Hi-Bred	Johnston and Reinbeck, IA
United Agri Products, Inc.	Winthrop, IA
Youngbult Ag	Dysart, 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](#)

Agricultural Business Management AAS Degree Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 69

Program Start: Fall, Spring, Summer

2017–2018 Suggested Sequence of Study

» The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

» When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

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

Semester 1

AGA-114	Principles of Agronomy -OR-	3	
BIO-105	Introductory Biology -OR-	4	◆
BIO-112	General Biology I -OR-	4	◆
BIO-113	General Biology II -OR-	4	◆
AGH-280	Botany for Horticulture	3	
AGC-103	Ag Computers -OR-	3	
CSC-110	Introduction to Computers ▶ -OR-	3	◆
BCA-201	Introduction to Information Systems ▶ -OR-	3	◆
ELT-192	Introduction to Computer Science	3	
AGS-113	Survey of the Animal Industry -OR-	3	
	Agriculture Electives (<i>Agronomy, Farm Management, or Comprehensive–Miscellaneous</i>)	3	
CNS-121	Environmental Conservation * -OR-	3	◆
	Natural Science Elective	3	
ENG-105	Composition I ▶ -OR-	3	◆
COM-781	Written Communication in the Workplace ▶	3	▣
MAT-772	Applied Math -OR-	3	▣
MAT-110	Math for Liberal Arts ▶ -OR-	3	◆
MAT-156	Statistics ▶ -OR-	3	◆
	Math Electives	3	

Semester 1

Total Credits 18

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

Semester 2

AGA-154	Fundamentals of Soil Science	3
AGA-376	Integrated Pest Management -OR- Electives (<i>Agriculture, Biology, Business, Economics, Management, Marketing, or Welding</i>)	3
AGP-450	Fundamentals of GIS -OR-	3
AGP-340	Foundations of GIS and GPS -OR-	3
AGP-436	Advanced Precision Farming: Hardware	3
AGS-319	Animal Nutrition -OR- Agriculture Electives (<i>Animal Science</i>)	3
SOC-115	Social Problems -OR-	3 ♦
PSY-111	Introduction to Psychology -OR-	3 ♦
PSY-102	Human and Work Relations -OR-	3 □
SOC-110	Introduction to Sociology	3 ♦
SPC-101	Fundamentals of Oral Communication	3 ♦

Total Credits 18

Semester 3

ACC-131	Principles of Accounting I ► -OR-	4 ♦
ACC-115	Introduction to Accounting -OR-	4
ACC-111	Introduction to Accounting	3
AGA-214	Cash Grains -OR-	3
BIO-105	Introductory Biology -OR-	4 ♦
BIO-112	General Biology I -OR-	4 ♦
BIO-113	General Biology II	4 ♦
AGB-101	Agricultural Economics -OR-	3
ECN-110	Introduction to Economics -OR-	3 ♦
ECN-120	Principles of Macroeconomics ► -OR-	3 ♦
ECN-130	Principles of Microeconomics ►	3 ♦
AGB-235	Introduction to Agriculture Markets -OR-	3
MKT-110	Principles of Marketing	3 ♦
AGB-303	Agriculture Leadership -OR-	3
AGP-436	Advanced Precision Farming: Hardware -OR-	3
AGH-292	Garden Center Management -OR- Electives (<i>Agriculture-Technology or Welding</i>)	3
AGP-333	Precision Farming Systems -OR-	3

Semester 3

CET-233 Fundamentals of GPS and GIS ► -OR-	3
AGP-340 Foundations of GIS and GPS	3
Total Credits 19	

Semester 4

AGB-330 Farm Business Management -OR-	3	◆
FIN-121 Personal Finance	3	
AGB-331 Entrepreneurship in Agriculture -OR-	3	
BUS-102 Introduction to Business -OR-	3	◆
BUS-183 Business Law -OR-	3	◆
MGT-101 Principles of Management -OR-	3	◆
MGT-110 Small Business Management -OR-	3	
MGT-170 Human Resource Management	3	
AGB-336 Agricultural Selling -OR-	3	
MKT-140 Principles of Selling -OR-	3	
MKT-152 Advertising and Visual Merchandising -OR-	3	
MKT-160 Principles of Retailing	3	
AGT-805 Employment Experience	5	
Total Credits 14		

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

AGA-214 Cash Grains	3	
AGA-376 Integrated Pest Management	3	
AGB-101 Agricultural Economics	3	
AGB-303 Agriculture Leadership	3	
AGB-331 Entrepreneurship in Agriculture	3	
AGB-336 Agricultural Selling	3	
AGC-999 Study Abroad	1	◆

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

AGA-214 Cash Grains	3	
AGA-376 Integrated Pest Management	3	
AGB-101 Agricultural Economics	3	
AGB-303 Agriculture Leadership	3	
AGB-331 Entrepreneurship in Agriculture	3	
AGB-336 Agricultural Selling	3	
AGC-999 Study Abroad	1	◆

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

AGH-292	Garden Center Management	3
AGP-340	Foundations of GIS and GPS	3
AGP-436	Advanced Precision Farming: Hardware	3
AGP-450	Fundamentals of GIS	3
AGS-113	Survey of the Animal Industry	3
AGS-216	Equine Science	3
AGS-218	Domestic Animal Physiology ▶	4
AGS-225	Swine Science	3
AGS-226	Beef Cattle Science	3
AGS-272	Foods of Animal Origin ▶	5
AGS-305	Livestock Evaluation	3
AGS-319	Animal Nutrition	3
AGT-700	Special Topics: Agriculture Education ▶	1
AGT-928	Independent Study	1
BIO-105	Introductory Biology	4 ♦
BIO-112	General Biology I	4 ♦
BIO-113	General Biology II	4 ♦
BUS-102	Introduction to Business	3 ♦
BUS-183	Business Law	3 ♦
ECN-110	Introduction to Economics	3 ♦
ECN-120	Principles of Macroeconomics ▶	3 ♦
ECN-130	Principles of Microeconomics ▶	3 ♦
MGT-101	Principles of Management	3 ♦
MGT-110	Small Business Management	3
MGT-170	Human Resource Management	3
MKT-140	Principles of Selling	3
MKT-152	Advertising and Visual Merchandising	3
MKT-160	Principles of Retailing	3
WEL-104	Introduction to MIG Welding	2
WEL-134	Cutting Processes	2
WEL-155	Arc Welding I (SMAW)	4

Agriculture Electives (*Animal Science*)

AGS-113	Survey of the Animal Industry	3
AGS-216	Equine Science	3
AGS-218	Domestic Animal Physiology ▶	4
AGS-225	Swine Science	3
AGS-226	Beef Cattle Science	3

Agriculture Electives (*Animal Science*)

AGS-272 Foods of Animal Origin ▶	5
AGS-305 Livestock Evaluation	3

Electives (*Agriculture-Technology or Welding*)

AGT-700 Special Topics: Agriculture Education ▶	1
AGT-928 Independent Study	1
WEL-104 Introduction to MIG Welding	2
WEL-134 Cutting Processes	2
WEL-155 Arc Welding I (SMAW)	4

Math Electives

MAT-122 College Algebra ▶	5	◆
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	◆

Natural Science Electives

BIO-105 Introductory Biology	4	◆
BIO-112 General Biology I	4	◆
BIO-113 General Biology II	4	◆
CHM-122 Introduction to General Chemistry ▶	4	◆
CHM-165 General Chemistry I ▶	4	◆
ENV-115 Environmental Science	3	◆

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General Agriculture Diploma Option Courses

Award: Diploma

Required number of credits: 36

Program Start: Fall, Spring, Summer

2017–2018 Suggested Sequence of Study

» The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

» When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

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

Semester 1

AGA-114 Principles of Agronomy	3
AGC-103 Ag Computers	3
AGS-113 Survey of the Animal Industry	3
CNS-121 Environmental Conservation	3 ◆
ENG-105 Composition I ▶ -OR-	3 ◆
COM-781 Written Communication in the Workplace ▶	3 ▣
MAT-772 Applied Math -OR-	3 ▣
MAT-110 Math for Liberal Arts ▶ -OR-	3 ◆
MAT-156 Statistics ▶ -OR-	3 ◆
Math Electives	3
Total Credits 18	

Semester 2

AGA-154 Fundamentals of Soil Science	3
AGA-376 Integrated Pest Management	3
AGP-450 Fundamentals of GIS	3
AGS-319 Animal Nutrition	3
PSY-102 Human and Work Relations -OR-	3 ▣
PSY-111 Introduction to Psychology -OR-	3 ◆

Semester 2

SOC-110 Introduction to Sociology	3	◆
SPC-101 Fundamentals of Oral Communication	3	◆
Total Credits 18		

Math Electives

MAT-122 College Algebra ▶	5	◆
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	◆

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Precision Agriculture Certificate Option Courses

Award: Certificate

Required number of credits: 15

Program Start: Fall, Spring, Summer

2017–2018 Suggested Sequence of Study

» The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

» When [registering for classes](#) refer to your Program Evaluation/Degree Audit to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

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

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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 400-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.
- 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
Farmworkers	\$21,400	\$27,600	\$30,600
Animal Breeders	\$23,400	\$32,700	\$37,400
Agricultural and Food Science Technicians	\$23,500	\$34,900	\$40,600
Agricultural Inspectors	\$31,500	\$47,000	\$54,800
Farmers, Ranchers, and Other Agricultural Managers	\$51,600	\$77,100	\$89,800

Source: 2016 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

2017–2018 Suggested Sequence of Study

➤ The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

➤ When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

➤ Courses are subject to change.

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

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	
AGS-305 Livestock Evaluation	3	
Animal Science or Agriculture Elective	3	
PSY-111 Introduction to Psychology -OR-	3	◆
SOC-110 Introduction to Sociology -OR-	3	◆
SOC-115 Social Problems -OR-	3	◆
PSY-102 Human and Work Relations	3	▣
SPC-101 Fundamentals of Oral Communication	3	◆
Total Credits 18		

Semester 2

AGA-154 Fundamentals of Soil Science -OR-	3	
Natural Science Elective	3	
AGS-225 Swine Science -OR-	3	
AGS-226 Beef Cattle Science -OR-	3	

Semester 2

AGS-216 Equine Science	3
<i>Must complete 6 credits total.</i>	
AGS-319 Animal Nutrition	3
ENG-105 Composition I ▶ -OR-	3 ♦
COM-781 Written Communication in the Workplace ▶	3 □
MAT-772 Applied Math -OR-	3 □
MAT-110 Math for Liberal Arts ▶ -OR-	3 ♦
MAT-156 Statistics ▶ -OR-	3 ♦
Math Electives	3
Total Credits 15	

Semester 3

ACC-131 Principles of Accounting I ▶ -OR-	4 ♦
ACC-115 Introduction to Accounting	4 □
AGB-235 Introduction to Agriculture Markets -OR-	3
Animal Science or Agriculture Elective	3
AGB-303 Agriculture Leadership	3
Animal Science or Agriculture Elective	3
AGS-211 Issues Facing Animal Science	2
AGS-218 Domestic Animal Physiology ▶	4
Natural Science Elective	4
Total Credits 20	

Semester 4

AGB-336 Agricultural Selling -OR-	3
Animal Science or Agriculture Elective	3
AGS-226 Beef Cattle Science -OR-	3
AGS-225 Swine Science -OR-	3
AGS-216 Equine Science	3
<i>Must complete 6 credits total.</i>	
AGS-272 Foods of Animal Origin ▶ -OR-	5
AGC-999 Study Abroad -OR-	1 ♦
Animal Science or Agriculture Elective	3
AGT-805 Employment Experience	5
Total Credits 16	

Animal Science and Agriculture Electives

AGA-214 Cash Grains	3
AGA-284 Pesticide Application Certification	3

Animal Science and Agriculture Electives

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

Math Electives

MAT-122	College Algebra ▶	5 ♦
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 ♦

Natural Science Electives

BIO-105	Introductory Biology	4 ♦
BIO-112	General Biology I	4 ♦
BIO-113	General Biology II	4 ♦
BIO-151	Nutrition	3 ♦
BIO-163	Essentials of Anatomy and Physiology	4 ♦
BIO-168	Human Anatomy and Physiology I	4 ♦
BIO-186	Microbiology	4 ♦
BIO-247	Applications of Biotechnology ▶	3 ♦
CHM-122	Introduction to General Chemistry ▶	4 ♦
CHM-132	Introduction to Organic and Biochemistry ▶	4 ♦
CHM-165	General Chemistry I ▶	4 ♦

Natural Science Electives

CHM-175 General Chemistry II ▶	4	◆
CNS-121 Environmental Conservation	3	◆
ENV-115 Environmental Science	3	◆
GEO-131 Physical Geography	3	◆
PHS-120 Exploring Physical Science ▶	4	◆
PHS-152 Astronomy ▶	4	◆
PHY-172 College Physics II ▶	4	◆
PHY-212 Classical Physics I ▶	5	◆
PHY-222 Classical Physics II ▶	5	◆

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General Agriculture Courses

Award: Diploma

Required number of credits: 46

Program Start: Fall, Spring, Summer

2017–2018 Suggested Sequence of Study

➤ The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

➤ When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

➤ Courses are subject to change.

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

Semester 1

AGC-103 Ag Computers	3	
AGS-113 Survey of the Animal Industry	3	
AGS-305 Livestock Evaluation	3	
BIO-105 Introductory Biology -OR-	4	◆
BIO-112 General Biology I -OR-	4	◆
BIO-113 General Biology II -OR-	4	◆
BIO-151 Nutrition	3	◆
PSY-102 Human and Work Relations -OR-	3	▣
PSY-111 Introduction to Psychology -OR-	3	◆
SOC-110 Introduction to Sociology	3	◆
SPC-101 Fundamentals of Oral Communication	3	◆
Natural Science Elective	4	

Total Credits 23

Semester 2

ACC-131 Principles of Accounting I ▶ -OR-	4	◆
ACC-115 Introduction to Accounting	4	
AGA-114 Principles of Agronomy -OR-	3	
BIO-105 Introductory Biology -OR-	4	◆

Semester 2

BIO-112	General Biology I -OR-	4	◆
BIO-113	General Biology II -OR-	4	◆
BIO-151	Nutrition	3	◆
AGA-154	Fundamentals of Soil Science	3	
AGS-319	Animal Nutrition	3	
ENG-105	Composition I ▶ -OR-	3	◆
COM-781	Written Communication in the Workplace ▶	3	▣
MAT-772	Applied Math -OR-	3	▣
MAT-110	Math for Liberal Arts ▶ -OR-	3	◆
MAT-156	Statistics ▶ -OR-	3	◆
	Math Electives	3	
	Natural Science Elective	4	

Total Credits 23

Math Electives

MAT-122	College Algebra ▶	5	◆
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	◆

Natural Science Electives

BIO-163	Essentials of Anatomy and Physiology	4	◆
BIO-168	Human Anatomy and Physiology I	4	◆
BIO-186	Microbiology	4	◆
CHM-122	Introduction to General Chemistry ▶	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	3	◆
ENV-115	Environmental Science	3	◆
GEO-131	Physical Geography	3	◆
PHS-120	Exploring Physical Science ▶	4	◆
PHS-142	Principles of Astronomy ▶	3	◆
PHY-172	College Physics II ▶	4	◆
PHY-212	Classical Physics I ▶	5	◆
PHY-222	Classical Physics II ▶	5	◆

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Meat Science Certificate Option Courses

Award: Certificate

Required number of credits: 24

Program Start: Fall, Spring, Summer

2017–2018 Suggested Sequence of Study

» The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

» When [registering for classes](#) refer to your Program Evaluation/Degree Audit to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

◆ General education course

▶ Course has a prerequisite and/or corequisite.

Semester 1

AGS-218 Domestic Animal Physiology ▶	4
AGS-305 Livestock Evaluation	3
BIO-186 Microbiology	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	

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Golf Course and Country Club Management

The Golf Course and Country Club Management program prepares you with the knowledge and skills to manage 18-hole golf course, clubhouse, and country club facilities. You will learn to understand and apply the administrative and practical skills to manage food and clubhouse operations, including:

- Hospitality principles
- Event planning
- Customer Service
- Food safety and prep skills
- Pool safety and maintenance
- Food and bar operations
- Human resources
- Marketing
- Accounting

You will learn knowledge and skills in grounds maintenance and management, including:

- Turfgrass maintenance
- Pesticide and fertilizer application
- Irrigation
- Equipment operation and repair

Hands-On Learning Opportunities

- **Field Trips:** Visit a variety of golf course, clubhouse, and restaurant facilities 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.

Certifications

You may receive a ServSafe Manager certification from the National Restaurant Association and a Certified Pool Operator certification from the Iowa Department of Public Health. Upon successful completion of the program, you may apply for a ProCard with the Professional Golfers Association (PGA).

Careers

POSITIONS

EMPLOYERS



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

- Assistant superintendents
- Superintendents
- Assistant managers
- Managers
- Event planners

They may also find jobs as golf industry representatives.

Example Careers and Average Wages

	Entry	Average	Experienced
Golf Course Superintendents and Turf Managers		\$89,200*	\$109,600*
First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers	\$28,200	\$40,100	\$46,100
Food Service Managers	\$27,200	\$40,900	\$47,700
Meeting, Convention, and Event Planners	\$24,700	\$44,000	\$53,600

Source: 2016 Iowa Wage Report, Iowa Workforce Development

* Source: 2017 Benefits and Compensation Report, Golf Course Superintendents Association of America

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

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

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](#)

Golf Course and Country Club Management Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 67

Program Start: Fall, Spring, Summer

2017–2018 Suggested Sequence of Study

➤ The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

➤ When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

➤ Courses are subject to change.

- ◆ General education course
- ▣ Non-transfer general education course
- ▶ Course has a prerequisite and/or corequisite.
- First 8 Weeks
- ◐ Second 8 Weeks

Semester 1

AGH-112	Introduction to Turfgrass Management	3
HCM-608	Introduction to Hospitality	3
MAT-772	Applied Math -OR-	3 ▣
MAT-156	Statistics ▶ -OR-	3 ◆
MAT-110	Math for Liberal Arts ▶	3 ◆
MGT-101	Principles of Management	3 ◆
MGT-222	Golf Club Operations	3

Total Credits 15

Semester 2

AGA-284	Pesticide Application Certification ●	3
AGH-425	Grounds Maintenance ◐	3
HCM-242	Event Planning and Customer Service ●	2
HCM-309	Hospitality Safety and Sanitation	3
HCM-602	Introduction to Food and Bar Operations ●	3
SPC-101	Fundamentals of Oral Communication	3 ◆

Total Credits 17

Semester 3 – Summer

[AGT-805](#) Employment Experience 5

Total Credits 5

Semester 4

[AGH-161](#) Irrigation Systems 3

[COM-781](#) Written Communication in the Workplace ► -OR- 3 ◻

[ENG-105](#) Composition I ► 3 ◆

[MKT-110](#) Principles of Marketing -OR- 3 ◆

[MKT-198](#) Sports Marketing 3

[Golf Course Management Elective](#) 3

[Golf Course Management Elective](#) 2

Total Credits 14

Semester 5

[ACC-131](#) Principles of Accounting I ► -OR- 4 ◆

[ACC-115](#) Introduction to Accounting 4

[AGH-211](#) Advanced Turfgrass Management 3

[MGT-170](#) Human Resource Management 3

[PSY-111](#) Introduction to Psychology -OR- 3 ◆

[SOC-110](#) Introduction to Sociology -OR- 3 ◆

[PSY-102](#) Human and Work Relations 3 ◻

[Golf Course Management Elective](#) 3

Total Credits 16

Golf Course Management Electives

[AGA-376](#) Integrated Pest Management 3

[AGH-140](#) Equipment Operations 2

[AGH-142](#) Landscape Construction 3

[AGH-143](#) Equipment Repair 3

[BUS-102](#) Introduction to Business 3 ◆

[BUS-180](#) Business Ethics 3 ◆

[BUS-183](#) Business Law 3 ◆

[MGT-110](#) Small Business Management 3

[MGT-210](#) Management Decision Making 3

[MKT-140](#) Principles of Selling 3

[MKT-142](#) Consumer Behavior 3

[MKT-152](#) Advertising and Visual Merchandising 3

[MMS-117](#) Social Media for Business 3

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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:

- Soil fertility and testing
- Turfgrass growth and development
- Various plant types and lifecycle
- Construction safety
- Pesticide application and safety
- Landscape design and construction
- Irrigation systems

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

- **Field Trips:** Visit local greenhouses and golf courses and experience top-of-the-line equipment, including fairway mowers, precision application equipment, and GPS tools.
- **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

Articulation agreements allow you to transfer your Landscape and Turf Management coursework to Iowa State University and Northwest Missouri 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 landscape and turf management include:

- Golf course management
- Sports turf manager
- Landscape design
- Landscape installation
- Grounds maintenance
- Lawn care
- Garden center manager
- Greenhouse production

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.

Example Careers and Average Wages

	Entry	Average	Experienced
Golf Course Superintendents and Turf Managers		\$89,200*	\$109,600*
First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers	\$28,200	\$40,100	\$46,000
Grounds Maintenance Workers	\$24,800	\$35,100	\$40,300

EMPLOYERS

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

	Entry	Average	Experienced
Vegetation Pesticide Handlers, Sprayers, and Applicators	\$21,500	\$30,100	\$34,400
Crop, Nursery, and Greenhouse Farmworkers and Laborers	\$20,100	\$28,600	\$32,800
Landscaping and Groundskeeping Workers	\$18,800	\$26,500	\$30,300

Source: 2016 Iowa Wage Report, Iowa Workforce Development

* Source: 2017 Benefits and Compensation Report, Golf Course Superintendents Association of America

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 AAS Degree Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 71

Program Start: Fall, Spring

2017–2018 Suggested Sequence of Study

» The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

» When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

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

Semester 1

AGA-154	Fundamentals of Soil Science	3
AGC-103	Ag Computers -OR-	3
CSC-110	Introduction to Computers ▶	3 ◆
AGH-112	Introduction to Turfgrass Management	3
AGH-221	Principles of Horticulture	3
AGH-280	Botany for Horticulture	3
CON-108	Construction Safety	1
ENG-105	Composition I ▶ -OR-	3 ◆
COM-781	Written Communication in the Workplace ▶	3 ▣

Total Credits 19

Semester 2

AGA-284	Pesticide Application Certification	3
AGA-376	Integrated Pest Management	3
AGH-233	Plant Propagation I	3
MAT-110	Math for Liberal Arts ▶ -OR-	3 ◆
MAT-772	Applied Math -OR-	3 ▣
MAT-122	College Algebra ▶ -OR-	5 ◆
MAT-156	Statistics ▶	3 ◆

Semester 2

PSY-102 Human and Work Relations -OR-	3	▣
PSY-111 Introduction to Psychology -OR-	3	◆
SOC-110 Introduction to Sociology	3	◆
Electives–Group 1	3	

Total Credits 18

Semester 3–Summer (optional)

AGT-805 Employment Experience * -OR-	5	
Heavy Equipment Electives (Offered Summer Only)	6	

** Required and preferred course. May be taken during Semester 3 or 5.*

Total Credits 5

Semester 4

AGH-123 Woody Plant Materials	3	
AGH-142 Landscape Construction	3	
AGH-161 Irrigation Systems	3	
AGH-200 Landscape Estimating and Bidding	2	
SPC-101 Fundamentals of Oral Communication	3	◆
Electives–Group 2	3	

Total Credits 17

Semester 5

AGB-331 Entrepreneurship in Agriculture	3	
AGH-211 Advanced Turfgrass Management -OR-	3	
AGH-292 Garden Center Management	3	
AGT-805 Employment Experience	5	
<i>Required course if not taken during Semester 3.</i>		
Electives–Group 1	6	

Total Credits 12

Electives–Group 1

AGH-107 Horticulture Lab	1	
AGH-119 Herbaceous Plant Materials	2	
AGH-140 Equipment Operations	2	
AGH-143 Equipment Repair	3	
AGH-152 Landscape Design Techniques	3	
AGH-159 Landscape Graphics ►	2	
AGH-270 Nursery Production	2	
AGH-425 Grounds Maintenance	3	

Electives—Group 1

[AGP-340](#) Foundations of GIS and GPS 3

Electives—Group 2

[AGH-107](#) Horticulture Lab 1

[AGH-134](#) Greenhouse Production 3

[AGH-273](#) Nursery Management 3

[AGH-400](#) Athletic Field Maintenance 3

Heavy Equipment Electives

[HEO-100](#) Introduction to Construction Equipment Operation 1

[HEO-104](#) Equipment Maintenance I 2

[HEO-105](#) Skid Steer Operation 3

[HEO-106](#) Compact Excavator Operation 3

[HEO-107](#) Wheel Loader Operation 2

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Grounds Maintenance Diploma Courses

Award: Diploma

Required number of credits: 31

Program Start: Fall, Spring

2017–2018 Suggested Sequence of Study

» The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

» When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

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

Semester 1

AGC-103 Ag Computers -OR-	3
CSC-110 Introduction to Computers ▶	3 ◆
AGH-112 Introduction to Turfgrass Management	3
AGH-140 Equipment Operations	2
AGH-280 Botany for Horticulture	3
CON-108 Construction Safety	1
ENG-105 Composition I ▶ -OR-	3 ◆
COM-781 Written Communication in the Workplace ▶	3 ▣

Total Credits 15

Semester 2

AGA-284 Pesticide Application Certification	3
AGA-376 Integrated Pest Management	3
AGH-119 Herbaceous Plant Materials	2
AGH-233 Plant Propagation I	3
AGH-270 Nursery Production	2
AGH-425 Grounds Maintenance	3

Total Credits 16

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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 to survey wildlife.
- **Equipment:** Train on a variety of 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.
- **[Field Trips and Activities](#):** You will 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 to the Bighorn Mountains in Wyoming for wilderness experiences.
- **Internship/Employment Experience:** Gain 320 hours of real-world work experience ensuring you have the skills you need to succeed in a conservation career.

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 Weedland Firefighter, Fish Iowa!, Electrofishing Safety, and various additional federal certifications.

Careers

POSITIONS



Careers in Natural Resources Management include:

EMPLOYERS

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

Business	Location
Buchanan County Secondary Roads	Independence, IA
Iowa County Conservation Boards	Many Iowa locations

- 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.

Example Careers and Average Wages

	Entry	Average	Experienced
Forest and Conservation Technicians	\$31,100	\$43,200	\$49,200

Source: 2016 Iowa Wage Report, Iowa Workforce Development

Business	Location
Iowa Department of Natural Resources	Many Iowa locations
Montana Fish, Wildlife, and Parks	Libby, MT
North Dakota Parks and Recreation	North 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
Waterloo/Lost Island Waterpark KOA	Waterloo, IA
Western Ecosystems Technology, Inc.	Cheyenne, WY

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](#)

Natural Resources Management AAS Degree Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 65

Program Start: Fall, Spring

2017–2018 Suggested Sequence of Study

➤ The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

➤ When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

➤ Courses are subject to change.

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

Semester 1		
CNS-107	Outdoor Recreation Techniques	1
CNS-110	Equipment Operation and Safety ** -OR- <i>Offered fall semester only</i>	2
CHM-122	Introduction to General Chemistry ▶ -OR-	4 ◆
CHM-165	General Chemistry I ▶	4 ◆
CNS-121	Environmental Conservation	3 ◆
CNS-204	Native Vegetation	3
ENG-105	Composition I ▶ -OR-	3 ◆
COM-781	Written Communication in the Workplace ▶	3 ▣
MAT-102	Intermediate Algebra ▶ -OR-	4 ◆
MAT-772	Applied Math * -OR-	3 ▣
MAT-110	Math for Liberal Arts ▶ -OR-	3 ◆
MAT-156	Statistics ▶ -OR-	3 ◆
MAT-122	College Algebra ▶	5 ◆
	Math Electives	3
Total Credits		16

* Preferred Math course.

** May take CNS-110 and CNS-143, or CHM-122, or CHM-165.

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 ▶ ** -OR- <i>Offered spring semester only</i>	3
CHM-122	Introduction to General Chemistry ▶ -OR-	4 ♦
CHM-165	General Chemistry I ▶	4 ♦
CNS-180	Principles of Interpretation ▶	2
Total Credits		18

** May take CNS-110 and CNS-143, or CHM-122, or CHM-165.

Semester 3

CNS-136	Aquatic Management ▶ -OR-	3
CNS-138	Woodland Management -OR-	3
ENG-106	Composition II ▶	3 ♦
CNS-138	Woodland Management -OR-	3
CNS-136	Aquatic Management ▶ -OR-	3
ENG-106	Composition II ▶	3 ♦
CNS-205	Advanced Outdoor Recreation Techniques ▶	1
CNS-228	Natural Areas Management	3
SOC-110	Introduction to Sociology -OR-	3 ♦
PSY-111	Introduction to Psychology -OR-	3 ♦
PSY-102	Human and Work Relations	3 □
SPC-101	Fundamentals of Oral Communication	3 ♦
Total Credits		16

Semester 4

AGT-805	Employment Experience	5
CNS-109	Wildlife Ecology ▶	3
CNS-134	Wildlife Management ▶ -OR-	4
CNS-929	Individual Projects ▶	1
CNS-200	Conservation Biology ▶	3
Total Credits		15

Math Electives

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 ♦

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Natural Resources Management Transfer AAS Degree Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 65

Program Start: Fall, Spring

2017–2018 Suggested Sequence of Study

» The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

» When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

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

Semester 1

CNS-107	Outdoor Recreation Techniques	1	
CNS-110	Equipment Operation and Safety -OR- <i>Offered fall semester only</i>	2	
CHM-122	Introduction to General Chemistry ▶ -OR-	4	◆
CHM-165	General Chemistry I ▶ ● **	4	◆
CNS-121	Environmental Conservation	3	◆
CNS-204	Native Vegetation	3	
ENG-105	Composition I ▶ -OR-	3	◆
COM-781	Written Communication in the Workplace ▶	3	▣
MAT-102	Intermediate Algebra ▶ -OR-	4	◆
MAT-156	Statistics ▶ ● -OR-	3	◆
MAT-122	College Algebra ▶ ● -OR-	5	◆
MAT-110	Math for Liberal Arts ▶ -OR-	3	◆
MAT-772	Applied Math -OR-	3	▣
	Math Electives		

Total Credits 16

** May take CNS-110 and CNS-143, or CHM-122, or CHM-165.

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 ▶ -OR- (Offered spring semester only)	3
CHM-165	General Chemistry I ▶ -OR-	4 ♦
CHM-122	Introduction to General Chemistry ▶ **	4 ♦
CNS-180	Principles of Interpretation ▶	2
Total Credits		18

** May take CNS-110 and CNS-143, or CHM-122, or CHM-165.

Semester 3

CNS-136	Aquatic Management ▶ -OR-	3
CNS-138	Woodland Management -OR-	3
ENG-106	Composition II ▶	3 ♦
CNS-205	Advanced Outdoor Recreation Techniques ▶	1
CNS-228	Natural Areas Management	3
ENG-106	Composition II ▶ ● -OR-	3 ♦
CNS-136	Aquatic Management ▶ -OR-	3
CNS-138	Woodland Management	3
SOC-110	Introduction to Sociology -OR-	3 ♦
PSY-111	Introduction to Psychology	3 ♦
SPC-101	Fundamentals of Oral Communication	3 ♦
Total Credits		16

Semester 4

AGT-805	Employment Experience -OR- Math Electives	5
CNS-109	Wildlife Ecology ▶	3
CNS-134	Wildlife Management ▶ -OR-	4
CNS-929	Individual Projects ▶ -OR-	1
PHI-105	Introduction to Ethics	3 ♦
CNS-200	Conservation Biology ▶	3
Total Credits		15

Math Electives

MAT-102 Intermediate Algebra ▶	4	◆
MAT-110 Math for Liberal Arts ▶	3	◆
MAT-122 College Algebra ▶ ●	5	◆
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	◆
MAT-772 Applied Math	3	

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Natural Resources Management Certificate Option Courses

Award: Certificate

Required number of credits: 9

Program Start: Fall, Spring

2017–2018 Suggested Sequence of Study

» The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

» When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

◆ General education course

▶ Course has a prerequisite and/or corequisite.

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	3 ◆
CNS-204 Native Vegetation -OR-	3
CNS-108 Wildlife Identification	3

Total Credits 9

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Veterinary Assisting

The Veterinary Assisting 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 400-acre Farm Lab](#): Learn kennel management with cats and dogs, as well as clinic operations.
- Lambing Project: Practice proper handling and restraint of sheep and lambs during the birth process and the initial care of lambs. Also, learn record keeping and feeding skills.
- 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.

Careers

POSITIONS

EMPLOYERS

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

Business	Location
Brookside Veterinary Hospital	Cedar Falls, IA



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

Business	Location
Cedar Bend Humane Society	Waterloo, IA
Den Herder Veterinary Hospital	Waterloo, IA
Jesup Veterinary Clinic	Jesup, IA
PetSmart	Waterloo, IA
Taylor Veterinary Hospital	Cedar Falls, IA

Example Careers and Average Wages

	Entry	Average	Experienced
Veterinary Assistants and Laboratory Animal Caretakers	\$18,300	\$24,500	\$27,600

Source: 2016 Iowa Wage Report, Iowa Workforce Development

GAINFUL EMPLOYMENT

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 Courses

Award: Diploma

Required number of credits: 41

Program Start: Fall, Spring

2017–2018 Suggested Sequence of Study

» The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

» When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

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

Semester 1

AGS-113 Survey of the Animal Industry -OR-	3
Agriculture Elective	3
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
Total Credits 16	

Semester 2

AGV-121 Veterinary Medical Terminology	2
AGV-123 Companion Animal -OR-	3
AGS-216 Equine Science -OR-	3
AGS-225 Swine Science -OR-	3
AGS-226 Beef Cattle Science	3
AGV-140 Veterinary Pharmacology ▶	3
ENG-105 Composition I ▶ -OR-	3 ◆
COM-781 Written Communication in the Workplace ▶	3 ▣
MAT-772 Applied Math -OR-	3 ▣
MAT-110 Math for Liberal Arts ▶ -OR-	3 ◆

Semester 2

MAT-156 Statistics ▶ -OR-	3	◆
Math Electives	3	
PSY-111 Introduction to Psychology -OR-	3	◆
PSY-102 Human and Work Relations -OR-	3	▣
SOC-110 Introduction to Sociology	3	◆
Total Credits		17

Semester 3—Summer

AGT-805 Employment Experience	5	
AGV-101 Veterinary Assisting ▶	3	
Total Credits		8

Math Electives

MAT-122 College Algebra ▶	5	◆
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	◆

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	3	◆
AGB-331 Entrepreneurship in Agriculture	3	
AGB-336 Agricultural Selling	3	
AGP-333 Precision Farming Systems	3	
AGP-450 Fundamentals of GIS	3	
AGS-216 Equine Science	3	
AGS-225 Swine Science	3	
AGS-226 Beef Cattle Science	3	
AGS-272 Foods of Animal Origin ▶	5	
AGS-275 Food Safety and Analysis	3	
AGS-305 Livestock Evaluation	3	

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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
- Digital photography
- File and data management
- Storyboarding
- Lighting
- Media writing and scripting
- Photo and 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, including music video, commercial, journalistic, and documentary.
- 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 and digital photography, 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 issue 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 and Final Cut Pro
- **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

An articulation agreement allows you to transfer your Digital Mass Media 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 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

Example Careers and Average Wages

	Entry	Average	Experienced
Broadcast Technicians and Videographers	\$18,200	\$39,100	\$49,500
Audio and Video Equipment Technicians	\$21,400	\$34,400	\$40,800
Multimedia Specialists	\$29,100	\$55,600	\$68,800
Sound Engineering Technicians	\$29,500	\$48,400	\$57,800

EMPLOYERS

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

Business	Location
Cedar Falls Utilities	Cedar Falls, IA
KWWL Television	Waterloo, IA
Pro Video Productions	Cedar Rapids, 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](#)

Digital Mass Media Courses

Award: Associate of Applied Arts (AAA)

Required number of credits: 60

Program Start: Fall, Spring, Summer

2017–2018 Suggested Sequence of Study

» The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

» When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

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

Semester 1

ENG-105 Composition I ▶	3	◆
MMS-103 Basic Digital Photography	3	
MMS-105 Audio Production	3	
MMS-111 Video Production I	3	
MMS-128 Digital Print Production	3	
Total Credits 15		

Semester 2

MMS-134 Media Writing	3	
MMS-138 Introduction to Website Dynamics	3	
MMS-208 Sound for Film and Video ▶ -OR-	3	
MMS-213 Video Production II ▶ -OR-	3	
MMS-214 Audio Production II ▶ -OR-	3	
MMS-233 Intermediate Digital Photography ▶ -OR-	3	
Digital Mass Media Elective—All Terms	3	
MMS-208 Sound for Film and Video ▶ -OR-	3	
MMS-213 Video Production II ▶ -OR-	3	
MMS-214 Audio Production II ▶ -OR-	3	
MMS-233 Intermediate Digital Photography ▶ -OR-	3	

Semester 2

Digital Mass Media Elective—All Terms	3	
SPC-101 Fundamentals of Oral Communication	3	◆
Total Credits 15		

Semester 3

MMS-117 Social Media for Business	3	
SOC-110 Introduction to Sociology -OR-	3	◆
PSY-111 Introduction to Psychology	3	◆
Digital Mass Media Elective—Term 3 -OR-	3	
Digital Mass Media Elective—All Terms	3	
Digital Mass Media Elective—Term 3 -OR-	3	
Digital Mass Media Elective—All Terms	3	
Digital Mass Media Elective—Term 3 -OR-	3	
Digital Mass Media Elective—All Terms	3	
Total Credits 15		

Semester 4

MAT-772 Applied Math -OR-	3	▣
MAT-110 Math for Liberal Arts ▶	3	◆
MMS-265 Mass Communications Law	3	
MMS-901 Portfolio Production	3	
Digital Mass Media Elective—Term 4 -OR-	3	
Digital Mass Media Elective—All Terms	3	
Digital Mass Media Elective—Term 4 -OR-	3	
Digital Mass Media Elective—All Terms	3	
Total Credits 15		

Digital Mass Media Electives—Term 3

MMS-124 Survey of Commercial Video ▶	3	
MMS-300 Cinematography ▶	3	
MMS-302 Solo Video Journalism ▶	3	
MMS-320 Recording Studio I ▶	3	
MMS-330 Motion Graphics for Video ▶	3	
MMS-410 Film Editing ▶	3	
MMS-420 Recording Studio II ▶	3	
MMS-905 Digital Mass Media Internship ▶	1	
MMS-949 Special Topics ▶	3	
MUA-120 Applied Piano	1	◆
MUA-319 Applied Voice II	1	◆

Digital Mass Media Electives—Term 3

MUS-100 Music Appreciation	3	◆
MUS-102 Music Fundamentals	3	◆

Digital Mass Media Electives—Term 4

MMS-303 Scriptwriting	3	
MMS-310 Independent Film Production ▶	3	
MMS-420 Recording Studio II ▶	3	
MMS-430 Documentary Film ▶	3	
MMS-905 Digital Mass Media Internship ▶	1	
MMS-949 Special Topics ▶	3	

Digital Mass Media Electives—All Terms

ART-101 Art Appreciation	3	◆
COM-140 Introduction to Mass Media	3	◆
COM-148 Diversity and the Media	3	◆
ENG-221 Creative Writing	3	◆
MKT-110 Principles of Marketing	3	◆
MKT-140 Principles of Selling	3	
MKT-142 Consumer Behavior	3	
MKT-152 Advertising and Visual Merchandising	3	
MKT-198 Sports Marketing	3	
PHT-210 Visual Communication	3	
PHT-242 Audio Visual Presentations ▶	3	

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Graphic Communications

The Graphic Communications program prepares you for a graphic design career in print, web, and interactive media design. You will learn to effectively communicate a clear message to an audience using visual elements and design.

Learn all aspects of the design process, including:

- Principles and elements of graphics and design
- Project management
- Proofing
- Print and web set-up, design, and layout
- Printing processes
- Website testing
- Production
- Archiving

You may choose to focus your coursework in graphic design or web design.

- In graphic design courses, you will learn to design and publish ads, brochures, logos, magazine covers, newsletters, packaging, posters, vehicle wraps, and much more.
- In web design courses, you will learn to design and develop responsive and interactive websites displayed on mobile, tablet, and desktop devices.

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 Communications 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

POSITIONS



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

Example Careers and Average Wages

	Entry	Average	Experienced
Graphic Designers	\$27,500	\$43,800	\$52,000
Desktop Publishers	\$28,600	\$44,700	\$52,700
Multimedia Artists	\$29,100	\$55,600	\$68,800
Web Designers	\$33,500	\$61,000	\$74,800

Source: 2016 Iowa Wage Report, Iowa Workforce Development

EMPLOYERS

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

Admissions Requirements

STEP 1

Apply at Hawkeye

1. [Complete Hawkeye's online admissions application](#) to apply and be considered for the Graphic Communications 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 Communications program, all students must meet minimum score requirements and/or complete required success courses. Success course credits do not apply towards graduation or the AAA degree.

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

	ACT	ACCUPLACER	COMPASS	ASSET	Success Course
Math	14	40 Arithmetic	24 Pre-Algebra	38 Numerical	MAT-045 Fundamentals of Math
English/Writing	16	64 Sentence Skills	41	35	ENG-060 College Preparatory Writing I
Reading	16	58	69	34	RDG-039 College Preparatory Reading II

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 Communications Courses

Award: Associate of Applied Arts (AAA)

Required number of credits: 63

Program Start: Fall, Spring

2017–2018 Suggested Sequence of Study

▶▶ The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

▶▶ When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

▶ Courses are subject to change.

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

Semester 1

COM-781 Written Communication in the Workplace ▶ -OR-	3	▣
ENG-105 Composition I ▶	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		

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-	3	◆
MAT-156 Statistics ▶ -OR-	3	◆
Math Electives	3	
Total Credits 15		

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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-	3 ◆
SOC-110 Introduction to Sociology	3 ◆
Graphic Communications Elective -OR-	3
Art or Marketing Elective	3
Graphic Communications Elective -OR-	3
Art or Marketing Elective	3
Total Credits 17	

Semester 4

GRA-206 Advanced Design and Layout ► (Offered Spring Only)	4
GRA-239 CMS Web Design ► (Offered Fall Only)	3
GRA-290 Portfolio Preparation ►	3
SPC-101 Fundamentals of Oral Communication	3 ◆
Graphic Communications Elective -OR-	3
Art or Marketing Elective	3
Total Credits 16	

Graphic Communications Electives

Take a minimum of 6 Graphic Communications credits and a minimum of 3 Art or Marketing credits.

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 (Offered Fall Only)	1 ◆
GRA-949 Special Topics (Offered Semester 4 Only)	1

Art and Marketing Electives

Take a minimum of 6 Graphic Communications credits and a maximum of 3 Art or Marketing credits.

ART-120 2-D Design	3 ◆
ART-143 Painting	3 ◆
ART-184 Photography	3 ◆
ART-203 Art History I	3 ◆
ART-204 Art History II	3 ◆
MKT-110 Principles of Marketing	3 ◆

Art and Marketing Electives

MKT-152 Advertising and Visual Merchandising	3
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Math Electives

MAT-122 College Algebra ▶	5	◆
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MAT-128 Precalculus ▶	4	◆
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MAT-134 Trigonometry and Analytic Geometry ▶	3	◆
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MAT-210 Calculus I ▶	4	◆
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MAT-216 Calculus II ▶	4	◆
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MAT-219 Calculus III ▶	4	◆
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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.

You will choose to focus your coursework in at least one area: portrait, commercial, or digital.

- In portrait courses, you will learn all aspects of running a successful portrait photography business, including setting up a studio, outdoor photography, working with clients, and much more.
- In commercial courses, you will learn all aspects of running a successful commercial photography business, including setting up a studio, working with products, photo editing for publication, and much more.
- In digital courses, you will learn the skills needed to become a digital technician, including photo editing for portrait and commercial photography.

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.
- **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.
- **[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.

Example Careers and Average Wages

	Entry	Average	Experienced
Photographers	\$17,600	\$27,700	\$32,700

Source: 2016 Iowa Wage Report, Iowa Workforce Development

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

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 Portrait Emphasis Courses

Award: Associate of Applied Arts (AAA)

Required number of credits: 67

Program Start: Fall only

2017–2018 Suggested Sequence of Study

» The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

» When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

◆ General education course

▣ Non-transfer general education course

▶ Course has a prerequisite and/or corequisite.

Semester 1

MAT-772 Applied Math -OR-	3	▣
MAT-110 Math for Liberal Arts ▶ -OR-	3	◆
MAT-156 Statistics ▶ -OR-	3	◆
Math Electives	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-	3	◆
SOC-110 Introduction to Sociology	3	◆

Total Credits 18

Semester 2

COM-781 Written Communication in the Workplace ▶ -OR-	3	▣
ENG-105 Composition I ▶	3	◆
PHT-110 Camera II ▶	3	
PHT-111 Print II ▶	3	
PHT-132 Photo Design II ▶	3	

Semester 2

PHT-202 Basic Portraiture ▶	3
PHT-204 Basic Commercial Photography ▶	3
Total Credits 18	

Semester 3

PHT-215 Portrait Image Editing ▶	3
PHT-220 Intermediate Portraiture ▶	3
PHT-241 Portrait Business ▶	3
SPC-101 Fundamentals of Oral Communication	3 ♦
Portrait Emphasis Elective—Term 3	3
Portrait Emphasis Elective—Term 3 -OR-	3
Portrait Emphasis Elective—Terms 3 or 4	3
Total Credits 18	

Semester 4

PHT-217 Advanced Portrait Image Editing ▶	3
PHT-240 Portrait Production and Portfolio ▶	3
PHT-244 Wedding Photography ▶	4
Portrait Emphasis Elective—Term 4 -OR-	3
Portrait Emphasis Elective—Terms 3 or 4	3
Total Credits 13	

Portrait Emphasis Electives—Term 3

PHT-208 Basic Photojournalism *	3
PHT-210 Visual Communication *	3
PHT-216 Commercial Image Editing ▶ *	3
PHT-227 Intermediate Commercial ▶ *	3
PHT-235 Tech. for Studio Promotion ▶ *	3
PHT-248 Commercial Business ▶ *	3

* Offered fall semester only.

Portrait Emphasis Electives—Term 4

GRA-133 Desktop Publishing	4
PHT-218 Advanced Commercial Image Editing ▶ **	3
PHT-229 Intermediate Photojournalism ▶ **	3
PHT-245 History of Photography **	3
PHT-247 Commercial Production and Portfolio ▶ **	3

Portrait Emphasis Electives—Term 4

PHT-249 Advanced Commercial Lighting ▶ **	3
PHT-251 Fine Art Photography ▶ **	3
PHT-252 Film and Print Scanning ▶ **	3
PHT-253 Art Direction ▶ *	3

* Offered fall semester only.

** Offered spring semester only.

Portrait Emphasis Electives—Terms 3 or 4

BUS-102 Introduction to Business	3	◆
MGT-110 Small Business Management	3	
MKT-110 Principles of Marketing	3	◆
MKT-140 Principles of Selling	3	
NET-109 A+ Certification Prep Course	4	
PHT-242 Audio Visual Presentations ▶ **	3	

** Offered spring semester only.

Math Electives

MAT-122 College Algebra ▶	5	◆
MAT-128 Precalculus ▶	4	◆
MAT-134 Trigonometry and Analytic Geometry ▶	3	◆
MAT-210 Calculus I ▶	4	◆
MAT-216 Calculus II ▶	4	◆

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Professional Photography Commercial Emphasis Courses

Award: Associate of Applied Arts (AAA)

Required number of credits: 67

Program Start: Fall only

2017–2018 Suggested Sequence of Study

» The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

» When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

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

Semester 1

MAT-772 Applied Math -OR-	3	▣
MAT-110 Math for Liberal Arts ▶ -OR-	3	◆
MAT-156 Statistics ▶ -OR-	3	◆
Math Electives	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-	3	◆
SOC-110 Introduction to Sociology	3	◆

Total Credits 18

Semester 2

COM-781 Written Communication in the Workplace ▶ -OR-	3	▣
ENG-105 Composition I ▶	3	◆
PHT-110 Camera II ▶	3	
PHT-111 Print II ▶	3	
PHT-132 Photo Design II ▶	3	

Semester 2

PHT-202 Basic Portraiture ▶	3
PHT-204 Basic Commercial Photography ▶	3
Total Credits 18	

Semester 3

PHT-216 Commercial Image Editing ▶	3
PHT-227 Intermediate Commercial ▶	3
PHT-248 Commercial Business ▶	3
SPC-101 Fundamentals of Oral Communication	3 ♦
Commercial Emphasis Elective—Term 3 -OR-	3
Commercial Emphasis Elective—Terms 3 or 4	3
Total Credits 15	

Semester 4

GRA-133 Desktop Publishing -OR-	4
Commercial Emphasis Elective—Term 4 -OR-	3
Commercial Emphasis Elective—Terms 3 or 4	3
PHT-218 Advanced Commercial Image Editing ▶	3
PHT-247 Commercial Production and Portfolio ▶	3
PHT-253 Art Direction ▶	3
Commercial Emphasis Elective—Term 4 -OR-	3
Commercial Emphasis Elective—Terms 3 or 4	3
Total Credits 16	

Commercial Emphasis Electives—Term 3

PHT-208 Basic Photojournalism *	3
PHT-210 Visual Communication *	3
PHT-215 Portrait Image Editing ▶ *	3
PHT-220 Intermediate Portraiture ▶ *	3
PHT-235 Tech. for Studio Promotion ▶ *	3
PHT-241 Portrait Business ▶ *	3

* Offered fall semester only.

Commercial Emphasis Electives—Term 4

PHT-217 Advanced Portrait Image Editing ▶ **	3
PHT-229 Intermediate Photojournalism ▶ **	3
PHT-240 Portrait Production and Portfolio ▶ **	3

Commercial Emphasis Electives—Term 4

PHT-244 Wedding Photography ▶ **	4
PHT-245 History of Photography **	3
PHT-249 Advanced Commercial Lighting ▶ **	3
PHT-251 Fine Art Photography ▶ **	3
PHT-252 Film and Print Scanning ▶ **	3

** Offered spring semester only.

Commercial Emphasis Electives—Terms 3 or 4

BUS-102 Introduction to Business	3	◆
MGT-110 Small Business Management	3	
MKT-110 Principles of Marketing	3	◆
MKT-140 Principles of Selling	3	
NET-109 A+ Certification Prep Course	4	
PHT-242 Audio Visual Presentations ▶ **	3	

** Offered spring semester only.

Math Electives

MAT-122 College Algebra ▶	5	◆
MAT-128 Precalculus ▶	4	◆
MAT-134 Trigonometry and Analytic Geometry ▶	3	◆
MAT-210 Calculus I ▶	4	◆
MAT-216 Calculus II ▶	4	◆

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Professional Photography Digital Emphasis Courses

Award: Associate of Applied Arts (AAA)

Required number of credits: 63

Program Start: Fall only

2017–2018 Suggested Sequence of Study

» The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

» When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

◆ General education course

▣ Non-transfer general education course

▶ Course has a prerequisite and/or corequisite.

Semester 1

MAT-772 Applied Math -OR-	3	▣
MAT-110 Math for Liberal Arts ▶ -OR-	3	◆
MAT-156 Statistics ▶ -OR-	3	◆
Math Electives	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-	3	◆
SOC-110 Introduction to Sociology	3	◆

Total Credits 18

Semester 2

PHT-110 Camera II ▶	3
PHT-111 Print II ▶	3
PHT-132 Photo Design II ▶	3
PHT-202 Basic Portraiture ▶	3
PHT-204 Basic Commercial Photography ▶	3

Semester 2

Total Credits 15

Semester 3

PHT-215 Portrait Image Editing ▶	3
PHT-216 Commercial Image Editing ▶	3
SPC-101 Fundamentals of Oral Communication	3 ♦
Digital Emphasis Elective—Term 3 -OR-	3
Digital Emphasis Elective—Terms 3 or 4	3
Digital Emphasis Elective—Term 3 -OR-	3
Digital Emphasis Elective—Terms 3 or 4	3
Digital Emphasis Elective—Term 3 -OR-	3
Digital Emphasis Elective—Terms 3 or 4	3

Total Credits 18

Semester 4

COM-781 Written Communication in the Workplace ▶ -OR-	3 □
ENG-105 Composition I ▶	3 ♦
PHT-217 Advanced Portrait Image Editing ▶	3
PHT-218 Advanced Commercial Image Editing ▶	3
PHT-249 Advanced Commercial Lighting ▶ ** -OR-	3
GRA-133 Desktop Publishing -OR-	4
PHT-252 Film and Print Scanning ▶ ** -OR-	3
PHT-253 Art Direction ▶ * -OR-	3
Digital Emphasis Elective—Terms 3 or 4	3

Total Credits 12

* Offered fall semester only.

** Offered spring semester only.

Digital Emphasis Electives—Term 3

PHT-208 Basic Photojournalism *	3
PHT-210 Visual Communication *	3
PHT-220 Intermediate Portraiture ▶ *	3
PHT-227 Intermediate Commercial ▶ *	3
PHT-235 Tech. for Studio Promotion ▶ **	3
PHT-241 Portrait Business ▶ *	3
PHT-242 Audio Visual Presentations ▶ **	3
PHT-248 Commercial Business ▶ *	3

* Offered fall semester only.

** Offered spring semester only.

Digital Emphasis Electives—Term 3 or 4

BUS-102 Introduction to Business	3	◆
MGT-110 Small Business Management	3	
MKT-110 Principles of Marketing	3	◆
MKT-140 Principles of Selling	3	
NET-109 A+ Certification Prep Course	4	

Math Electives

MAT-122 College Algebra ▶	5	◆
MAT-128 Precalculus ▶	4	◆
MAT-134 Trigonometry and Analytic Geometry ▶	3	◆
MAT-210 Calculus I ▶	4	◆
MAT-216 Calculus II ▶	4	◆

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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
- Office calculators
- Computer accounting systems, including Sage Accounting and QuickBooks Pro
- Microsoft Office

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.

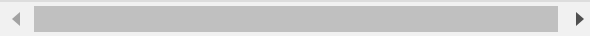
Example Careers and Average Wages

EMPLOYERS

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

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

	Entry	Average	Experienced
Bookkeeping, Accounting, and Auditing Clerks	\$22,900	\$34,000	\$39,600



Source: 2016 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](#)

Accounting AAS Degree Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 64

Program Start: Fall, Spring, Summer

2017–2018 Suggested Sequence of Study

» The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

» When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

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

Semester 1

ACC-115 Introduction to Accounting -OR-	4
ACC-131 Principles of Accounting I ▶	4 ◆
ACC-265 Income Tax Accounting	4
BCA-134 Word Processing ▶	3
BUS-108 Business College Experience	1
MAT-772 Applied Math -OR-	3 ▣
MAT-110 Math for Liberal Arts ▶ -OR-	3 ◆
MAT-156 Statistics ▶ -OR-	3 ◆
Math Electives	3
Total Credits 15	

Semester 2

ACC-116 Introduction to Accounting II ▶ -OR-	4
ACC-132 Principles of Accounting II ▶	4 ◆
ACC-160 Payroll Accounting ▶	2
ACC-310 Computer Accounting ▶	2
ACC-803 Accounting Simulations ▶	1
ADM-131 Office Calculators	1
CSC-110 Introduction to Computers ▶ -OR-	3 ◆

Semester 2

BCA-205 Database/Spreadsheets ▶	3
ENG-105 Composition I ▶ -OR-	3 ◆
COM-781 Written Communication in the Workplace ▶	3 ◻

Total Credits 16

Semester 3

ACC-222 Cost Accounting ▶	4
ACC-231 Intermediate Accounting I ▶	4
BUS-102 Introduction to Business -OR-	3 ◆
BUS-180 Business Ethics -OR-	3 ◆
BUS-183 Business Law -OR-	3 ◆
MGT-101 Principles of Management -OR-	3 ◆
MGT-110 Small Business Management	3 ◻
ECN-120 Principles of Macroeconomics ▶ -OR-	3 ◆
ECN-130 Principles of Microeconomics ▶ -OR-	3 ◆
ECN-110 Introduction to Economics	3 ◆
SPC-101 Fundamentals of Oral Communication	3 ◆

Total Credits 17

Semester 4

ACC-190 Financial Analysis ▶	2
ACC-232 Intermediate Accounting II ▶	4
ACC-360 Accounting Spreadsheets ▶	2
BUS-102 Introduction to Business -OR-	3 ◆
BUS-180 Business Ethics -OR-	3 ◆
BUS-183 Business Law -OR-	3 ◆
MGT-101 Principles of Management -OR-	3 ◆
MGT-110 Small Business Management	3 ◻
BUS-291 Employment Portfolio and Career Development	2
PSY-102 Human and Work Relations -OR-	3 ◻
PSY-111 Introduction to Psychology -OR-	3 ◆
SOC-110 Introduction to Sociology	3 ◆

Total Credits 16

Math Electives

MAT-122 College Algebra ▶	5 ◆
MAT-128 Precalculus ▶	4 ◆
MAT-134 Trigonometry and Analytic Geometry ▶	3 ◆
MAT-210 Calculus I ▶	4 ◆

Math Electives

MAT-216 Calculus II ▶	4 ♦
MAT-219 Calculus III ▶	4 ♦

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Accounting Technician Diploma Option Courses

Award: Diploma

Required number of credits: 31

Program Start: Fall, Spring, Summer

2017–2018 Suggested Sequence of Study

» The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

» When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

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

Semester 1

ACC-115 Introduction to Accounting -OR-	4
ACC-131 Principles of Accounting I ▶	4 ◆
ACC-265 Income Tax Accounting	4
BCA-134 Word Processing ▶	3
BUS-108 Business College Experience	1
MAT-772 Applied Math -OR-	3 ▣
MAT-110 Math for Liberal Arts ▶ -OR-	3 ◆
MAT-156 Statistics ▶ -OR-	3 ◆
Math Electives	3
Total Credits 15	

Semester 2

ACC-116 Introduction to Accounting II ▶ -OR-	4
ACC-132 Principles of Accounting II ▶	4 ◆
ACC-160 Payroll Accounting ▶	2
ACC-310 Computer Accounting ▶	2
ACC-803 Accounting Simulations ▶	1
ADM-131 Office Calculators	1
CSC-110 Introduction to Computers ▶ -OR-	3 ◆

Semester 2

BCA-205 Database/Spreadsheets ▶	3
ENG-105 Composition I ▶ -OR-	3 ◆
COM-781 Written Communication in the Workplace ▶	3 ◻

Total Credits 16

Math Electives

MAT-122 College Algebra ▶	5 ◆
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 ◆

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Executive Assistant

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
- transcribing documents
- 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

EMPLOYERS

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

Business	Location
Aegon	Cedar Rapids, IA



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
Secretaries and Administrative Assistants	\$21,900	\$31,600	\$36,500
Executive Secretaries and Executive Administrative Assistants	\$31,200	\$43,700	\$49,900

Source: 2016 Iowa Wage Report, Iowa Workforce Development

Business	Location
CBE Group	Waterloo, IA
CUNA Mutual Group	Waverly, IA
Hawkeye Community College	Waterloo, IA
John Deere	Waterloo, IA
Kirkwood Community College	Cedar Rapids, IA
Target Distribution Center	Cedar Falls, IA
Veridian Credit Union	Waterloo, IA
Waterloo-Cedar Falls Courier	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](#)

Executive Assistant AAS Degree Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 64

Program Start: Fall, Spring, Summer

2017–2018 Suggested Sequence of Study

➤ The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

➤ When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

➤ Courses are subject to change.

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

Semester 1

ADM-105	Introduction to Keyboarding	1	
ADM-159	Proofreading and Editing	3	
BCA-134	Word Processing ▶	3	
BUS-102	Introduction to Business	3	◆
BUS-108	Business College Experience	1	
MAT-772	Applied Math -OR-	3	▣
MAT-110	Math for Liberal Arts ▶ -OR-	3	◆
MAT-156	Statistics ▶ -OR-	3	◆
	Math Electives	3	
PSY-102	Human and Work Relations -OR-	3	▣
PSY-111	Introduction to Psychology -OR-	3	◆
SOC-110	Introduction to Sociology	3	◆
		Total Credits	17

Semester 2

ACC-115	Introduction to Accounting -OR-	4	
ACC-131	Principles of Accounting I ▶	4	◆
ADM-108	Keyboarding Skill Development ▶	1	
ADM-148	Transcription ▶	2	

Semester 2

BCA-205 Database/Spreadsheets ▶	3
ENG-105 Composition I ▶	3 ♦
SPC-101 Fundamentals of Oral Communication	3 ♦
Total Credits 16	

Semester 3

ACC-160 Payroll Accounting ▶	2
ACC-310 Computer Accounting ▶ -OR-	2
ECN-110 Introduction to Economics -OR-	3 ♦
ECN-120 Principles of Macroeconomics ▶	3 ♦
ADM-162 Office Procedures ▶	3
BCA-132 Electronic Communications ▶	3
BCA-213 Intermediate Computer Business Applications ▶	3
BUS-180 Business Ethics	3 ♦
Total Credits 16	

Semester 4

ADM-131 Office Calculators	1
ADM-180 Administrative Management	3
ADM-203 Legal Office Concepts and Procedures ▶ -OR-	3
ADM-208 Legal Terminology -OR-	3
ADM-200 Legal Document Processing ▶	3
BUS-183 Business Law	3 ♦
BUS-291 Employment Portfolio and Career Development	2
BUS-903 Business Field Experience ▶	3
Total Credits 15	

Math Electives

MAT-122 College Algebra ▶	5 ♦
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 ♦

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Administrative Assistant Diploma Option Courses

Award: Diploma

Required number of credits: 42

Program Start: Fall, Spring, Summer

2017–2018 Suggested Sequence of Study

» The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

» When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

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

Semester 1

ADM-105	Introduction to Keyboarding	1	
ADM-131	Office Calculators	1	
ADM-159	Proofreading and Editing	3	
BCA-134	Word Processing ▶	3	
BCA-205	Database/Spreadsheets ▶	3	
BUS-108	Business College Experience	1	
MAT-772	Applied Math -OR-	3	▣
MAT-110	Math for Liberal Arts ▶ -OR-	3	◆
MAT-156	Statistics ▶ -OR-	3	◆
	Math Electives	3	
PSY-102	Human and Work Relations -OR-	3	▣
PSY-111	Introduction to Psychology -OR-	3	◆
SOC-110	Introduction to Sociology	3	◆

Total Credits 18

Semester 2

ACC-115	Introduction to Accounting -OR-	4
ACC-131	Principles of Accounting I ▶	4 ♦
ADM-108	Keyboarding Skill Development ▶	1
ADM-162	Office Procedures ▶	3
ADM-180	Administrative Management	3
BCA-132	Electronic Communications ▶ -OR-	3
BCA-213	Intermediate Computer Business Applications ▶	3
BUS-291	Employment Portfolio and Career Development	2
Total Credits		16

Semester 3

ADM-148	Transcription ▶	2
BUS-903	Business Field Experience ▶	3
ENG-105	Composition I ▶ -OR-	3 ♦
SPC-101	Fundamentals of Oral Communication	3 ♦
Total Credits		8

Math Electives

MAT-122	College Algebra ▶	5 ♦
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 ♦

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Office Assistant Certificate Option Courses

Award: Certificate

Required number of credits: 31

Program Start: Fall, Spring, Summer

2017–2018 Suggested Sequence of Study

➤ The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

➤ When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

➤ Courses are subject to change.

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

Semester 1

ADM-105	Introduction to Keyboarding	1
ADM-131	Office Calculators	1
ADM-159	Proofreading and Editing	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-	3 ◆
MAT-156	Statistics ▶ -OR-	3 ◆
	Math Electives	3
PSY-102	Human and Work Relations -OR-	3 ▣
PSY-111	Introduction to Psychology -OR-	3 ◆
SOC-110	Introduction to Sociology	3 ◆

Total Credits 15

Semester 2

ACC-115	Introduction to Accounting -OR-	4
ACC-131	Principles of Accounting I ▶	4 ♦
ADM-162	Office Procedures ▶	3
BCA-132	Electronic Communications ▶	3
BCA-205	Database/Spreadsheets ▶	3
ENG-105	Composition I ▶ -OR-	3 ♦
SPC-101	Fundamentals of Oral Communication	3 ♦

Total Credits 16

Math Electives

MAT-122	College Algebra ▶	5 ♦
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 ♦

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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

- **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. You may also receive a Certified Pool Operator certification from the Iowa Department of Public Health.

Careers

POSITIONS

EMPLOYERS



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

Example Careers and Average Wages

	Entry	Average	Experienced
Lodging Managers	\$24,000	\$42,400	\$51,600
Food Service Managers	\$27,200	\$40,900	\$47,700
General and Operations Managers	\$40,200	\$89,300	\$113,900

Source: 2016 Iowa Wage Report, Iowa Workforce Development

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

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

Award: Associate of Applied Science (AAS)

Required number of credits: 62

Program Start: Fall, Spring, Summer

2017–2018 Suggested Sequence of Study

» The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

» When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

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

Semester 1

HCM-138 Food Fundamentals	3
HCM-608 Introduction to Hospitality	3
MAT-772 Applied Math -OR-	3 ▣
MAT-110 Math for Liberal Arts ▶ -OR-	3 ◆
MAT-156 Statistics ▶	3 ◆
MGT-170 Human Resource Management	3
MKT-110 Principles of Marketing	3 ◆

Total Credits 15

Semester 2

HCM-242 Event Planning and Customer Service	2
HCM-309 Hospitality Safety and Sanitation	3
HCM-589 Introduction to Restaurant Management	3
HCM-602 Introduction to Food and Bar Operations	3
HCM-605 Hotel Administration	2
SPC-101 Fundamentals of Oral Communication	3 ◆

Total Credits 16

Semester 3 – Summer

[HCM-905](#) Hospitality Internship ▶ 3

Total Credits 3

Semester 4

[COM-781](#) Written Communication in the Workplace ▶ -OR- 3 □

[ENG-105](#) Composition I ▶ 3 ◆

[HCM-240](#) Menu Planning and Design 2

[MGT-210](#) Management Decision Making 3

[MKT-142](#) Consumer Behavior 3

[MMS-117](#) Social Media for Business 3

Total Credits 14

Semester 5

[ACC-115](#) Introduction to Accounting -OR- 4

[ACC-131](#) Principles of Accounting I ▶ 4 ◆

[BUS-183](#) Business Law 3 ◆

[HCM-200](#) Dining Service 2

[HCM-251](#) Purchasing, Receiving, and Inventory 2

[PSY-102](#) Human and Work Relations -OR- 3 □

[PSY-111](#) Introduction to Psychology -OR- 3 ◆

[SOC-110](#) Introduction to Sociology 3 ◆

Total Credits 14

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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.

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

POSITIONS



EMPLOYERS

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

Business	Location
BerganKDV	Waterloo, IA
Express Employment Professionals	Cedar Falls, IA

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	\$27,200	\$37,800	\$43,000
Human Resources Specialists and Recruiters	\$33,600	\$51,700	\$60,800

Source: 2016 Iowa Wage Report, Iowa Workforce Development

Business	Location
Grand Jivante	Ackley, IA
Richelieu Foods, Inc.	Grundy Center, IA
Transamerica Corporation	Cedar Rapids, IA
UnityPoint Health—Allen Hospital	Waterloo, IA
Wheaton Franciscan Healthcare	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](#)

Human Resource Management Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 65

Program Start: Fall, Spring, Summer

2017–2018 Suggested Sequence of Study

» The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

» When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

◆ General education course

▶ Course has a prerequisite and/or corequisite.

Semester 1

BUS-102 Introduction to Business	3	◆
BUS-108 Business College Experience	1	
ENG-105 Composition I ▶	3	◆
MAT-110 Math for Liberal Arts ▶ -OR-	3	◆
MAT-156 Statistics ▶ -OR-	3	◆
Math Electives	3	
MGT-101 Principles of Management	3	◆
PSY-111 Introduction to Psychology	3	◆
Total Credits 16		

Semester 2

ACC-131 Principles of Accounting I ▶	4	◆
BUS-180 Business Ethics	3	◆
CSC-110 Introduction to Computers ▶	3	◆
MGT-170 Human Resource Management	3	
SPC-101 Fundamentals of Oral Communication	3	◆
Total Credits 16		

Semester 3

BUS-183 Business Law	3	◆
BUS-903 Business Field Experience ▶	3	
MGT-174 Training and Employee Development	3	
MGT-177 Staffing	3	
MGT-180 Management and Labor Relations	3	
Human Resource Electives	3	
Total Credits 18		

Semester 4

MGT-142 Problems and Issues in Supervision and Management	3	
MGT-178 Employment Law	3	
MGT-190 Employee Compensation and Benefits Management	3	
Human Resource Electives	3	
Human Resource Electives	3	
Total Credits 15		

Human Resource Electives

ACC-132 Principles of Accounting II ▶	4	◆
ACC-160 Payroll Accounting ▶	2	
ACC-310 Computer Accounting ▶	2	
ACC-803 Accounting Simulations ▶	1	
ADM-159 Proofreading and Editing	3	
BCA-132 Electronic Communications ▶	3	
BCA-134 Word Processing ▶	3	
BUS-220 Introduction to International Business	3	
ECN-120 Principles of Macroeconomics ▶	3	◆
ECN-130 Principles of Microeconomics ▶	3	◆
ENG-106 Composition II ▶	3	◆
FIN-121 Personal Finance	3	
HCM-242 Event Planning and Customer Service	2	
MGT-110 Small Business Management	3	
MKT-110 Principles of Marketing	3	◆
MMS-117 Social Media for Business	3	
WDV-102 Introduction to Web Development	3	

Math Electives

MAT-122 College Algebra ▶	5	◆
MAT-128 Precalculus ▶	4	◆
MAT-134 Trigonometry and Analytic Geometry ▶	3	◆
MAT-210 Calculus I ▶	4	◆

Math Electives

MAT-216 Calculus II ▶	4 ♦
MAT-219 Calculus III ▶	4 ♦

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Legal Office Assistant

The Legal Office Assistant program prepares you with the knowledge and skills needed to become an administrative professional in a law firm or a business's legal department, including:

- Coordinating and managing an office environment
- Creating, proofreading, and delivering legal documents and correspondence under the supervision of an attorney or paralegal
- Typing with speed and accuracy
- Managing and organizing files and data
- Legal transcription of documents
- Legal terminology
- 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.

If you plan to transfer, work closely with a [program advisor](#) to ensure courses transfer and you meet program requirements.

Careers

POSITIONS

EMPLOYERS

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

Business	Location
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Graduates find work as administrative professionals in law firms, legal divisions of large businesses, and federal and state government offices.

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

Example Careers and Average Wages

	Entry	Average	Experienced
Legal Secretaries	\$24,700	\$36,500	\$42,400
Executive Secretaries and Executive Administrative Assistants	\$31,200	\$43,700	\$49,900

Source: 2016 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](#)

Legal Office Assistant Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 63

Program Start: Fall, Spring, Summer

2017–2018 Suggested Sequence of Study

» The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

» When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

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

Semester 1

ADM-105	Introduction to Keyboarding	1	
ADM-159	Proofreading and Editing	3	
BCA-134	Word Processing ▶	3	
BUS-108	Business College Experience	1	
CRJ-100	Introduction to Criminal Justice	3	◆
MAT-772	Applied Math -OR-	3	▣
MAT-110	Math for Liberal Arts ▶ -OR-	3	◆
MAT-156	Statistics ▶ -OR-	3	◆
	Math Electives	3	
PSY-102	Human and Work Relations -OR-	3	▣
PSY-111	Introduction to Psychology -OR-	3	◆
SOC-110	Introduction to Sociology	3	◆

Total Credits 17

Semester 2

ACC-115	Introduction to Accounting -OR-	4	
ACC-131	Principles of Accounting I ▶	4	◆
ADM-108	Keyboarding Skill Development ▶	1	
ADM-148	Transcription ▶	2	

Semester 2

ADM-208 Legal Terminology	3
BCA-205 Database/Spreadsheets ▶	3
ENG-105 Composition I ▶	3 ◆
Total Credits 16	

Semester 3

ADM-131 Office Calculators	1
ADM-200 Legal Document Processing ▶	3
BCA-132 Electronic Communications ▶	3
BCA-213 Intermediate Computer Business Applications ▶	3
BUS-180 Business Ethics	3 ◆
SPC-101 Fundamentals of Oral Communication	3 ◆
Total Credits 16	

Semester 4

ADM-180 Administrative Management	3
ADM-203 Legal Office Concepts and Procedures ▶	3
BUS-183 Business Law	3 ◆
BUS-291 Employment Portfolio and Career Development	2
BUS-903 Business Field Experience ▶	3
Total Credits 14	

Math Electives

MAT-122 College Algebra ▶	5 ◆
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 ◆

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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

POSITIONS



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
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EMPLOYERS

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
PDCM Insurance	Waterloo, IA
Target Distribution Center	Cedar Falls, IA
The Men's Warehouse, Inc.	Waterloo, IA

Customer Service Representatives	\$21,900	\$32,600	\$38,000
Advertising Sales Agents	\$25,000	\$46,900	\$57,900
Customer Service and Office Managers and Supervisors	\$31,100	\$48,200	\$56,800
Sales Supervisors and Managers	\$37,400	\$64,100	\$77,500

Business	Location
The VGM Group	Waterloo, IA
Toyota Financial Services	Cedar Rapids, IA
W.W. Grainger, Inc.	Waterloo, IA
Walmart Stores, Inc.	Bentonville, AR
Wheaton Franciscan Healthcare	Waterloo, IA

Source: 2016 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](#)

Marketing Management Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 64

Program Start: Fall, Spring, Summer

2017–2018 Suggested Sequence of Study

➤ The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

➤ When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

➤ Courses are subject to change.

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

Semester 1

BUS-102	Introduction to Business	3	◆
BUS-108	Business College Experience	1	
ENG-105	Composition I ▶ -OR-	3	◆
COM-781	Written Communication in the Workplace ▶	3	▣
MAT-772	Applied Math -OR-	3	▣
MAT-110	Math for Liberal Arts ▶ -OR-	3	◆
MAT-156	Statistics ▶ -OR-	3	◆
	Math Electives	3	
MKT-110	Principles of Marketing	3	◆
PSY-102	Human and Work Relations -OR-	3	▣
PSY-111	Introduction to Psychology -OR-	3	◆
SOC-110	Introduction to Sociology	3	◆

Total Credits 16

Semester 2

CSC-110	Introduction to Computers ▶	3	◆
ECN-110	Introduction to Economics -OR-	3	◆
ECN-120	Principles of Macroeconomics ▶ -OR-	3	◆
ECN-130	Principles of Microeconomics ▶	3	◆

Semester 2

MKT-140 Principles of Selling	3
MKT-160 Principles of Retailing	3
SPC-101 Fundamentals of Oral Communication	3 ♦
Marketing Elective	3
Total Credits 18	

Semester 3

ACC-115 Introduction to Accounting -OR-	4
ACC-131 Principles of Accounting I ▶	4 ♦
BUS-183 Business Law	3 ♦
MGT-101 Principles of Management	3 ♦
Marketing Elective	3
Marketing Elective	3
Total Credits 16	

Semester 4

BUS-291 Employment Portfolio and Career Development	2
MGT-170 Human Resource Management	3
MKT-152 Advertising and Visual Merchandising	3
Marketing Elective	3
Marketing Elective	3
Total Credits 14	

Marketing Electives

ACC-116 Introduction to Accounting II ▶	4
ACC-132 Principles of Accounting II ▶	4 ♦
BCA-132 Electronic Communications ▶	3
BCA-134 Word Processing ▶	3
BUS-180 Business Ethics	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 ▶	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

Marketing Electives

MMS-117 Social Media for Business	3
MMS-138 Introduction to Website Dynamics	3

Math Electives

MAT-122 College Algebra ▶	5	◆
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	◆

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Medical Administrative Assistant

The Medical Administrative Assistant program prepares you for an entry-level career in the medical administrative field. 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
- Transcribing medical documents
- Ethical business practices

Hands-On Learning Opportunities

- 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.

If you plan to transfer, work closely with a [program advisor](#) to ensure courses transfer and you meet program requirements.

Careers

POSITIONS



EMPLOYERS

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

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	\$24,500	\$32,500	\$36,500

Source: 2016 Iowa Wage Report, Iowa Workforce Development

Business	Location
Peoples Community Health Clinic, Inc.	Waterloo, IA
UnityPoint Health	Waterloo and Cedar Falls, IA
Wheaton Franciscan Healthcare	Waterloo and Cedar Falls, 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 Administrative Assistant AAS Degree Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 62

Program Start: Fall, Spring, Summer

2017–2018 Suggested Sequence of Study

➤ The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

➤ When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

➤ Courses are subject to change.

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

Semester 1

ADM-105	Introduction to Keyboarding	1
ADM-159	Proofreading and Editing	3
BCA-134	Word Processing ▶	3
BUS-108	Business College Experience	1
HIT-146	Beginning Medical Terminology	3
MAP-402	Medical Law and Ethics	2
MAT-772	Applied Math -OR-	3 ▣
MAT-110	Math for Liberal Arts ▶ -OR-	3 ◆
MAT-156	Statistics ▶ -OR-	3 ◆
	Math Electives	3

Total Credits 16

Semester 2

ACC-115	Introduction to Accounting -OR-	4
ACC-131	Principles of Accounting I ▶	4 ◆
ADM-108	Keyboarding Skill Development ▶	1
ADM-148	Transcription ▶	2
CSC-110	Introduction to Computers ▶ -OR-	3 ◆
BCA-205	Database/Spreadsheets ▶	3

Semester 2

HIT-156	Intermediate Medical Terminology ▶	3
PSY-102	Human and Work Relations -OR-	3 ◻
PSY-111	Introduction to Psychology -OR-	3 ◆
SOC-110	Introduction to Sociology	3 ◆
Total Credits		16

Semester 3

BCA-132	Electronic Communications ▶ -OR-	3
BCA-213	Intermediate Computer Business Applications ▶	3
HIT-166	Advanced Medical Terminology ▶	3
MAP-132	Medical Transcription ▶	2
MAP-141	Medical Insurance	3
SPC-101	Fundamentals of Oral Communication	3 ◆
Total Credits		14

Semester 4

ADM-131	Office Calculators	1
ADM-162	Office Procedures ▶	3
ADM-180	Administrative Management	3
BUS-291	Employment Portfolio and Career Development	2
BUS-903	Business Field Experience ▶	3
ENG-105	Composition I ▶	3 ◆
MAP-511	Pharmacology for the Medical Office ▶	1
Total Credits		16

Math Electives

MAT-122	College Algebra ▶	5 ◆
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 ◆

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Medical Secretary Diploma Option Courses

Award: Diploma

Required number of credits: 42

Program Start: Fall, Spring, Summer

2017–2018 Suggested Sequence of Study

» The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

» When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

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

Semester 1

ADM-105	Introduction to Keyboarding	1
BCA-134	Word Processing ▶	3
HIT-146	Beginning Medical Terminology	3
Total Credits		7

Semester 2

ADM-108	Keyboarding Skill Development ▶	1
ADM-148	Transcription ▶	2
ADM-159	Proofreading and Editing	3
BUS-108	Business College Experience	1
CSC-110	Introduction to Computers ▶ -OR-	3 ◆
BCA-205	Database/Spreadsheets ▶	3
HIT-156	Intermediate Medical Terminology ▶	3
MAP-402	Medical Law and Ethics	2
MAT-772	Applied Math -OR-	3 ▣
MAT-110	Math for Liberal Arts ▶ -OR-	3 ◆
MAT-156	Statistics ▶ -OR-	3 ◆
	Math Electives	3
Total Credits		18

Semester 3

ADM-162 Office Procedures ▶	3
BCA-132 Electronic Communications ▶ -OR-	3
BCA-213 Intermediate Computer Business Applications ▶	3
BUS-291 Employment Portfolio and Career Development	2
HIT-166 Advanced Medical Terminology ▶	3
MAP-132 Medical Transcription ▶	2
MAP-141 Medical Insurance	3
MAP-511 Pharmacology for the Medical Office ▶	1
Total Credits 17	

Math Electives

MAT-122 College Algebra ▶	5	◆
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	◆

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Medical Billing and Coding Associate

The Medical Billing and Coding Associate program prepares you for an entry-level career in the medical billing and coding field. You will gain the knowledge and skills necessary to:

- Manage, organize, and review medical records
- Code and classify medical procedures
- Calculate patient charges for services
- Prepare statements
- Submit claims to insurance carriers

You will gain experience with electronic medical records, HIPAA compliance concepts, and ICD-10-CM, ICD-10-PCS, CPT-4, and HCPCS coding.

Certification

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

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

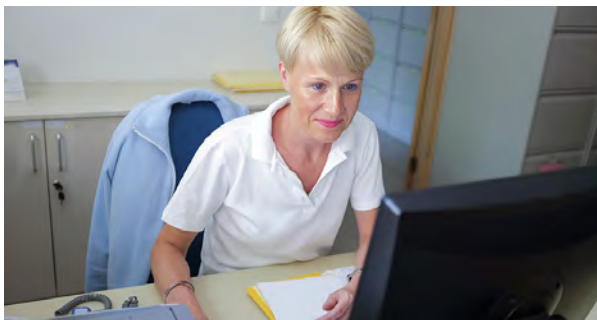
Transfer Information

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

If you plan to transfer, work closely with a [program advisor](#) to ensure courses transfer and you meet program requirements.

Careers

POSITIONS



EMPLOYERS

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

Business	Location
Mercy Medical Center	New Hampton, IA
Peoples Community Health Clinic, Inc.	Waterloo, IA
UnityPoint Health	Waterloo, IA

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

- Billing coordinator
- Billing specialist
- Coding specialist
- Collections specialist
- Patient account representative
- Reimbursement specialist
- Revenue analyst

Business	Location
Wheaton Franciscan Healthcare	Waterloo, IA

Example Careers and Average Wages

	Entry	Average	Experienced
Medical Records and Health Information Technicians	\$28,100	\$39,200	\$44,700

Source: 2016 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](#)

Medical Billing and Coding Associate AAS Degree Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 60

Program Start: Fall, Spring, Summer

2017–2018 Suggested Sequence of Study

» The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

» When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

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

Semester 1

ADM-105	Introduction to Keyboarding	1	
BCA-134	Word Processing ▶	3	
BUS-108	Business College Experience	1	
HIT-125	Essentials of Health Records	2	
HIT-146	Beginning Medical Terminology	3	
MAP-402	Medical Law and Ethics	2	
MAT-772	Applied Math -OR-	3	▣
MAT-110	Math for Liberal Arts ▶ -OR-	3	◆
MAT-156	Statistics ▶ -OR-	3	◆
	Math Electives	3	

Total Credits 15

Semester 2

CSC-110	Introduction to Computers ▶ -OR-	3	◆
BCA-205	Database/Spreadsheets ▶	3	
HIT-156	Intermediate Medical Terminology ▶	3	
HIT-215	Introduction to CPT ▶	2	
HIT-250	Coding I ▶	3	
HSC-217	Introduction to Pathology ▶	3	

Semester 2

Total Credits 14

Semester 3

ENG-105 Composition I ▶	3	◆
HIT-166 Advanced Medical Terminology ▶	3	
HIT-240 Advanced Coding and Classification ▶	3	
HIT-280 CPT-4 Coding ▶	3	
HIT-290 Reimbursement Methods ▶	3	

Total Credits 15

Semester 4

BUS-291 Employment Portfolio and Career Development	2	
HIT-352 Health Information Systems ▶	3	
HIT-450 Health Statistics ▶	2	
HIT-510 Coding Certification Review ▶	2	
MAP-511 Pharmacology for the Medical Office ▶	1	
PSY-102 Human and Work Relations -OR-	3	▣
PSY-111 Introduction to Psychology -OR-	3	◆
SOC-110 Introduction to Sociology	3	◆
SPC-101 Fundamentals of Oral Communication	3	◆

Total Credits 16

Math Electives

MAT-122 College Algebra ▶	5	◆
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	◆

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Medical Insurance Coding Specialist Diploma Courses

Award: Diploma

Required number of credits: 42

Program Start: Fall, Spring, Summer

2017–2018 Suggested Sequence of Study

» The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

» When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

◆ General education course

▣ Non-transfer general education course

▶ Course has a prerequisite and/or corequisite.

Semester 1 – Summer

HIT-146 Beginning Medical Terminology	3
MAT-772 Applied Math -OR-	3 ▣
MAT-110 Math for Liberal Arts ▶ -OR-	3 ◆
MAT-156 Statistics ▶ -OR-	3 ◆
Math Electives	3
Total Credits 6	

Semester 2

BUS-108 Business College Experience	1
HIT-125 Essentials of Health Records	2
HIT-156 Intermediate Medical Terminology ▶	3
HIT-215 Introduction to CPT ▶	2
HIT-250 Coding I ▶	3
HIT-290 Reimbursement Methods ▶	3
HSC-217 Introduction to Pathology ▶	3
MAP-402 Medical Law and Ethics	2
Total Credits 19	

Semester 3

HIT-166	Advanced Medical Terminology ▶	3
HIT-240	Advanced Coding and Classification ▶	3
HIT-280	CPT-4 Coding ▶	3
HIT-352	Health Information Systems ▶	3
HIT-450	Health Statistics ▶	2
HIT-510	Coding Certification Review ▶	2
MAP-511	Pharmacology for the Medical Office ▶	1

Total Credits 17

Math Electives

MAT-122	College Algebra ▶	5	◆
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	◆

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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
- Home, school, and community relationships
- 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 maintain awareness of active children in a group setting
- Demonstrate stamina while engaging in multiple tasks and activities with children
- Respond quickly and appropriately to children's changing needs
- Keep children safe

Hands-On Learning Opportunities

- **Field Experiences:** You will gain more than 240 hours of real-world work experience in the [Hawkeye Child Development Center](#) and local Head Start, preschool, and early childhood programs.
- **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 Promethean interactive whiteboards, iPads and tablets, and laptops.

Certifications

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

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.

Transfer Information

An articulation agreement allows you to transfer your Early Childhood Education coursework to the Prekindergarten-Grade 3 major including Special Education (Unified Endorsement #100) at Upper Iowa University. Hawkeye also has transfer relationships with Wartburg College and Mount Mercy 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 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.

Example Careers and Average Wages

	Entry	Average	Experienced
Childcare Workers	\$17,000	\$18,900	\$19,900
Teacher Assistants	\$17,500	\$23,400	\$26,300
Preschool Teachers in Head Start or Private Preschools	\$19,400	\$27,100	\$30,900

EMPLOYERS

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

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

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 complete required success courses. Success course credits do not apply towards graduation or the AAS degree.

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

	ACT	ACCUPLACER	COMPASS	ASSET	Success Course
Math	14	40 Arithmetic	24 Pre-Algebra	38 Numerical	MAT-045 Fundamentals of Math
English/Writing	16	64 Sentence Skills	41	35	ENG-060 College Preparatory Writing I
Reading	16	58	69	34	RDG-039 College Preparatory Reading II

■ 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

2017–2018 Suggested Sequence of Study

» The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

» When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

- ◆ General education course
- ▣ Non-transfer general education course
- ▶ Course has a prerequisite and/or corequisite.
- ◎ 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-	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-	3 ◆
MAT-156	Statistics ▶ -OR-	3 ◆

Semester 2

[Math Electives](#) 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- 3 ◆

[SOC-110](#) Introduction to Sociology 3 ◆

Total Credits 16

Semester 4

[ECE-250](#) Advanced Curriculum Planning ▶ 3

[ECE-290](#) Early Childhood Program Administration ▶ 3

[EDU-235](#) Children's Literature 3 ◆

[EDU-246](#) Including Diverse Learners 3 ◆

[SPC-101](#) Fundamentals of Oral Communication 3 ◆

Total Credits 15

Math Electives

[MAT-122](#) College Algebra ▶ 5 ◆

[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 ◆

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Early Childhood Education Diploma Option Courses

Award: Diploma

Required number of credits: 30

Program Start: Fall, Spring

2017–2018 Suggested Sequence of Study

» The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

» When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

- ◆ General education course
- ▣ Non-transfer general education course
- ▶ Course has a prerequisite and/or corequisite.
- ◎ 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-	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-	3 ◆
MAT-156	Statistics ▶ -OR-	3 ◆

Semester 2

[Math Electives](#)

3

Total Credits 15

Math Electives

MAT-122 College Algebra ▶	5	◆
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	◆

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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

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 \[pdf\]](#) 

Careers

POSITIONS



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	\$28,800	\$37,800	\$42,300

Source: 2016 Iowa Wage Report, Iowa Workforce Development

GAINFUL EMPLOYMENT

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 complete required success courses. Success course credits do not apply towards graduation or the diploma.

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

	ACT	ACCUPLACER	COMPASS	ASSET	Success Course
Math			← Basic Skills Competency in Math →		
English	16	64 Sentence Skills	41	35	ENG-060 College Preparatory Writing I
Reading	19	76	82	38	RDG-040 College Preparatory Reading III

■ 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 Courses

Award: Diploma

Required number of credits: 46

Program Start: Fall only

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.

2017–2018 Suggested Sequence of Study

» The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

» When [registering for classes](#) refer to your Program Evaluation/Degree Audit to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

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

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	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		

Semester 2

COM-730 Communications -OR-	3	▣
ENG-105 Composition I ▶ -AND-	3	◆
SPC-101 Fundamentals of Oral Communication	3	◆
DEA-263 Dental Science II ▶	2	
DEA-417 Dental Materials II ▶	2	
DEA-514 Chairside Assisting II ▶	2	
DEA-556 Assisting Clinic I ▶	4	
DEA-603 Dental Specialties ▶	2	
DEA-702 Dental Office Procedures	2	
Total Credits 17		

Semester 3 – Summer

DEA-578 Dental Assisting Clinic II ▶ (10-Week Course)	5	
DEA-591 Dental Assisting Seminar ▶	1	
PSY-102 Human and Work Relations -OR-	3	▣
PSY-111 Introduction to Psychology -OR-	3	◆
SOC-110 Introduction to Sociology	3	◆
Total Credits 9		

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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

Careers

POSITIONS



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	\$57,900	\$68,500	\$73,700

Source: 2016 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

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 program evaluation/degree audit 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 Dental Hygiene program.
2. [Request to have your transcripts sent to the Admissions office.](#)

■ STEP 2 Placement through appropriate assessment scores or completion of success courses

In order to be eligible for the Dental Hygiene program, 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.

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

	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

■ STEP 3 Prerequisite Coursework

In order for a student to be moved from the Candidate list to the Eligible for Acceptance list the student must complete all prerequisite courses with a grade of a “C” or higher.

All students must also hold a 2.75 minimum GPA in the specific prerequisite courses.

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.](#)

■ STEP 4 Eligible for Acceptance / Waitlist Time

Applicants who meet the program admission requirements for entrance into Dental Hygiene will be placed on the Eligible for Acceptance list. Due to the popularity of the Dental Hygiene program there is a wait time in order to start the program. Once a student is placed on the Eligible for Acceptance list—meaning all prerequisite courses are complete and the grades are verified—the waitlist time will begin. Students will be notified when they have been placed on the waitlist.

During this waitlist time, many students will choose to complete the [Dental Hygiene general education courses](#), work on additional courses for a [liberal arts degree](#), or take time off of school and work to save money.

Completing all of the [general education courses](#) prior to full admission into the program is strongly advised.



All students using financial aid are highly encouraged to speak with the Financial Aid office before taking courses beyond the required program curriculum.

■ STEP 5 Program Acceptance

The Dental Hygiene program begins each fall semester. In March of each year applicants on the Eligible for Acceptance list are offered acceptance based on the date their applicant file was completed. If many students share the same date for completing their applicant file, the second criteria used will be the GPA from the prerequisite courses.

[Equal Opportunity Statement](#)

Before You Start the Program

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.

Dental Hygiene Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 86

Program Start: Fall only

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.

2017–2018 Suggested Sequence of Study

 The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

» When [registering for classes](#) refer to your Program Evaluation/Degree Audit to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

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

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	4	◆
BIO-173	Human Anatomy and Physiology II ▶	4	◆
BIO-186	Microbiology	4	◆
CHM-122	Introduction to General Chemistry ▶	4	◆
CHM-132	Introduction to Organic and Biochemistry ▶	4	◆
HSC-113	Medical Terminology	2	
		Total Credits	22

* Students are not eligible for the Iowa Vocational Technical Tuition Grant while taking prerequisite courses.

Semester 1

DHY-115	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

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	13

Semester 3 – Summer

PSY-111	Introduction to Psychology	3	◆
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Semester 3 – Summer

[SOC-110](#) Introduction to Sociology 3 ♦

Total Credits 6

Semester 4

[BIO-151](#) Nutrition 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 ▶ 3 ♦

[SPC-101](#) Fundamentals of Oral Communication 3 ♦

Total Credits 14

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Safety Services**

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Medical Assistant

New Program – 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 and diagnostic tests
- Administering medication
- 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 320 hours of real-world work experience ensuring you have the skills you need to succeed in your future career.

Accreditation

The program is seeking accreditation with the Medical Assisting Education Review Board (MAERB).

Financial Assistance

Please contact the Hawkeye Financial Aid office to learn about financial aid eligibility, scholarships, and other financial assistance programs.

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 Assistant	\$24,200	\$32,000	\$35,800



Source: 2016 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 Medical Assistant program.
2. [Request to have your transcripts sent to the Admissions office.](#)

STEP 2 Basic Skill Competencies

In order to be eligible for the Medical Assistant program, all students must meet minimum score requirements and/or complete required success courses. Success course credits do not apply towards graduation or the diploma.

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

	ACT	ACCUPLACER	COMPASS	Success Course
Math	19	85 Elementary Algebra	42 Algebra	MAT-063 Elementary Algebra
English	19	82 Sentence Skills 06 Essay	65	ENG-061 College Preparatory Writing II
Reading	19	76	82	RDG-040 College Preparatory Reading III

STEP 3 Program Acceptance

Eligible for Acceptance List

Applicants who have completed Step 1 and meet the Basic Skill Competencies Requirements criteria are eligible for acceptance and will be placed on the Eligible for Acceptance list. Applicants are offered acceptance based on the date their applicant file was completed. Students who share the same file completion date will be ranked according to their prerequisite cumulative GPA.

Alternate List

If the number of eligible applicants is greater than the number of program seats available, accepted students may be placed on the Alternate List, based on their ranking as described above. An advisor can help students evaluate their options, which include enrolling in general education courses required by the program or taking time off from school to work and save money.

Pre-Program Status

Applicants not meeting the Basic Skill Competencies Requirements criteria will be accepted as Pre-Medical Assistant students. As a pre-program student, you are eligible to take developmental, prerequisite, and general education courses. 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](#)

Medical Assistant Courses

Award: Diploma

Required number of credits: 46

Enrollment Status: [Full-time only](#)

Program Start: Fall only

2017–2018 Suggested Sequence of Study

» The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

» When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

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

Prerequisites *

HSC-108 Introduction to Health Professions **	2
HSC-113 Medical Terminology	2
PSY-111 Introduction to Psychology	3 ◆
SPC-101 Fundamentals of Oral Communication	3 ◆
Total Credits 10	

* 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

BIO-168 Human Anatomy and Physiology I	4 ◆
MAP-111 Medical Office Management I	3
MAP-225 Med Lab Procedures I ▶	4
MAP-342 Clinical Assisting I ▶	3
Total Credits 14	

Semester 2

BIO-173 Human Anatomy and Physiology II ▶	4	◆
MAP-117 Medical Office Management II ▶	3	
MAP-228 Med Lab Procedures II ▶	3	
MAP-343 Clinical Assisting II ▶	3	
PNN-207 Introduction to Pharmacology ▶	3	
Total Credits 16		

Semester 3 – Summer

MAP-603 Employment Seminar ▶	1
MAP-624 Practicum ▶	5
Total Credits 6	

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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

Hands-On Learning Opportunities

- Clinical: Gain more than 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 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 2012–2014.

- **Hawkeye Medical Laboratory Technology Placement Rate:** 100%
Employment in the laboratory field or pursuit of further education within 1 year of graduation.

- **Hawkeye Medical Laboratory Technology Graduation Rate:** 93%
The percentage of students completing the program who started the final half of the program defined as the start of the fall semester in the second year.
- **Hawkeye Medical Laboratory Technology Certification Exam (ASCP-BOC MLT):** 95%
Percentage of students who pass the exam taken within 1 year of graduation.

Careers

POSITIONS



Graduates find employment in hospital, clinic, and independent laboratories as medical and clinical laboratory technicians.

Example Careers and Average Wages

	Entry	Average	Experienced
Medical and Clinical Laboratory Technicians	\$31,000	\$42,300	\$48,000

Source: 2016 Iowa Wage Report, Iowa Workforce Development

EMPLOYERS

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

Business	Location
Mercy Iowa City	Iowa City, IA
Mercy Medical Center—North Iowa	Mason City, IA
United Clinical Laboratories	Dubuque, IA
UnityPoint Health—Allen Hospital	Waterloo, IA
University of Iowa Hospitals and Clinics	Iowa City, IA
Wheaton Franciscan Healthcare	Waterloo and Cedar Falls, IA

Admissions & Program Requirements

Admissions Process

1. [Apply for admission at Hawkeye.](#)
2. Complete the [Basic Skill Competencies Requirements](#) as described below.

3. Completed applicant files (we have your application, transcripts, and test scores) will be processed as follows:
 - a. Applicants meeting the program's admission requirements will be sent an admissions inactivation letter.
 - b. Applicants meeting the program's admission requirements will be accepted.
4. We accept approximately 24 students and 10 alternates each fall and spring semester. Applicants will be accepted based on the date their completed applicant file. If many students share the same date for completing their applicant files, the application date will be used to prioritize their acceptance.
5. If necessary, alternates will be contacted to fill unconfirmed positions in the program. Alternates will be given priority for the next term.

[Hawkeye's Equal Opportunity Statement](#)

Basic Skill Competencies Requirements

Option 1

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

ACT sub scores	COMPASS scores	ASSET scores	ACCUPLACER scores
19 Reading	82 Reading	38 Reading	90 Reading
19 English	65 Writing	40 Writing	98 Sentence Skills
19 Math	42 Algebra	40 Elementary Algebra	103 Arithmetic OR 97 Elementary Algebra

AND one year high school Biology with "C" grade or higher in each semester.

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

Option 2

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

- ENG061 College Preparatory Writing II
- RDG040 College Preparatory Reading III
- MAT063 Elementary Algebra
- BIO042 Prep. Science for Health Careers

Option 3

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

Medical Laboratory Technology 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.

2017–2018 Suggested Sequence of Study

» The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

» When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

- ◆ General education course
- ▶ Course has a prerequisite and/or corequisite.
- Applicants meeting the general admission requirements may take courses 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.

Semester 1 – Fall

BIO-163	Essentials of Anatomy and Physiology	4	◆
CHM-122	Introduction to General Chemistry ▶	4	◆
MLT-101	Introduction to Lab Science ●	2	
PSY-111	Introduction to Psychology -OR-	3	◆
SOC-110	Introduction to Sociology	3	◆
SPC-101	Fundamentals of Oral Communication	3	◆

Total Credits 16

Semester 2 – Spring

BIO-113	General Biology II -OR-	4	◆
CHM-132	Introduction to Organic and Biochemistry ▶	4	◆

Semester 2 – Spring

BIO-186 Microbiology	4	◆
ENG-105 Composition I ▶	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

Student Success Specialist

Program Advisor

**Pre-Health Student
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Associate Degree Nursing

The Associate Degree Nursing (ADN) program prepares you to become a registered nurse and 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
- Administering medications
- Legal and ethical practices
- Lifespan growth and development
- Medical and surgical nursing
- Patient documentation

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

As you progress through the program, you are eligible to take the Licensed Practical Nurse (LPN) licensure exam at the end of your first year. Upon completion of the program, you are 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: 93.33%

First time NCLEX–RN pass rate: 92.31%

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

POSITIONS



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
Licensed Practical and Licensed Vocational Nurses	\$33,500	\$39,700	\$42,900
Registered Nurses	\$42,200	\$55,000	\$61,500

Source: 2016 Iowa Wage Report, Iowa Workforce Development

**GAINFUL EMPLOYMENT:
PRACTICAL NURSING (LPN)**

EMPLOYERS

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

Business	Location
Mayo Clinic	Rochester, MN
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
Wheaton Franciscan Healthcare	Waterloo and Cedar Falls, IA

Admissions Requirements

In order to be considered for the Nursing 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 program evaluation/degree audit 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 Nursing program.
2. [Request to have your transcripts sent to the Admissions office.](#)



If you are a graduate of an accredited Practical Nursing program, please skip steps 2, 3, and 4 and see the [Admission Requirements for Practical Nursing Graduates](#).

■ STEP 2 Placement through appropriate assessment scores or completion of success courses

In order to be eligible for the Nursing program, 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.

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

	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

■ STEP 3 Prerequisite Coursework

All students must successfully complete the program prerequisite courses, including two semesters of high school chemistry or CHM-122 Introduction to General Chemistry with a grade of C or higher. [See the suggested sequence of study for a list of prerequisite courses and required minimum grades.](#)

■ STEP 4 TEAS Exam

All Hawkeye Community College nursing 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 Eligible for Acceptance

Applicants who meet the program admission requirements for entrance into the nursing program will be placed on the Eligible for Acceptance list. Placement on the list is determined by the GPA attained from the prerequisite courses, with the highest GPA being at the top. If more than one applicant shares 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 or provided documentation of all required courses being met from another accredited institution.

■ STEP 6 Acceptance to program or additional semester of general education

Eligible applicants are reviewed each October for spring acceptance and March for fall acceptance. Applicants will be notified of program acceptance after those initial review periods.

Accepted students will complete a nursing program orientation session where they will register for program courses.

Some students may prefer to delay acceptance to the program and continue taking additional general education courses prior to their program start date. [See the courses marked as General education courses ♦ on the suggested sequence of study.](#)

Accepted students must be Healthcare Provider CPR certified and have a physical exam on Hawkeye Community College format prior to the first day of clinical course work.

[Equal Opportunity Statement](#)

Admission Requirements for Practical Nursing Program Graduates

Past Hawkeye graduates of the Practical Nursing program or Practical Nursing graduates from another accredited college will need to meet the following admission requirements in order to be eligible for admission to the Associate Degree Nursing program:

1. Successful completion of an accredit Practical Nursing program.
2. Complete two semesters of high school chemistry with a grade of "C" or higher or CHM-122 Introduction to General Chemistry or equivalent with a grade of "C" or higher.
3. Complete BIO-168 and BIO-173 Human Anatomy & Physiology I & II or the equivalent with a grade of "B" or higher.

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: 84

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.

2017–2018 Suggested Sequence of Study

» The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

» When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

- ◆ General education course
- ▶ Course has a prerequisite and/or corequisite.
- Course meets the first 8 weeks of the semester.
- ◐ Course meets the second 8 weeks of the semester.

Students must achieve a minimum "B" grade in all prerequisite courses and BIO-173 and a minimum "C" grade in all other courses required to complete the program.

Prerequisites		
BIO-168	Human Anatomy and Physiology I	4 ◆
ENG-105	Composition I ▶	3 ◆
HSC-108	Introduction to Health Professions	2
PNN-100	Nursing Assistant *	3
Total Credits		12

* PNN-100 must be completed through an accredited college. Applicants will need to provide an official transcript documenting successful CNA completion.

Semester 1		
BIO-173	Human Anatomy and Physiology II ▶	4 ◆

Semester 1

MAT-110 Math for Liberal Arts ▶ -OR-	3	◆
MAT-156 Statistics ▶ -OR-	3	◆
MAT-102 Intermediate Algebra ▶ -OR- Math Electives	4	◆
PNN-115 Introduction to Nursing ▶	4	
PNN-116 Introduction to Nursing Skills Lab ▶	2	
PNN-117 Nursing Clinical I ▶	1	
PNN-207 Introduction to Pharmacology ▶	3	
Total Credits 17		

Semester 2

BIO-151 Nutrition	3	◆
PNN-311 PN Issues and Trends ▶ ☹	1	
PNN-330 Medical-Surgical Nursing I ▶ ⓪	5	
PNN-332 Lifespan and Health Promotion and Mental Well-Being ▶	2	
PNN-333 Medical-Surgical Nursing II ▶ ☹	5	
Total Credits 16		

Semester 3

ADN-121 Transition to Professional Nursing ▶	2	
ADN-122 Advanced Nursing Skills ▶	2	
ADN-123 Physical Assessment ▶	2	
ADN-452 Complex Health Concepts Mod A	5	
PSY-111 Introduction to Psychology	3	◆
SPC-101 Fundamentals of Oral Communication	3	◆
Total Credits 17		

Semester 4

ADN-453 Complex Health Concepts Mod B ▶	5	
ADN-458 Nursing Care of Special Populations ▶	7	
BIO-186 Microbiology	4	◆
Total Credits 16		

Semester 5

ADN-315 Professional Roles of Nursing Practice ▶ *	2	
ADN-455 Complex Health Concepts Mod C ▶ *	3	
ADN-499 Passage to Professional Practice ▶ **	1	
Total Credits 6		

* Required summer course.

** Required summer course for fall start students.

Math Electives

MAT-122 College Algebra ▶	5	◆
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	◆

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Practical Nursing (LPN) Courses

Award: Diploma

Required number of credits: 45

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.

2017–2018 Suggested Sequence of Study

➤ The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

➤ When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

➤ Courses are subject to change.

- ◆ General education course
- ▶ Course has a prerequisite and/or corequisite.
- Course meets the first 8 weeks of the semester.
- Course meets the second 8 weeks of the semester.

Students must achieve a minimum "B" grade in all prerequisite courses and BIO-173 and a minimum "C" grade in all other courses required to complete the program.

Prerequisites		
BIO-168	Human Anatomy and Physiology I	4 ◆
ENG-105	Composition I ▶	3 ◆
HSC-108	Introduction to Health Professions	2
PNN-100	Nursing Assistant *	3
		Total Credits 12

* PNN-100 must be completed through an accredited college. Applicants will need to provide an official transcript documenting successful CNA completion.

Semester 1

BIO-173 Human Anatomy and Physiology II ▶	4	◆
MAT-110 Math for Liberal Arts ▶ -OR-	3	◆
MAT-156 Statistics ▶ -OR-	3	◆
MAT-102 Intermediate Algebra ▶ -OR-	4	◆
Math Electives		
PNN-115 Introduction to Nursing ▶	4	
PNN-116 Introduction to Nursing Skills Lab ▶	2	
PNN-117 Nursing Clinical I ▶	1	
PNN-207 Introduction to Pharmacology ▶	3	
Total Credits 17		

Semester 2

BIO-151 Nutrition	3	◆
PNN-311 PN Issues and Trends ▶ ☹	1	
PNN-330 Medical-Surgical Nursing I ▶ ⓪	5	
PNN-332 Lifespan and Health Promotion and Mental Well-Being ▶	2	
PNN-333 Medical-Surgical Nursing II ▶ ☹	5	
Total Credits 16		

Math Electives

MAT-122 College Algebra ▶	5	◆
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	◆

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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 credentialing as an Occupational Therapy Assistant.

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

Careers

POSITIONS

EMPLOYERS

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

Business	Location
Millennium Therapy	Des Moines and Hudson, IA



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	\$42,000	\$53,700	\$59,600

Source: 2016 Iowa Wage Report, Iowa Workforce Development

Business	Location
UnityPoint Health	Waterloo, IA
Wheaton Franciscan Healthcare	Waterloo, IA
Rehab Visions	Locations throughout Iowa
HCR-Manor Care	Locations throughout Iowa
Reliant Rehab	Locations throughout Iowa
Comprehensive Rehab	Clinton, Iowa
Mercy Medical Center	Cedar Rapids, Iowa
Northern Iowa Therapy	Waverly, Iowa

Associations

- [The American Occupational Therapy Association, Inc. \(AOTA\)](#)
- [Iowa Occupational Therapy Association \(IOTA\)](#)

Admissions Requirements



The Occupational Therapy Assistant program at Hawkeye is considered a 1+1 model. Students must complete separate admissions processes for Phase I and Phase II.

Phase I Admissions Process

1. [Apply for admission at Hawkeye.](#)
2. [Request to have your official transcripts sent to the Admissions office.](#)
3. Complete the [Basic Skill Competencies Requirements](#) as described below.

Completed applicant files (we have your application, transcripts, and test scores) will be processed as follows:

- Applicants not meeting the program's basic skill competencies requirements will be sent an admissions inactivation letter.

- Applicants meeting the program's basic skill competencies requirements will be considered Occupational Therapy Assistant Wait students and will be able to take Phase I courses. Being a "Wait" student does not guarantee Phase II acceptance.

For full acceptance into Phase I of the program, applicants must be a graduate of high school or the High School Completion program.

[Hawkeye's Equal Opportunity Statement](#)

Basic Skill Competencies Requirements

Option 1

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

ACT sub scores	COMPASS scores	ASSET scores	ACCUPLACER scores
19–Reading	82–Reading	38–Reading	90–Reading
19–English	65–Writing	40–Writing	98–Sentence Skills
19–Math	42–Algebra	40–Elementary Algebra	103–Arithmetic -OR- 97–Elementary Algebra

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

Option 2

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


- ENG-061 College Preparatory Writing II
- RDG-040 College Preparatory Reading III
- MAT-063 Elementary Algebra

Option 3

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

Phase II Program Entrance Requirements

Before applying to Phase II of the program, applicants must complete the following requirements.

1. Complete one year of the following courses, or one semester of a college-level comparable course, or in the process of completing 15 credits and are currently passing the course with a "C" grade or higher with the exception of biology courses which require grade of a "B -" or higher.
 - Math (algebra or geometry)
 - Biology
 - English
2. Proof of completion of a total of 24 observation hours with a licensed occupational therapist or occupational therapy assistant at three different clinical sites (example: outpatient, hospital inpatient, home health, or long-term care), eight hours per site, and two different settings. [Pre-Admission Observation Hours form \[pdf\]](#)  .
3. Be enrolled in and in good standing with or have completed at least 15 credits of [Phase I coursework](#) with the required GPA and individual course grades.

Phase II Admissions Process

1. To be considered for Phase II acceptance, applicants must complete and submit the [OTA Program Phase II Application packet \[pdf\]](#) by December 1. Phase II applications will be accepted only from those who are active Hawkeye Community College students.
2. Phase II program applicants will continue with Phase II of the program as openings are assigned. Students will be notified of their acceptance or non-acceptance via their [Hawkeye email](#).
3. We accept approximately 20 students into Phase II each summer semester. Applicants will be accepted based on the initial date of their completed Phase II applicant file.
4. Applications need to be submitted by December 1 to be considered for the upcoming summer, Phase II, of the OTA Program.
5. On receiving notification of acceptance into Phase II of the OTA Program, the applicant has one week from the letter date to confirm acceptance into the program by contacting either the OTA Program Director or the Academic Fieldwork Coordinator.

Please be advised that the seat of any student who fails to confirm acceptance during the time period will be offered to the next student on the list. In this case, the student will need to begin the application process again.

6. If necessary, alternates will be contacted, based on the date the Phase II program applicant file was completed, to fill unconfirmed positions in the program.

Occupational Therapy Assistant Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 82

Program Start: Summer only

2017–2018 Suggested Sequence of Study

➤ The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

➤ When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

➤ Courses are subject to change.

- ◆ General education course
- ▶ Course has a prerequisite and/or corequisite.
- Course meets the first 8 weeks of the semester.
- Course meets the second 8 weeks of the semester.

Prerequisite Coursework

A minimum cumulative GPA of 2.75 is required for prerequisite courses with no lower than a "C" 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.

You are not eligible for the Iowa Vocational Technical Tuition Grant while taking prerequisite courses.

Prerequisites—Semester 1—Fall

BIO-168 Human Anatomy and Physiology I	4	◆
CSC-110 Introduction to Computers ▶	3	◆
ENG-105 Composition I ▶	3	◆
HSC-113 Medical Terminology	2	
MAT-110 Math for Liberal Arts ▶	3	◆
PSY-111 Introduction to Psychology	3	◆

Total Credits 18

Prerequisites – Semester 2 – Spring

BIO-173 Human Anatomy and Physiology II ▶	4	◆
HSC-108 Introduction to Health Professions	2	
PSY-121 Developmental Psychology	3	◆
PSY-241 Abnormal Psychology ▶	3	◆
SOC-110 Introduction to Sociology -OR-	3	◆
SOC-205 Diversity in America	3	◆
SPC-101 Fundamentals of Oral Communication	3	◆

Total Credits 18

Occupational Therapist Assistant Program Coursework

- Program coursework must be completed at full-time status and will take approximately 12 months to complete.
- Before you can begin program coursework, you must complete the [Phase II admissions process](#).
- 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.

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 [NBCOT Early Determination & Character Review](#). NBCOT states "To ensure that occupational therapy practitioners meet standards of professional conduct prior to entering the profession, all applicants for certification are required to provide information and documentation related to affirmative responses to character questions on the examination application. See more at www.nbcot.org/character-review-process

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. This must be recorded on the Hawkeye Community College Student Health and Immunization Record form prior to the first day of program courses.

Physical and immunizations must be up to date and maintained until the following August and/or completion of all fieldwork. Failure to do so will disrupt fieldwork placement and jeopardize your position in the program.

A dress code for clinical education exists and may be required by the clinical site.

Semester 3—Summer

OTA-102 Human Movement and Occupation ▶	3
OTA-103 Task Analysis ▶	3
OTA-104 Assistive Tech and EM ▶	2
Total Credits 8	

Semester 4—Fall

OTA-201 Pediatrics and Occupation ▶ ●	3
OTA-202 Pediatric OTA Skills ▶ ●	3
OTA-203 Level I Fieldwork Pediatrics ▶ ●	2
OTA-204 Pediatric Psychosocial Conditions and Occupations ▶ ●	1
OTA-311 Adult Psychosocial Conditions and Occupations ▶ ●	2
OTA-312 Adult Psychosocial OTA Skills ▶ ●	2
OTA-313 Level I Fieldwork Psychosocial ▶ ●	1
OTA-501 Professional Practice for OTA ▶ ●	3
Total Credits 17	

Semester 5—Spring

OTA-302 Physical OTA Skills ▶ ●	3
OTA-310 Adult Physical Conditions and Occupations ▶ ●	3
OTA-401 Elders and Occupation ▶ ●	2
OTA-402 OTA Skills for Elders ▶ ●	2
OTA-403 Level I Fieldwork Physical Dysfunction ▶ ●	1
OTA-502 Level II Fieldwork A ▶ ●	5
Total Credits 16	

Total Credits 5

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Physical Therapist Assistant

The Physical Therapist Assistant program prepares you with the entry-level skills and knowledge to provide treatments that improve patients' mobility, relieve pain, and prevent or lessen physical disabilities.

The physical therapist assistant works under the direction and supervision of a physical therapist. You will assist the physical therapist in implementing treatment programs according to the plan of care. You will learn:

- Physical therapy interventions
- Data collection techniques
- How to follow a physical therapy plan of care
- Instruct patients in exercises and activities of daily living
- Administer modalities and other treatment procedures
- Report to the physical therapist on the patient's response to treatment
- Effectively educate and communicate with patients, families, and other healthcare providers

Physical therapy is a healthcare specialty grounded on a foundation of evidence-based practice concerned with treating disorders that result in movement and functional limitations. Clinical application of the science restores function, improves mobility, relieves pain, and prevents or limits permanent physical disabilities. The profession also works to promote overall fitness and health.

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 600 hours of real-world work experience ensuring you have the skills you need to succeed in your 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 therapy 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?

Accreditation



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

Graduation, National Exam Pass, and Employment Rates

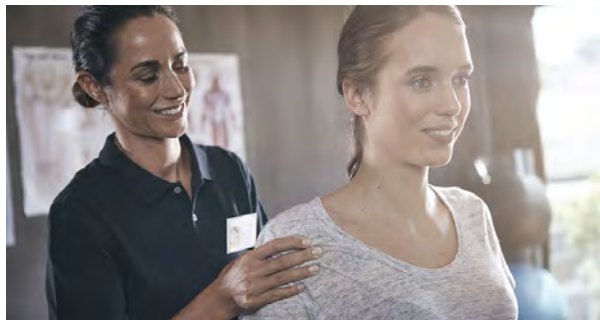
Cohort	Graduation	NPTE Pass*	Employment**
2013-2014	80%	80%	100%
2014-2015	88%	88.2%	100%
2015-2016	95.8%	69.6%	100%
2016-2017	81.8%	TBD	TBD

* Ultimate pass rate may change as students retake the exam.

** Graduate Employment Rates are determined six months after the students first national exam opportunity. Data reflects those who passed the exam.

Careers

POSITIONS



Physical therapist assistants work in a wide variety of settings including hospitals, outpatient clinics, inpatient rehabilitation facilities, skilled rehab and residential care facilities, and in home health settings.

EMPLOYERS

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

Business	Location
Millennium Therapy	Many Iowa locations
Northern Iowa Therapy	Many Iowa locations
Reliant Rehabilitation	Many Iowa locations
UnityPoint Health	Waterloo, IA
Wheaton Franciscan Healthcare	Waterloo, IA

Example Careers and Average Wages

	Entry	Average	Experienced
Physical Therapist Assistants	\$32,700	\$46,000	\$52,600

Source: 2016 Iowa Wage Report, Iowa Workforce Development

Admissions 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 program evaluation/degree audit 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 Placement through appropriate assessment scores or completion of success courses

In order to be eligible for the Physical Therapist Assistant program, all students must meet minimum entrance requirement scores and/or complete required success coursework.

Students who are placed into one or more success courses will be admitted to the Physical Therapist Assistant pre-program until all success courses are completed. Once these courses are completed, students must advise the Admissions office to be moved into Phase I standing.

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

	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

■ STEP 2 Phase I

The Physical Therapist Assistant program at Hawkeye is considered a 1+1 model and has specific admissions requirements.

During Phase I, students must complete general education courses, which can be completed full-time in as little as one year, or part-time.

Phase II contains Physical Therapist Assistant technical courses and clinical experiences, which are completed on a full-time basis in slightly over one year.

All students are also required to have a minimum of one semester of high school, or college level, physics with a grade of “C” or higher.

Completion of Phase I coursework does not guarantee admission in to Phase II.

Observation Hours

While completing Phase I coursework, students will also complete three different observations with a minimum of eight hours observed at each location, totaling 24 hours.

All observation settings must be different from one another and no more than two of the three site locations may be the same, although the program prefers all sites be different if possible.

All observations must be complete prior to the interview for Phase I and must be submitted to Physical Therapist Assistant faculty. Please see the [Physical Therapist Assistant Pre-Admission Observation Hours form \[pdf\]](#) for more details.

Interview

All students must schedule an interview with the Physical Therapist Assistant program director and faculty.

The interview may be scheduled any time after the first semester of Phase I course work is successfully completed.

Students are strongly encouraged to schedule their interview in the early part of the spring semester prior to the desired fall semester start date of Phase II.

To schedule an interview contact [Carole Ostendorf](#) or [Melissa Schneider](#).

Phase I Coursework

Phase I coursework may be completed at Hawkeye Community College or transferred in from an accredited educational institution, with the exception of HSC-108 which must be completed at Hawkeye.

BIO-168 and BIO-173 must be completed with a solid “B” grade or higher and must be completed no more than five years prior to beginning Phase I.

All additional Phase I coursework must be completed with a “C” grade or higher with a cumulative GPA of 2.75 or higher. [See the suggested sequence of study for Phase I courses.](#)

■ STEP 3 Phase II Acceptance

Phase II begins each fall semester.

Applicants who meet the program admission requirements for entrance into Phase II will be placed on the Eligible for Acceptance list. Placement on the list is determined by the GPA attained from the required general education courses with the highest GPA being at the top. If more than one applicant shares the same GPA, the second criteria used will be a file completion date, which is the date the applicant completed all required general education courses for Phase II or provided documentation of all required courses being met from another accredited institution.

[Equal Opportunity Statement](#)

Physical Therapist Assistant Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 80

Program Start: Fall only

2017–2018 Suggested Sequence of Study

» The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

» When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

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

Prerequisite Coursework

A minimum cumulative GPA of 2.75 is required for prerequisite courses with no lower than a "C" 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 Physical Therapist Assistant program coursework unless waived by the program chair.

You are not eligible for the Iowa Vocational Technical Tuition Grant while taking prerequisite courses.

Prerequisites—Semester 1—Fall

BIO-168 Human Anatomy and Physiology I	4	◆
CSC-110 Introduction to Computers ▶	3	◆
ENG-105 Composition I ▶	3	◆
HSC-108 Introduction to Health Professions	2	
PSY-111 Introduction to Psychology	3	◆
SOC-110 Introduction to Sociology	3	◆

Total Credits 18

Prerequisites—Semester 2—Spring

BIO-173 Human Anatomy and Physiology II ▶	4	◆
HSC-113 Medical Terminology	2	
MAT-110 Math for Liberal Arts ▶	3	◆
PSY-121 Developmental Psychology	3	◆
SOC-205 Diversity in America	3	◆
SPC-101 Fundamentals of Oral Communication	3	◆
Total Credits 18		

Physical Therapist Assistant Program Coursework

- Program coursework begins fall semester, must be completed at full-time status, and will take approximately 12 months to complete.
- 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.

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.

Participation in clinicals requires:

1. Passing a criminal background, sex offender, and child and adult/dependent abuse background checks prior to the first day of program courses. Failing a background check will result in dismissal from the program.
2. Completing CPR, HIPAA, First Aid, Mandatory Reporting, and OSHA training prior to the first day of clinicals. This training is part of program courses.
3. Getting a physical exam and updated immunizations, including a current hepatitis B series (unless signs waiver), seasonal influenza, MMR, and current tetanus. Polio and meningitis are also recommended. Current two-step TB test results are required. This must be recorded on the Hawkeye Community College Student Health and Immunization Record form prior to the first day of program courses.

A dress code for clinical education exists and may be required by the clinical site.

Semester 3 – Fall

PTA-111 PTA Fundamentals	4	
PTA-120 Kinesiology ▶	3	

Semester 3 – Fall

PTA-150 Pathophysiology ▶	3
PTA-194 Therapeutic Agents I ▶	3
PTA-211 Musculoskeletal I ▶	3
PTA-284 PTA Professional Issues	2
PTA-310 PTA Clinical I ▶	1

Total Credits 19

Semester 4 – Spring

PTA-113 Fundamentals for PTA II ▶	3
PTA-195 Therapeutic Agents II ▶	3
PTA-212 Musculoskeletal II ▶	3
PTA-231 Therapeutic Exercise for PTA ▶	3
PTA-248 PTA Neurology ▶	4
PTA-311 PTA Clinical II ▶	1

Total Credits 17

Semester 5 – Summer

PTA-412 PTA Clinical III ▶	4
PTA-413 PTA Clinical IV ▶	4

Total Credits 8

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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](#).

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

[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	\$42,300	\$50,600	\$54,700

Source: 2016 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, MN Mankato, MN
Mercy Medical Centers	Many Iowa locations
Midwest Sleep Services	Waterloo, IA
UnityPoint Hospitals	Many Iowa locations
University of Iowa Hospitals and Clinics	Iowa City, IA
Wheaton Franciscan Healthcare	Many Iowa locations

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.](#)

Completed applicant files (we have your application, transcripts, and test scores) will be processed as follows:

- Applicants not meeting the program's admission requirements will be sent an admissions inactivation letter.

- Applicants meeting all admission requirements will be accepted and tracked while taking the [first and second semester prerequisite courses](#). Upon completion of this coursework with the required cumulative GPA, students will be able to register for RCP courses.

Applicants will be accepted based on the date their completed applicant file. If many students share the same date for completing their applicant files, the application date will be used to prioritize their acceptance.

We accept approximately 30 students and 10 alternates each fall semester. The program accepts approximately 20 students each summer to the RCP professional core courses. If necessary, alternates will be contacted to fill unconfirmed positions in the program. Alternates will be given priority for the next term.

[Hawkeye's Equal Opportunity Statement](#)

Basic Skill Competencies Requirements

Option 1

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

ACT sub scores	COMPASS scores	ASSET scores	ACCUPLACER scores
19–Reading	82–Reading	38–Reading	90–Reading
19–English	65–Writing	40–Writing	98–Sentence Skills
19–Math	42–Algebra	40–Elementary Algebra	103–Arithmetic -OR- 97–Elementary Algebra

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

Option 2

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

- ENG-061 College Preparatory Writing II
- RDG-040 College Preparatory Reading III
- MAT-063 Elementary Algebra

Option 3

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

Respiratory Care Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 79

Program Start: Fall only

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.

2017–2018 Suggested Sequence of Study

» The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

» When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

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

A minimum cumulative 2.75 GPA is required for prerequisite courses prior to registering for program coursework. Students must achieve a minimum "C" grade in all courses required to complete the program.

Prerequisites—Semester 1—Fall

BIO-168	Human Anatomy and Physiology I	4	◆
CHM-122	Introduction to General Chemistry ▶	4	◆
CSC-110	Introduction to Computers ▶	3	◆
HSC-113	Medical Terminology	2	▣
MAT-110	Math for Liberal Arts ▶	3	◆

Total Credits 16

Prerequisites—Semester 2—Spring

BIO-173	Human Anatomy and Physiology II ▶	4	◆
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Prerequisites—Semester 2—Spring

BIO-186 Microbiology	4	◆
ENG-105 Composition I ▶	3	◆
PSY-111 Introduction to Psychology	3	◆
SPC-101 Fundamentals of Oral Communication	3	◆
Total Credits 17		

Semester 3—Summer

RCP-100 Introduction to Respiratory Care	3
RCP-260 Airway Maintenance Procedures ▶	4
Total Credits 7	

Semester 4—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 5—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 6—Summer

RCP-900 Clinical Preceptor ▶	4
RCP-910 Respiratory Care RRT Review ▶	2
Total Credits 6	

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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. You will learn how to apply principles of civil engineering technology, construction technology, and surveying technology in the planning, design, construction, and maintenance of structures and facilities in the public and private infrastructure. You will also learn to:

- Read building, highway, and bridge blueprints
- Operate survey equipment and process data
- Sample and test materials
- Prepare construction plans
- Prepare quantity estimates
- Inspect highway and civil infrastructure projects
- Design using computer-aided drafting and design (CAD)

Hands-On Learning Opportunities

- Indoor and Outdoor Lab and Field Work Experiences: Use the latest technology, tools, and equipment industry in real-world examples and 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 and Technology Management programs 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

EMPLOYERS

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

Business	Location
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Graduates find employment working as civil technicians, CAD drafters, designers, surveyors, construction inspectors, material testing technicians, estimators, and environmental technicians for engineering offices and firms, material testing labs, surveying companies, construction companies, city engineer offices, and county and state highway departments.

Example Careers and Average Wages

	Entry	Average	Experienced
Civil Engineering Technicians	\$34,600	\$52,400	\$61,400

Source: 2016 Iowa Wage Report, Iowa Workforce Development

Black Hawk County Engineer's Office	Waterloo, IA
City of Waterloo Engineering Department	Waterloo, IA
Foth Infrastructure & Environment, LLC	Cedar Rapids and Des Moines, IA
Herold-Reicks Surveying	New Hampton and Waverly, IA
IIW, P.C.	Dubuque, IA
Iowa Department of Transportation	Ames, IA
McClure Engineering Co.	Fort Dodge, IA
Peterson Contractors, Inc.	Reinbeck, IA
Terracon	Cedar Falls and Cedar Rapids, IA

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 complete required success courses. Success course credits do not apply towards graduation or the AAS degree.

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

ACT

ACCUPLACER

COMPASS

ASSET

Success Course

Math	19	85 Elementary Algebra	42 Algebra	40 Elementary Algebra	MAT-063 Elementary Algebra
English/Writing	19	82 Sentence Skills	65	40	ENG-061 College Preparatory Writing II
Reading	19	76	82	38	RDG-040 College Preparatory Reading III

■ 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 Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 71

Program Start: Fall only

2017–2018 Suggested Sequence of Study

» The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

» When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

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

Semester 1

CAD-119 Introduction to Computer-Aided Drafting ▶	3
CET-122 Construction Drawing/Contract	2
DRF-110 Introduction to Technical Drafting	2
EGT-460 PLTW - Civil Engineering and Architecture ▶	3
ELT-192 Introduction to Computer Science	3
MAT-744 Technical Math ▶ -OR-	4 ▣
MAT-122 College Algebra ▶	5 ◆

Total Credits 17

Semester 2

CET-142 PC Concrete, HMA, and Testing	3
CET-160 Surveying ▶	3
CET-182 Structural Detailing with CAD ▶	2
CET-253 Fundamentals of Construction Estimating	3
COM-781 Written Communication in the Workplace ▶ -OR-	3 ▣
ENG-105 Composition I ▶	3 ◆
MAT-747 Technical Math II ▶ -OR-	4 ▣
MAT-128 Precalculus ▶ -OR-	4 ◆
MAT-134 Trigonometry and Analytic Geometry ▶	3 ◆

Semester 2

Total Credits 18

Semester 3

CET-213 Route Surveying/Roadway Design ▶	3
CET-223 Soils, Testing, and Foundations ▶	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-	3 ♦
SOC-110 Introduction to Sociology	3 ♦

Total Credits 18

Semester 4

CET-133 Construction Methods and Resources ▶	3
CET-233 Fundamentals of GPS and GIS ▶	3
CET-256 Land Surveying ▶	3
CET-262 Environmental Technology ▶	3
CET-285 Structural Steel/Reinforced Concrete Design ▶	3
SPC-101 Fundamentals of Oral Communication	3 ♦

Total Credits 18

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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.

Partnerships

Hawkeye has a partnership with many local area high schools and local businesses through [EMC² \(Exploring Manufacturing Careers Consortium\)](#) to facilitate a school-to-work program.

Transfer Information

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.

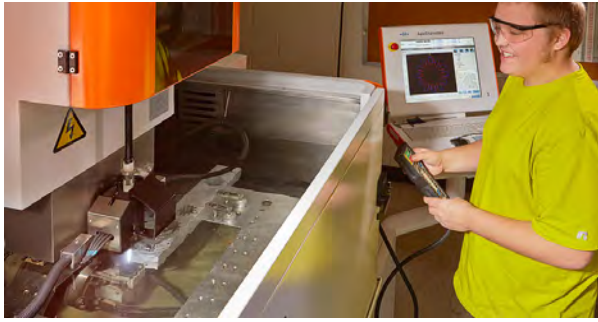
If you plan to transfer, work closely with a [program advisor](#) to ensure courses transfer and you meet program requirements.

Careers

POSITIONS

EMPLOYERS

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



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
Machinists	\$26,700	\$37,300	\$42,600
Computer-Controlled Machine Tool Operators	\$29,400	\$35,900	\$39,200
Computer Numerically Controlled Machine Tool Programmers	\$34,600	\$45,200	\$50,400
Tool and Die Makers	\$38,900	\$48,900	\$53,800

Source: 2016 Iowa Wage Report, Iowa Workforce Development

Many graduates in this field work overtime. Overtime wages are not included in the above average wages.

GAINFUL EMPLOYMENT

Business	Location
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. [Complete Hawkeye's online admissions application](#) to apply and be considered for the CNC Machining and Tool-Making 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 CNC Machining and Tool-Making Technology program, 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.

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

	ACT	ACCUPLACER	COMPASS	ASSET	Success Course
Math	14	40 Arithmetic	24 Pre-Algebra	38 Numerical	MAT-045 Fundamentals of Math
English/Writing	13	42 Sentence Skills	20	31	COMPASS PAL in Writing
Reading	16	58	69	34	RDG-039 College Preparatory Reading II

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](#)

CNC Machining and Tool-Making Technology AAS Degree Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 80

Program Start: Fall only

2017–2018 Suggested Sequence of Study

» The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

» When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

- ◆ General education course
- ▣ Non-transfer general education course
- ▶ Course has a prerequisite and/or corequisite.
- Course meets the first 8 weeks of the semester.
- ◐ Course meets the second 8 weeks of the semester.

Semester 1

MAT-772 Applied Math -OR-	3	▣
MAT-110 Math for Liberal Arts ▶ -OR-	3	◆
MAT-156 Statistics ▶ -OR-	3	◆
Math Electives	3	
MFG-122 Machine Trade Printreading I	3	
MFG-157 Introduction to CNC Programming I ▶ ●	2	
MFG-158 Introduction to CNC Programming II ▶ ◐	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 ▶	3	◆
MFG-142 Geometric Dimensioning Tolerancing ▶	3	
MFG-214 Advanced Machine Theory ▶	2	

Semester 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	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-	3 ◆
SOC-110 Introduction to Sociology	3 ◆
Total Credits 17	

Math Electives

MAT-122 College Algebra ▶	5 ◆
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 ◆

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CNC Machining and Tool-Making Technology Diploma Courses

Award: Diploma
Required number of credits: 47
Program Start: Fall only

2017–2018 Suggested Sequence of Study

» The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

» When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

- ◆ General education course
- ▣ Non-transfer general education course
- ▶ Course has a prerequisite and/or corequisite.
- Course meets the first 8 weeks of the semester.
- ◐ Course meets the second 8 weeks of the semester.

Semester 1

MAT-772 Applied Math -OR-	3	▣
MAT-110 Math for Liberal Arts ▶ -OR-	3	◆
MAT-156 Statistics ▶ -OR-	3	◆
Math Electives	3	
MFG-122 Machine Trade Printreading I	3	
MFG-157 Introduction to CNC Programming I ▶ ●	2	
MFG-158 Introduction to CNC Programming II ▶ ◐	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 ▶	3	◆
MFG-142 Geometric Dimensioning Tolerancing ▶	3	
MFG-214 Advanced Machine Theory ▶	2	

Semester 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-122 College Algebra ▶	5	◆
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	◆

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CNC Machine Set-Up Specialist Certificate Courses

Award: Certificate

Required number of credits: 38

Program Start: Fall only

2017–2018 Suggested Sequence of Study

» The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

» When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

- ◆ General education course
- ▣ Non-transfer general education course
- ▶ Course has a prerequisite and/or corequisite.
- Course meets the first 8 weeks of the semester.
- ◐ Course meets the second 8 weeks of the semester.

Semester 1

MAT-772 Applied Math -OR-	3	▣
MAT-110 Math for Liberal Arts ▶ -OR-	3	◆
MAT-156 Statistics ▶ -OR-	3	◆
Math Electives		
MFG-122 Machine Trade Printreading I	3	
MFG-157 Introduction to CNC Programming I ▶ ●	2	
MFG-158 Introduction to CNC Programming II ▶ ◐	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 ▶	3	◆
MFG-142 Geometric Dimensioning Tolerancing ▶	3	
MFG-214 Advanced Machine Theory ▶	2	

Semester 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-122 College Algebra ▶	5	◆
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	◆

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CNC Machine Operator Certificate Courses

Award: Certificate

Required number of credits: 19

Program Start: Fall only

2017–2018 Suggested Sequence of Study

» The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

» When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

- ◆ General education course
- ▣ Non-transfer general education course
- ▶ Course has a prerequisite and/or corequisite.
- Course meets the first 8 weeks of the semester.
- ◐ Course meets the second 8 weeks of the semester.

Semester 1

MAT-772 Applied Math -OR-	3	▣
MAT-110 Math for Liberal Arts ▶ -OR-	3	◆
MAT-156 Statistics ▶ -OR-	3	◆
Math Electives	3	
MFG-122 Machine Trade Printreading I	3	
MFG-157 Introduction to CNC Programming I ▶ ●	2	
MFG-158 Introduction to CNC Programming II ▶ ◐	2	
MFG-211 Basic Machine Theory	2	
MFG-222 Machine Operations I ▶	4	
MFG-302 CNC Fundamentals	3	

Total Credits 19

Math Electives

MAT-122 College Algebra ▶	5	◆
MAT-128 Precalculus ▶	4	◆
MAT-134 Trigonometry and Analytic Geometry ▶	3	◆
MAT-210 Calculus I ▶	4	◆

Math Electives

MAT-216 Calculus II ▶	4 ♦
MAT-219 Calculus III ▶	4 ♦

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Electromechanical Engineering Technology

The Electromechanical Engineering Technology program prepares you with the knowledge and skills needed to work with engineers to design, test, prototype, and improve different types of products. You will also learn how to operate, troubleshoot, repair, and maintain electrical and mechanical equipment. You will gain hands-on training with:

- Blueprint reading and drafting
- Industrial and electronic machine maintenance
- Mechanical machine repair
- Electronics manufacturing
- Fluid power and diesel power transfer systems,
- Electronics maintenance and repair
- Electronic and mechanical design and development
- Applied electronic computer programming

Transfer Information

An articulation agreement allows you to transfer your Electromechanical Engineering Technology coursework to the Electrical Engineering Technology 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 generally find employment at manufacturing, technology, and engineering companies. Positions include but are not limited to:

- Automation technician
- Electrical maintenance worker
- Electrical specialist

EMPLOYERS

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

Business	Location
Blackhawk Engineering, Inc.	Cedar Falls, IA
ConAgra Foods, Inc.	Waterloo, IA
John Deere	Waterloo, IA
Nestlé USA	Waverly, IA
Quaker Oats Company	Cedar Rapids, IA
Target Distribution Center	Cedar Falls, IA

- Electrical/PLC programming technician
- Electronics technician
- Maintenance mechanic
- Maintenance technician
- Product development technician
- Repair technician
- System electronics technician

Business	Location
Tyson Foods, Inc.	Waterloo, IA
University of Northern Iowa	Cedar Falls, IA
Viking Pump, Inc.	Cedar Falls, IA

Example Careers and Average Wages

	Entry	Average	Experienced
Electrical and Electronics Repairers for Commercial and Industrial Equipment	\$35,800	\$50,000	\$57,100
Industrial Engineering Technicians	\$37,600	\$51,500	\$58,400

Source: 2016 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 Electromechanical 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 Electromechanical Engineering Technology program, 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.

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

ACT

ACCUPLACER

COMPASS

ASSET

Success Course

Math	19	85 Elementary Algebra	42 Algebra	40 Elementary Algebra	MAT-063 Elementary Algebra
English/Writing	16	64 Sentence Skills	41	35	ENG-060 College Preparatory Writing I
Reading	16	58	69	34	RDG-039 College Preparatory Reading II

■ 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](#)

Electromechanical Engineering Technology AAS Degree Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 81

Program Start: Fall only

2017–2018 Suggested Sequence of Study

» The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

» When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

- ◆ General education course
- ▣ Non-transfer general education course
- ▶ Course has a prerequisite and/or corequisite.
- ⓪ Course meets the first 8 weeks of the semester.
- ◐ 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 ▶ ⓪	4
ELT-291 AC Electricity ▶ ◐	4
IND-100 Basic Mechanical Systems	2
IND-111 Industrial Safety Mechanical Systems	1
MAT-504 Electronics Math I ▶	4 ▣
Total Credits 18	

Semester 2

ELT-104 Electronics Drafting ▶ -OR-	3
CAD-119 Introduction to Computer-Aided Drafting ▶	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	3 ◆

Semester 2

Total Credits 20

Semester 3 – Summer

EGT-140 Fluid Power	2
EGT-144 Fluid Power Applications	2
ELT-469 Digital Circuits and Systems ▶ -OR-	5
EGT-420 PLTW - Digital Electronics	3

Total Credits 9

Semester 4

AGM-126 Diesel Engine Sub Systems ▶	3
ELT-494 Data Acquisition Systems ▶	5
ELT-802 Electronics Design Project I	1
PHY-183 Applied Physics ▶	3
PSY-102 Human and Work Relations -OR-	3 ◻
PSY-111 Introduction to Psychology -OR-	3 ◆
SOC-110 Introduction to Sociology	3 ◆

Total Credits 15

Semester 5

AGM-142 Diesel Power Transfer Systems ▶	4
COM-781 Written Communication in the Workplace ▶ -OR-	3 ◻
ENG-105 Composition I ▶	3 ◆
EGT-152 Advanced Fluid Power and Servo Systems ▶	2
ELT-156 Industrial Electronics	5
ELT-703 Introduction to Networking ▶	2
ELT-803 Electronics Design Project II ▶	1
IND-145 Mechanical Power Transfer ▶	2

Total Credits 19

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Electromechanical Technician Diploma Option Courses

Award: Diploma

Required number of credits: 47

Program Start: Fall only

2017–2018 Suggested Sequence of Study

» The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

» When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

- ◆ General education course
- ▣ Non-transfer general education course
- ▶ Course has a prerequisite and/or corequisite.
- ⦿ Course meets the first 8 weeks of the semester.
- ◐ 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 ▶ ⦿	4
ELT-291 AC Electricity ▶ ◐	4
IND-100 Basic Mechanical Systems	2
IND-111 Industrial Safety Mechanical Systems	1
MAT-504 Electronics Math I ▶	4 ▣
Total Credits 18	

Semester 2

ELT-104 Electronics Drafting ▶ -OR-	3
CAD-119 Introduction to Computer-Aided Drafting ▶	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	3 ◆

Semester 2

Total Credits 20

Semester 3 – Summer

EGT-140 Fluid Power	2
EGT-144 Fluid Power Applications	2
ELT-469 Digital Circuits and Systems ► -OR-	5
EGT-420 PLTW - Digital Electronics	3

Total Credits 9

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Electronic Installer Certificate Option Courses

Award: Certificate

Required number of credits: 38

Program Start: Fall only

2017–2018 Suggested Sequence of Study

» The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

» When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

- ◆ General education course
- ▣ Non-transfer general education course
- ▶ Course has a prerequisite and/or corequisite.
- ⌚ Course meets the first 8 weeks of the semester.
- ⌚ 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 ▶ ⌚	4
ELT-291 AC Electricity ▶ ⌚	4
IND-100 Basic Mechanical Systems	2
IND-111 Industrial Safety Mechanical Systems	1
MAT-504 Electronics Math I ▶	4 ▣
Total Credits 18	

Semester 2

CAD-119 Introduction to Computer-Aided Drafting ▶ -OR-	3
ELT-104 Electronics Drafting ▶	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	3 ◆

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Product Development Technician Certificate Option Courses

Award: Certificate

Required number of credits: 13

Program Start: Fall only

The Product Development Technician Certificate is for individuals who have completed the Electromechanical Engineering Technology program and are employed by John Deere.

2017–2018 Suggested Sequence of Study

 Courses are subject to change.

▶ Course has a prerequisite and/or corequisite.

Semester 1

AGM-128 Fundamentals of Diesel Engine ▶	5
AGM-932 Internship ▶	8

Total Credits 13

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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

An articulation agreement allows you to transfer your Electronics Engineering Technology coursework to the Electrical Engineering Technology 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 generally find employment at manufacturing, technology, and engineering companies. Positions include but are not limited to:

- Medical electronics technician
- Electronics communication technician

EMPLOYERS

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

Business	Location
Communication Engineering Company	Cedar Rapids, IA
ConAgra Foods, Inc.	Waterloo, IA
DISTek Integration, Inc.	Cedar Falls, IA
John Deere	Waterloo, IA
Nestlé USA	Waverly, IA
Qorvo, Inc.	Cedar Rapids, IA

- Manufacturing test technician
- Engineering technician
- Computer repair technician
- Computer software technician
- Business machine service technician
- Computer network technician
- Industrial maintenance technician
- Quality assurance technicians

Business	Location
Randstad Technologies	Cedar Rapids, IA
Rockwell Collins	Cedar Rapids, IA
Skyworks Solutions, Inc.	Cedar Rapids, IA
Target Distribution Center	Cedar Falls, IA

Example Careers and Average Wages

	Entry	Average	Experienced
Electrical and Electronics Repairers for Commercial and Industrial Equipment	\$35,800	\$50,000	\$57,100
Electrical and Electronics Engineering Technicians	\$41,800	\$60,200	\$69,400

Source: 2016 Iowa Wage Report, Iowa Workforce Development

Admissions & Program Requirements

Admissions Process

1. [Apply for admission.](#)
2. Complete the [Basic Skill Competencies Requirements](#) as described below.
3. Completed applicant files (we have your application, transcripts, and test scores) will be processed as follows:
 - a. Applicants who do not meet the program's admission requirements will be sent an admissions inactivation letter.
 - b. Applicants meeting all admission requirements will be accepted.
4. We accept approximately 24 students and 20 alternates each fall semester. Applicants will be accepted based on the date their completed applicant file. If many students share the same date for completing their applicant files, the application date will be used to prioritize their acceptance.
5. If necessary, alternates will be contacted to fill unconfirmed positions in the program. Alternates will be given priority for the next term.

Basic Skill Competencies Requirements

Option 1

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

ACT sub scores	COMPASS scores	ASSET scores	ACCUPLACER scores
16 - Reading	69 - Reading	34 - Reading	62 - Reading
16 - English	41 - Writing	35 - Writing	77 - Sentence Skills
19 - Math	42 - Algebra	40 - Elementary Algebra	103 - Arithmetic -OR- 97 - Elementary Algebra

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

Option 2

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

- ENG-060 College Preparatory Writing I
- RDG-039 College Preparatory Reading II
- MAT-063 Elementary Algebra

Option 3

Any combination of Option 1 and Option 2 fulfilling the basic skills requirements in algebra, reading and writing.

Electronics Engineering Technology AAS Degree Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 85

Program Start: Fall only

2017–2018 Suggested Sequence of Study

» The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

» When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

- ◆ General education course
- ▣ Non-transfer general education course
- ▶ Course has a prerequisite and/or corequisite.
- ⦿ Course meets the first 8 weeks of the semester.
- ◐ 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 ▶ ⦿	4
ELT-291 AC Electricity ▶ ◐	4
IND-100 Basic Mechanical Systems	2
IND-111 Industrial Safety Mechanical Systems	1
MAT-504 Electronics Math I ▶	4 ▣
Total Credits 18	

Semester 2

CAD-119 Introduction to Computer-Aided Drafting ▶ -OR-	3
ELT-104 Electronics Drafting ▶	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	3 ◆

Semester 2

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-	3 ◆
SOC-110 Introduction to Sociology	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-	3 ◆
COM-781 Written Communication in the Workplace ▶	3 □

Total Credits 19

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Electronics Engineering Technology Diploma Option Courses

Award: Diploma
Required number of credits: 46
Program Start: Fall only

2017–2018 Suggested Sequence of Study

» The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

» When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

- ◆ General education course
- ▣ Non-transfer general education course
- ▶ Course has a prerequisite and/or corequisite.
- ⦿ Course meets the first 8 weeks of the semester.
- ◐ 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 ▶ ⦿	4
ELT-291	AC Electricity ▶ ◐	4
IND-100	Basic Mechanical Systems	2
IND-111	Industrial Safety Mechanical Systems	1
MAT-504	Electronics Math I ▶	4 ▣
Total Credits		18

Semester 2		
CAD-119	Introduction to Computer-Aided Drafting ▶ -OR-	3
ELT-104	Electronics Drafting ▶	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	3 ◆

Semester 2

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-	3 ◆
SOC-110 Introduction to Sociology	3 ◆

Total Credits 8

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Electronics Installer Certificate Courses

Award: Certificate

Required number of credits: 38

Program Start: Fall only

2017–2018 Suggested Sequence of Study

» The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

» When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

- ◆ General education course
- ▣ Non-transfer general education course
- ▶ Course has a prerequisite and/or corequisite.
- ⌚ Course meets the first 8 weeks of the semester.
- ⌚ 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 ▶ ⌚	4
ELT-291 AC Electricity ▶ ⌚	4
IND-100 Basic Mechanical Systems	2
IND-111 Industrial Safety Mechanical Systems	1
MAT-504 Electronics Math I ▶	4 ▣
Total Credits 18	

Semester 2

CAD-119 Introduction to Computer-Aided Drafting ▶ -OR-	3
ELT-104 Electronics Drafting ▶	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	3 ◆

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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.

Careers

POSITIONS



Graduates have a variety of career options including working for dealers, distributors, and commercial business as service technicians and installers.

EMPLOYERS

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

Business	Location
Aire Serv	Waterloo, IA
Bergen Plumbing, Heating, and Cooling	Waterloo, IA
Dalton Plumbing and Heating	Cedar Falls, IA
Mike Fereday Heating & Air Conditioning	Waterloo, IA

Example Careers and Average Wages

	Entry	Average	Experienced
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	\$32,800	\$49,500	\$57,900

Business	Location
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

Source: 2016 Iowa Wage Report, Iowa Workforce Development

GAINFUL EMPLOYMENT

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 complete required success courses. Success course credits do not apply towards graduation or the diploma.

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

	ACT	ACCUPLACER	COMPASS	ASSET	Success Course
Math	14	40 Arithmetic	24 Pre-Algebra	38 Numerical	MAT-045 Fundamentals of Math
English/Writing	16	64 Sentence Skills	41	35	ENG-060 College Preparatory Writing I
Reading	16	58	69	34	RDG-039 College Preparatory Reading II

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](#)

Heating and Air Conditioning Courses

Award: Diploma

Required number of credits: 48

Program Start: Fall only

2017–2018 Suggested Sequence of Study

» The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

» When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

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

Semester 1

HCR-111 Residential Forced Air Heating Systems	3
HCR-181 Introduction to HVACR	3
HCR-281 Applied Practices I	5
HCR-455 Applied Electricity for HVACR	4
MAT-772 Applied Math -OR-	3 ▣
MAT-110 Math for Liberal Arts ▶ -OR-	3 ◆
MAT-156 Statistics ▶ -OR-	3 ◆
Math Electives	3
Total Credits 18	

Semester 2

HCR-114 Boiler Fundamentals ▶	4
HCR-282 Applied Practices II ▶	3
HCR-415 Controls for HVACR ▶	3
HCR-517 HVACR Systems II ▶	5
HCR-852 Operation Strategies ▶	2
Total Credits 17	

Semester 3 – Summer

HCR-137 Hydronic Heating Systems ▶	3
HCR-283 Applied Practices III ▶	3
HCR-429 HVAC App Controls with Automated Systems ▶	2
HCR-602 HVACR Systems III ▶	2
HCR-911 HVACR Field Experience I ▶	1
HCR-912 HVACR Field Experience II ▶	2

Total Credits 13

Math Electives

MAT-122 College Algebra ▶	5	◆
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	◆

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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

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

Example Careers and Average Wages

	Entry	Average	Experienced
Robotics Technicians	\$42,300	\$60,400	\$69,500
Industrial Machinery Mechanics	\$35,400	\$48,200	\$54,700
Machinery Maintenance Workers	\$30,100	\$42,700	\$49,000
General Maintenance and Repair Workers	\$24,600	\$37,800	\$44,400

Source: 2016 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 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

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 complete required success courses. Success course credits do not apply towards graduation or the AAS degree.

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

	ACT	ACCUPLACER	COMPASS	ASSET	Success Course
Math	14	40 Arithmetic	24 Pre-Algebra	38 Numerical	MAT-045 Fundamentals of Math
English/Writing	19	82 Sentence Skills	65	40	ENG-061 College Preparatory Writing II
Reading	19	76	82	38	RDG-040 College Preparatory Reading III

■ 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: 69

Program Start: Fall only

2017–2018 Suggested Sequence of Study

➤ The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

➤ When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

➤ Courses are subject to change.

- ◆ General education course
- ▣ Non-transfer general education course
- ▶ Course has a prerequisite and/or corequisite.
- ⌚ Course meets the first 8 weeks of the semester.
- ⌚ Course meets the second 8 weeks of the semester.

Semester 1

EGT-140 Fluid Power ⌚	2
ELT-139 Electrical Systems ▶ ⌚	3
ELT-239 Advanced Electrical Systems ▶ ⌚	3
ELT-315 Digital Logic for Industrial Applications ▶ -OR-	2
EGT-420 PLTW - Digital Electronics	3
IND-100 Basic Mechanical Systems ⌚	2
IND-111 Industrial Safety Mechanical Systems	1
IND-145 Mechanical Power Transfer ▶ ⌚	2
MAT-772 Applied Math -OR-	3 ▣
MAT-110 Math for Liberal Arts ▶ -OR-	3 ◆
MAT-156 Statistics ▶ -OR-	3 ◆
Math Electives	

Total Credits 18

Semester 2

EGT-149 Fluid Power Systems II ▶	3
ELT-215 Motors and Controls ▶ ⌚	2

Semester 2

ELT-234	PLC Programming ▶ ☹	2
ELT-736	Instrumentation and Control ▶ ⓪	2
MFG-193	Machine Shop Processes	3
PSY-102	Human and Work Relations -OR-	3 ▣
PSY-111	Introduction to Psychology -OR-	3 ◆
SOC-110	Introduction to Sociology	3 ◆
WEL-339	Electromechanical Maintenance ☹	3
Total Credits 18		

Semester 3

EGT-144	Fluid Power Applications ⓪	2
ELT-120	Schematics for Electromechanical Techs ▶	3
ELT-216	DC Controls Circuits ▶ ☹	2
ELT-240	PLCs II ▶ ☹	2
ELT-532	Semiconductors for Industrial Applications ▶ ⓪	2
MFG-365	General CNC Lathe Maintenance ☹	2
SPC-101	Fundamentals of Oral Communication	3 ◆
Total Credits 16		

Semester 4

ATR-145	Applied Industrial Robotics ☹	2
COM-781	Written Communication in the Workplace ▶ -OR-	3 ▣
ENG-105	Composition I ▶	3 ◆
EGT-152	Advanced Fluid Power and Servo Systems ▶ ⓪	2
ELE-218	Motion Control ▶ ☹	2
ELT-133	Electric Motor Drives ⓪	2
ELT-245	PLCs III ▶ ⓪	2
ELT-444	Industrial Networking ▶ ☹	2
MFG-366	General CNC Mill Maintenance ⓪	2
Total Credits 17		

Math Electives

MAT-122	College Algebra ▶	5 ◆
MAT-128	Precalculus ▶	4 ◆
MAT-134	Trigonometry and Analytic Geometry ▶	3 ◆

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Industrial Automation Technology Diploma Option Courses

Award: Diploma
Required number of credits: 33
Program Start: Fall only

2017–2018 Suggested Sequence of Study

- The following suggested sequence of study is for new full-time students starting the program in the academic year listed.
- When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.
- Courses are subject to change.
- ◆ General education course
- ▣ Non-transfer general education course
- ▶ Course has a prerequisite and/or corequisite.
- ⦿ Course meets the first 8 weeks of the semester.
- ◐ Course meets the second 8 weeks of the semester.

Semester 1		
EGT-140	Fluid Power ◐	2
ELT-139	Electrical Systems ▶ ⦿	3
ELT-239	Advanced Electrical Systems ▶ ◐	3
ELT-315	Digital Logic for Industrial Applications ▶ -OR-	2
EGT-420	PLTW - Digital Electronics	3
IND-100	Basic Mechanical Systems ⦿	2
IND-111	Industrial Safety Mechanical Systems	1
IND-145	Mechanical Power Transfer ▶ ◐	2
MAT-772	Applied Math -OR-	3 ▣
MAT-110	Math for Liberal Arts ▶ -OR-	3 ◆
MAT-156	Statistics ▶ -OR-	3 ◆
Math Electives		
		Total Credits 18

Semester 2		
EGT-149	Fluid Power Systems II ▶	3
ELT-215	Motors and Controls ▶ ⦿	2

Semester 2

ELT-234	PLC Programming ▶ ☹	2
ELT-736	Instrumentation and Control ▶ ⓪	2
MFG-193	Machine Shop Processes	3
WEL-339	Electromechanical Maintenance ☹	3

Total Credits 15

Math Electives

MAT-122	College Algebra ▶	5	◆
MAT-128	Precalculus ▶	4	◆
MAT-156	Statistics ▶	3	◆

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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

POSITIONS

EMPLOYERS

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

Business

Location



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.

Example Careers and Average Wages

	Entry	Average	Experienced
Drywall and Ceiling Tile Installers	\$27,100	\$38,200	\$43,700
Carpenters	\$29,400	\$41,500	\$47,600
First-Line Supervisors of Construction Trades	\$38,900	\$57,800	\$67,200
Construction Managers	\$44,300	\$74,400	\$89,400

Source: 2016 Iowa Wage Report, Iowa Workforce Development

Builders Select	Cedar Falls, IA
Dietz Construction L.L.C.	Nashua, IA
Johnny B's Construction, Inc.	Denver, IA
Magee Construction Company	Cedar Falls, IA
Woods Construction, Inc.	Fairbank, IA

Admissions Requirements

STEP 1

Apply at Hawkeye

1. [Complete Hawkeye's online admissions application](#) to apply and be considered for the Sustainable Construction and 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 Sustainable Construction and Design program, 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.

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

	ACT	ACCUPLACER	COMPASS	ASSET	Success Course
Math	14	40 Arithmetic	24 Pre-Algebra	38 Numerical	MAT-045 Fundamentals of Math
English/Writing	16	64 Sentence Skills	41	35	ENG-060 College Preparatory Writing I
Reading	16	58	69	34	RDG-039 College Preparatory Reading II

■ 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](#)

Sustainable Construction and Design Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 69

Program Start: Fall only

2017–2018 Suggested Sequence of Study

» The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

» When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

- ◆ General education course
- ▣ Non-transfer general education course
- ▶ Course has a prerequisite and/or corequisite.
- Course meets the first 8 weeks of the semester.
- ◐ Course meets the second 8 weeks of the semester.

Semester 1

CON-102 Introduction to Residential Construction	2
CON-108 Construction Safety	1
CON-129 Concrete Lab ▶	2
CON-130 Concrete Theory	1
CON-131 Site Layout and Blueprint Reading	1
CON-133 Construction Technology Lab	4
CON-201 Framing Techniques and Lab I	2
CON-302 Building Science I	1
MAT-772 Applied Math -OR-	3 ▣
MAT-110 Math for Liberal Arts ▶ -OR-	3 ◆
MAT-122 College Algebra ▶ -OR-	5 ◆
MAT-128 Precalculus ▶ -OR-	4 ◆
MAT-134 Trigonometry and Analytic Geometry ▶	3 ◆

Total Credits 17

Semester 2

CON-121 Carpentry Fundamentals I ▶	4
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Semester 2

CON-146 Construction Technology Lab 2 ▶	3
CON-214 Exterior Framing Systems I ⓪	3
CON-217 Exterior Finishing	3
HEO-201 Utility Equipment Operation ▶ ⓪	3

Total Credits 16

Semester 3 – Summer

CON-933 Employment Training Experience ▶	4
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Total Credits 4

Semester 4

CAD-200 CAD SoftPlan ▶	3
CON-228 Methods of Interior Finishing	3
CON-486 Building Science 2 (Sustainable Design) ▶	1
CON-510 Construction Technology Lab 3 ▶	3
PSY-102 Human and Work Relations -OR-	3 ▣
PSY-111 Introduction to Psychology -OR-	3 ◆
SOC-110 Introduction to Sociology	3 ◆
SPC-101 Fundamentals of Oral Communication	3 ◆

Total Credits 16

Semester 5

CAD-208 SoftPlan 2 ▶	3
COM-781 Written Communication in the Workplace ▶ -OR-	3 ▣
ENG-105 Composition I ▶	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 ▶ ⓪	1

Total Credits 16

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Welding Technology

The Welding Technology 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 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	\$27,900	\$36,200	\$40,400
Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders	\$29,200	\$35,800	\$39,100

Source: 2016 Iowa Wage Report, Iowa Workforce Development

Many graduates in this field work overtime. Overtime wages are not included in the above average wages.

GAINFUL EMPLOYMENT

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, IA Ottumwa, IA
Wayne Engineering	Cedar Falls, IA

Admissions Requirements

■ STEP 1 Apply at Hawkeye

1. [Complete Hawkeye's online admissions application](#) to apply and be considered for the Welding 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 complete required success courses. Success course credits do not apply towards graduation or the diploma.

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

	ACT	ACCUPLACER	COMPASS	ASSET	Success Course
Math	14	40 Arithmetic	24 Pre-Algebra	38 Numerical	MAT-045 Fundamentals of Math
English/Writing	16	64 Sentence Skills	41	35	ENG-060 College Preparatory Writing I
Reading	16	58	69	34	RDG-039 College Preparatory Reading II

■ 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 AAS Degree Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 64

Program Start: Fall only

2017–2018 Suggested Sequence of Study

» The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

» When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

- ◆ General education course
- ▣ Non-transfer general education course
- ▶ Course has a prerequisite and/or corequisite.
- Course meets the first 8 weeks of the semester.
- ◐ Course meets the second 8 weeks of the semester.

Semester 1

MAT-772 Applied Math -OR-	3	▣
MAT-110 Math for Liberal Arts ▶ -OR-	3	◆
MAT-156 Statistics ▶ -OR-	3	◆
Math Elective	3	
WEL-228 Introduction to Welding, Safety, and Health of Welders: SENSE1 ●	1	
WEL-233 Print Reading and Welding Symbol Interpretation: SENSE1 ●	3	
WEL-245 Gas Metal Arc Welding Spray Transfer: SENSE1 ▶ ◐	2	
WEL-262 Thermal Cutting Processes I - Manual and Mechanized OxyFuel Cutting: SENSE1 ▶ ◐	2	
WEL-263 Thermal Cutting Processes II - Plasma and Carbon Steel Arc: SENSE1 ▶ ◐	2	
WEL-274 Shielded Metal Arc Welding I: SENSE1 ▶ ●	3	
WEL-345 GMAW Developmental II ▶ ◐	2	
WEL-374 SMAW Developmental I ▶ ●	2	
Total Credits		20

Semester 2

PSY-102	Human and Work Relations -OR-	3	▣
PSY-111	Introduction to Psychology -OR-	3	◆
SOC-110	Introduction to Sociology	3	◆
WEL-244	Gas Metal Arc Welding Short Circuit Transfer: SENSE1 ▶ ●	2	
WEL-275	Shielded Metal Arc Welding II: SENSE1 ▶ ●	3	
WEL-280	Flux Cored Arc Welding (Self-Shielded): SENSE1 ▶ ●	2	
WEL-281	Flux Cored Arc Welding (Gas-Shielded): SENSE1 ▶ ●	2	
WEL-344	GMAW Developmental I ▶ ●	2	
WEL-375	SMAW Developmental II ▶ ●	2	
Total Credits		16	

Semester 3

SPC-101	Fundamentals of Oral Communication	3	◆
WEL-251	Gas Tungsten Arc Welding for Carbon Steel: SENSE1 ▶ ●	2	
WEL-252	Gas Tungsten Arc Welding for Aluminum: SENSE1 ▶ ●	1	
WEL-253	Gas Tungsten Arc Welding for Austenitic Stainless Steel: SENSE1 ▶ ●	1	
WEL-254	Welding Inspection and Testing Principles: SENSE1 ▶ ●	1	
WEL-303	Pipe Welding SMAW ▶ ●	3	
WEL-353	GTAW Developmental ▶ ●	1	
WEL-928	Independent Study (Optional)	2	
Total Credits		12	

Semester 4

AGC-103	Ag Computers	3	▣
COM-781	Written Communication in the Workplace ▶ -OR-	3	▣
ENG-105	Composition I ▶	3	◆
WEL-106	Welding Design ●	1	
WEL-201	Procedures and Qualifications ●	1	
WEL-296	Pipe Welding GTAW ▶ ●	5	
WEL-701	Robotic Welding ●	3	
Total Credits		16	

Math Electives

MAT-102	Intermediate Algebra ▶	4	◆
MAT-122	College Algebra ▶	5	◆
MAT-128	Precalculus ▶	4	◆
MAT-134	Trigonometry and Analytic Geometry ▶	3	◆
MAT-210	Calculus I ▶	4	◆
MAT-216	Calculus II ▶	4	◆

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Advanced Manufacturing Welding Courses

Award: Diploma

Required number of credits: 48

Program Start: Fall only

2017–2018 Suggested Sequence of Study

» The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

» When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

- ◆ General education course
- ▣ Non-transfer general education course
- ▶ Course has a prerequisite and/or corequisite.
- Course meets the first 8 weeks of the semester.
- ◐ Course meets the second 8 weeks of the semester.

Semester 1

MAT-772 Applied Math -OR-	3	▣
MAT-110 Math for Liberal Arts ▶ -OR-	3	◆
MAT-156 Statistics ▶ -OR-	3	◆
Math Elective	3	
WEL-228 Introduction to Welding, Safety, and Health of Welders: SENSE1 ●	1	
WEL-233 Print Reading and Welding Symbol Interpretation: SENSE1 ●	3	
WEL-245 Gas Metal Arc Welding Spray Transfer: SENSE1 ▶ ◐	2	
WEL-262 Thermal Cutting Processes I - Manual and Mechanized OxyFuel Cutting: SENSE1 ▶ ◐	2	
WEL-263 Thermal Cutting Processes II - Plasma and Carbon Steel Arc: SENSE1 ▶ ◐	2	
WEL-274 Shielded Metal Arc Welding I: SENSE1 ▶ ●	3	
WEL-345 GMAW Developmental II ▶ ◐	2	
WEL-374 SMAW Developmental I ▶ ●	2	
Total Credits		20

Semester 2

PSY-102	Human and Work Relations -OR-	3	▣
PSY-111	Introduction to Psychology -OR-	3	◆
SOC-110	Introduction to Sociology	3	◆
WEL-244	Gas Metal Arc Welding Short Circuit Transfer: SENSE1 ▶ ●	2	
WEL-275	Shielded Metal Arc Welding II: SENSE1 ▶ ●	3	
WEL-280	Flux Cored Arc Welding (Self-Shielded): SENSE1 ▶ ●	2	
WEL-281	Flux Cored Arc Welding (Gas-Shielded): SENSE1 ▶ ●	2	
WEL-344	GMAW Developmental I ▶ ●	2	
WEL-375	SMAW Developmental II ▶ ●	2	
Total Credits		16	

Semester 3

SPC-101	Fundamentals of Oral Communication	3	◆
WEL-251	Gas Tungsten Arc Welding for Carbon Steel: SENSE1 ▶ ●	2	
WEL-252	Gas Tungsten Arc Welding for Aluminum: SENSE1 ▶ ●	1	
WEL-253	Gas Tungsten Arc Welding for Austenitic Stainless Steel: SENSE1 ▶ ●	1	
WEL-254	Welding Inspection and Testing Principles: SENSE1 ▶ ●	1	
WEL-303	Pipe Welding SMAW ▶ ●	3	
WEL-353	GTAW Developmental ▶ ●	1	
Total Credits		12	

Math Electives

MAT-102	Intermediate Algebra ▶	4	◆
MAT-122	College Algebra ▶	5	◆
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	◆

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Intermediate Manufacturing Welding Courses

Award: Diploma

Required number of credits: 36

Program Start: Fall only

2017–2018 Suggested Sequence of Study

» The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

» When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

- ◆ General education course
- ▣ Non-transfer general education course
- ▶ Course has a prerequisite and/or corequisite.
- Course meets the first 8 weeks of the semester.
- ◐ Course meets the second 8 weeks of the semester.

Semester 1

MAT-772 Applied Math -OR-	3	▣
MAT-110 Math for Liberal Arts ▶ -OR-	3	◆
MAT-156 Statistics ▶ -OR-	3	◆
Math Elective	3	
WEL-228 Introduction to Welding, Safety, and Health of Welders: SENSE1 ●	1	
WEL-233 Print Reading and Welding Symbol Interpretation: SENSE1 ●	3	
WEL-245 Gas Metal Arc Welding Spray Transfer: SENSE1 ▶ ◐	2	
WEL-262 Thermal Cutting Processes I - Manual and Mechanized OxyFuel Cutting: SENSE1 ▶ ◐	2	
WEL-263 Thermal Cutting Processes II - Plasma and Carbon Steel Arc: SENSE1 ▶ ◐	2	
WEL-274 Shielded Metal Arc Welding I: SENSE1 ▶ ●	3	
WEL-345 GMAW Developmental II ▶ ◐	2	
WEL-374 SMAW Developmental I ▶ ●	2	
Total Credits		20

Semester 2

PSY-102	Human and Work Relations -OR-	3	▣
PSY-111	Introduction to Psychology -OR-	3	◆
SOC-110	Introduction to Sociology	3	◆
WEL-244	Gas Metal Arc Welding Short Circuit Transfer: SENSE1 ▶ ⓪	2	
WEL-275	Shielded Metal Arc Welding II: SENSE1 ▶ ●	3	
WEL-280	Flux Cored Arc Welding (Self-Shielded): SENSE1 ▶ ⓪	2	
WEL-281	Flux Cored Arc Welding (Gas-Shielded): SENSE1 ▶ ⓪	2	
WEL-344	GMAW Developmental I ▶ ⓪	2	
WEL-375	SMAW Developmental II ▶ ●	2	

Total Credits 16

Math Electives

MAT-102	Intermediate Algebra ▶	4	◆
MAT-122	College Algebra ▶	5	◆
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	◆

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Welding Certificate Option Courses

Award: Certificate

Required number of credits: 20

Program Start: Fall only

2017–2018 Suggested Sequence of Study

» The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

» When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

- ◆ General education course
- ▣ Non-transfer general education course
- ▶ Course has a prerequisite and/or corequisite.
- Course meets the first 8 weeks of the semester.
- ◐ Course meets the second 8 weeks of the semester.

Semester 1

MAT-772 Applied Math -OR-	3	▣
MAT-110 Math for Liberal Arts ▶ -OR-	3	◆
MAT-156 Statistics ▶ -OR-	3	◆
Math Elective	3	
WEL-228 Introduction to Welding, Safety, and Health of Welders: SENSE1 ●	1	
WEL-233 Print Reading and Welding Symbol Interpretation: SENSE1 ●	3	
WEL-245 Gas Metal Arc Welding Spray Transfer: SENSE1 ▶ ◐	2	
WEL-262 Thermal Cutting Processes I - Manual and Mechanized OxyFuel Cutting: SENSE1 ▶ ◐	2	
WEL-263 Thermal Cutting Processes II - Plasma and Carbon Steel Arc: SENSE1 ▶ ◐	2	
WEL-274 Shielded Metal Arc Welding I: SENSE1 ▶ ●	3	
WEL-345 GMAW Developmental II ▶ ●	2	
WEL-374 SMAW Developmental I ▶ ●	2	

Total Credits 20

Math Electives

MAT-102 Intermediate Algebra ▶	4	◆
MAT-122 College Algebra ▶	5	◆
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	◆

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Information Systems Management

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), Microsoft Technology Associate (MTA), and CompTIA A+ 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. 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

POSITIONS

EMPLOYERS

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

Business	Location
CBE Group	Cedar Falls, IA



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	\$28,400	\$43,200	\$50,500

Source: 2016 Iowa Wage Report, Iowa Workforce Development

Business	Location
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 complete required success courses. Success course credits do not apply towards graduation or the AAS degree.

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

	ACT	ACCUPLACER	COMPASS	ASSET	Success Course
Math	16	63 Arithmetic	39 Pre-Algebra	40 Numerical	MAT-052 Pre-Algebra
English/Writing	16	64 Sentence Skills	41	35	ENG-060 College Preparatory Writing I
Reading	16	58	69	34	RDG-039 College Preparatory Reading II

■ 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 Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 60

Program Start: Fall only

2017–2018 Suggested Sequence of Study

➤ The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

➤ When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

➤ Courses are subject to change.

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

Semester 1

CIS-303	Introduction to Database	3
MAT-110	Math for Liberal Arts ▶ -OR-	3 ◆
MAT-122	College Algebra ▶ -OR-	5 ◆
MAT-134	Trigonometry and Analytic Geometry ▶ -OR-	3 ◆
MAT-210	Calculus I ▶	4 ◆
MGT-208	Introduction to Information Systems -OR-	3 ◆
CSC-110	Introduction to Computers ▶ -OR-	3 ◆
BCA-205	Database/Spreadsheets ▶	3
NET-109	A+ Certification Prep Course	4
NET-213	CISCO Networking ▶	4

Total Credits 17

Semester 2

BUS-102	Introduction to Business	3	◆
COM-781	Written Communication in the Workplace ▶ -OR-	3	▣
ENG-105	Composition I ▶	3	◆
NET-225	Routing and Switching Essentials ▶	4	
NET-313	Windows Server ▶	3	
PSY-102	Human and Work Relations -OR-	3	▣
PSY-111	Introduction to Psychology -OR-	3	◆
SOC-110	Introduction to Sociology	3	◆

Total Credits 16

Semester 3

ACC-131	Principles of Accounting I ▶	4	◆
MAT-156	Statistics ▶	3	◆
MGT-101	Principles of Management	3	◆
SPC-101	Fundamentals of Oral Communication	3	◆

Total Credits 13

Semester 4

ACC-132	Principles of Accounting II ▶	4	◆
CIS-750	Project Management ▶	3	
MGT-170	Human Resource Management	3	
NET-932	Internship ▶	2	
	Information Technology Elective	2	

Total Credits 14

Information Technology Electives

BCA-183	Basic Web Design Software ▶	2	
BCA-232	Multimedia for Web Design	3	
BUS-183	Business Law	3	◆
GRA-162	Web Page Graphics ▶	3	
NET-152	Advanced Network Technology	3	

Information Technology Electives

NET-310 Virtual Machines ▶	3
NET-320 Advanced Server Configuration ▶	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

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Network Administration and Engineering

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), Microsoft Technology Associate (MTA), CompTIA A+, and VMware certifications.

Transfer Information

An articulation agreement allows you to transfer your Network Administration and Engineering 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



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 User Support Specialists	\$28,400	\$43,200	\$50,500
Computer Network Support Specialists	\$38,400	\$54,400	\$62,400

Source: 2016 Iowa Wage Report, Iowa Workforce Development

EMPLOYERS

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.

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

	ACT	ACCUPLACER	COMPASS	ASSET	Success Course
Math	16	63 Arithmetic	39 Pre-Algebra	40 Numerical	MAT-052 Pre-Algebra
English/Writing	16	64 Sentence Skills	41	35	ENG-060 College Preparatory Writing I
Reading	16	58	69	34	RDG-039 College Preparatory Reading II

■ 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 only

2017–2018 Suggested Sequence of Study

» The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

» When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

◆ General education course

▣ Non-transfer general education course

▶ Course has a prerequisite and/or corequisite.

Semester 1

COM-781 Written Communication in the Workplace ▶ -OR-	3	▣
ENG-105 Composition I ▶	3	◆
MAT-110 Math for Liberal Arts ▶	3	◆
MGT-208 Introduction to Information Systems -OR-	3	◆
CSC-110 Introduction to Computers ▶ -OR-	3	◆
BCA-205 Database/Spreadsheets ▶	3	▣
NET-109 A+ Certification Prep Course	4	
NET-213 CISCO Networking ▶	4	

Total Credits 17

Semester 2

CIS-303 Introduction to Database	3	
NET-225 Routing and Switching Essentials ▶	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-	3	◆
SOC-110 Introduction to Sociology	3	◆

Total Credits 16

Semester 3

NET-268 CCNA Routing and Switching: Scaling Networks ▶	3
NET-310 Virtual Machines ▶	3
NET-320 Advanced Server Configuration ▶	3
NET-346 Windows Exchange Server ▶	3
NET-612 Fundamentals of Network Security ▶	3
SPC-101 Fundamentals of Oral Communication	3 ♦

Total Credits 18

Semester 4

CIS-750 Project Management ▶	3
NET-269 CCNA Routing and Switching: Connecting Networks ▶	3
NET-710 SQL Database ▶	2
NET-916 Experiential Learning ▶	5
NET-932 Internship ▶	2
Information Technology Elective	2

Total Credits 17

Information Technology Electives

BCA-183 Basic Web Design Software ▶	2
BCA-232 Multimedia for Web Design	3
CIS-604 Visual Basic	3
GRA-162 Web Page Graphics ▶	3
NET-152 Advanced Network Technology	3
NET-474 Certification Preparation ▶	1
NET-475 Certification Preparation ▶	2
NET-949 Special Topics	1

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Computer Networking Technician Diploma Courses

Award: Diploma

Required number of credits: 33

Program Start: Fall only

2017–2018 Suggested Sequence of Study

» The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

» When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

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

Semester 1

COM-781 Written Communication in the Workplace ▶ -OR-	3	▣
ENG-105 Composition I ▶	3	◆
MAT-110 Math for Liberal Arts ▶	3	◆
MGT-208 Introduction to Information Systems -OR-	3	◆
CSC-110 Introduction to Computers ▶ -OR-	3	◆
BCA-205 Database/Spreadsheets ▶	3	▣
NET-109 A+ Certification Prep Course	4	
NET-213 CISCO Networking ▶	4	

Total Credits 17

Semester 2

CIS-303 Introduction to Database	3	
NET-225 Routing and Switching Essentials ▶	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-	3	◆
SOC-110 Introduction to Sociology	3	◆

Total Credits 16

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Web Programming and Development

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

Hands-On Learning Opportunities

- Computer Lab: Practice your coding and programming skills with the latest in industry software.
- Internship: Gain 256 hours of real-world work experience ensuring you have the skills you need to succeed in your future career.

Evening Program

This program is offered in the evening with classes starting at 6:00pm, allowing you to work and go to school at the same time. You will also take 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	\$33,500	\$61,000	\$74,800

Source: 2016 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
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 complete required success courses. Success course credits do not apply towards graduation or the AAS degree.

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

	ACT	ACCUPLACER	COMPASS	ASSET	Success Course
Math	16	63 Arithmetic	39 Pre-Algebra	40 Numerical	MAT-052 Pre-Algebra
English/Writing	16	64 Sentence Skills	41	35	ENG-060 College Preparatory Writing I
Reading	19	76	82	38	RDG-040 College Preparatory Reading III

■ 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 Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 62

Program Start: Fall only

2017–2018 Suggested Sequence of Study

» The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

» When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

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

Semester 1

CIS-121	Introduction to Programming Logic	3	
CIS-355	Database Design and Management	4	
MAT-110	Math for Liberal Arts ▶ -OR-	3	◆
	Math Electives	3	
WDV-102	Introduction to Web Development	3	
WDV-105	Web Layouts	3	
Total Credits		16	

Semester 2

CIS-215	Server Side Web Programming ▶	3	
CIS-231	PHP Programming ▶	3	
COM-781	Written Communication in the Workplace ▶ -OR-	3	▣
ENG-105	Composition I ▶	3	◆
SPC-101	Fundamentals of Oral Communication	3	◆
	Electives	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-	3 ◆
SOC-110 Introduction to Sociology	3 ◆
WDV-931 Internship ▶	2
Electives	3

Total Credits 17

Semester 4

CIS-249 Web Languages ▶	3
WDV-300 Advanced Topics in Web Development ▶	3
WDV-800 Portfolio ▶	3
WDV-931 Internship ▶	2
Electives	3

Total Credits 14

Electives

BCA-183 Basic Web Design Software ▶	2
BCA-232 Multimedia for Web Design	3
CIS-234 Web Site Administration ▶	3
CIS-274 E-Commerce Design ▶	3
GRA-150 Introduction to Web Design	3
MGT-110 Small Business Management	3
NET-109 A+ Certification Prep Course	4

Math Electives

MAT-122 College Algebra ▶	5 ◆
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 ◆

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and Business**

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Agricultural Power Technology

The Agricultural Power Technology program prepares you to become a service technician in the agriculture industry. You will gain the skills necessary to maintain, troubleshoot, and repair a variety of agricultural equipment, including:

- Tractors
- Combines
- Planters
- Cultivators/plows
- Sprayers
- And much more

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 from John Deere, Case, Caterpillar, and Agco, 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.

Transfer Information

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

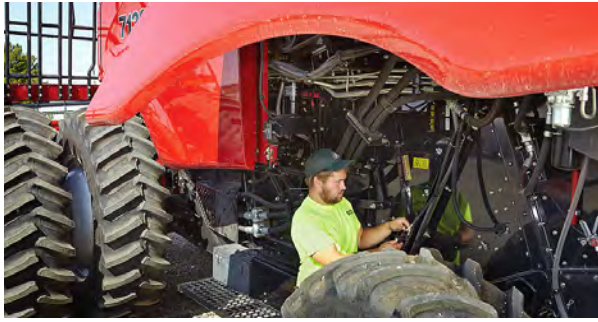
If you plan to transfer, work closely with a [program advisor](#) to ensure courses transfer and you meet program requirements.

Careers

POSITIONS

EMPLOYERS

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



Graduates find jobs as service technicians in implement dealerships, factories, construction, independent shops, heavy equipment dealerships, independent farms, and consumer product dealerships.

Example Careers and Average Wages

	Entry	Average	Experienced
Farm Equipment Mechanics and Service Technicians	\$29,400	\$38,700	\$43,300

Source: 2016 Iowa Wage Report, Iowa Workforce Development

Business	Location
Altorfer, Inc.	Cedar Rapids, IA
Cedar Valley Corp., LLC	Waterloo, IA
Deike Implement Co.	Waverly, IA
P&K Midwest	Waterloo and Waverly, IA
Titan Machinery	Waverly, IA

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](#)

Agricultural Power Technology Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 71

Program Start: Fall only

2017–2018 Suggested Sequence of Study

» The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

» When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

- ◆ General education course
- ▣ Non-transfer general education course
- ▶ Course has a prerequisite and/or corequisite.
- ▣ Course meets the first 4 weeks of the semester.
- ▣ Course meets the second 4 weeks of the semester.
- ▣ Course meets the third 4 weeks of the semester.
- ▣ Course meets the fourth weeks of the semester.
- Course meets the second 8 weeks of the semester.

Semester 1

AGM-111 Gas Engine Rebuild ▣	4
AGM-124 Technical Procedures for Power Mechanics Techs ▣	3
COM-781 Written Communication in the Workplace ▶ -OR-	3 ▣
ENG-105 Composition I ▶	3 ◆
DSL-377 Diesel Engine Rebuild ●	7
Total Credits 17	

Semester 2

AGC-103 Ag Computers	3 ▣
AGM-104 Electricity ▣	4
AGM-333 Electronics ▶ ▣	3
DSL-447 Diesel Fuel Systems ●	7
MAT-772 Applied Math -OR-	3 ▣
MAT-110 Math for Liberal Arts ▶ -OR-	3 ◆
MAT-156 Statistics ▶ -OR-	3 ◆

Semester 2

[Math Electives](#) 3

Total Credits 20

Semester 3

[AGM-113](#) Hydraulics I ▣ 3

[AGM-224](#) Hydraulics II ▶ ▣ 4

[DSL-415](#) Electronics II ▶ ▣ 3

[DSL-831](#) Preventative Maintenance ▶ ▣ 4

[PSY-102](#) Human and Work Relations -OR- 3 ▣

[PSY-111](#) Introduction to Psychology -OR- 3 ◆

[SOC-110](#) Introduction to Sociology 3 ◆

Total Credits 17

Semester 4

[AGM-408](#) Power Transfer Systems ▶ 7

[AGM-417](#) Ag Equipment Repair ▶ ☉ 7

[SPC-101](#) Fundamentals of Oral Communication 3 ◆

Total Credits 17

Math Electives

[MAT-122](#) College Algebra ▶ 5 ◆

[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 ◆

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Automotive Technology

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

POSITIONS



EMPLOYERS

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

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

Business	Location
John Deere	Waterloo, IA
Waterloo Auto Parts	Waterloo, IA

Example Careers and Average Wages

	Entry	Average	Experienced
Automotive Service Technicians and Mechanics	\$24,500	\$38,800	\$45,900
Electronic Equipment Installers and Repairers	\$24,600	\$33,600	\$38,100

Source: 2016 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 Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 76

Program Start: Fall only

2017–2018 Suggested Sequence of Study

» The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

» When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

- ◆ General education course
- ▣ Non-transfer general education course
- ▶ Course has a prerequisite and/or corequisite.
- ▣ Course meets the first 4 weeks of the semester.
- ▣ Course meets the second 4 weeks of the semester.
- ▣ Course meets the third 4 weeks of the semester.
- ▣ Course meets the fourth 4 weeks of the semester.

Semester 1

AUT-106 Introduction to Automotive Technology ▣	2
AUT-109 Introduction to Automotive Technology II ▣	2
AUT-164 Automotive Engine Repair ▣	4
AUT-504 Automotive Brake Systems ▣	4
AUT-610 Automotive Electrical I ▣	4
MAT-772 Applied Math -OR-	3 ▣
MAT-110 Math for Liberal Arts ▶ -OR-	3 ◆
MAT-156 Statistics ▶ -OR-	3 ◆
Math Electives	3

Total Credits 19

Semester 2

AUT-307 Automotive Manual Transmissions and Transaxles ▣	4
AUT-404 Automotive Suspension and Steering ▣	4
AUT-643 Auto Starting, Charging, and Electrical ▶ ▣	4

Semester 2

AUT-842 Automotive Computerized Engine Controls ▣	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	

Semester 3

AUT-537 Automotive Advanced Brake Systems ▶ ▣	4
AUT-704 Automotive Heating and Air Conditioning ▣	4
AUT-834 Automotive Fuel Systems ▣	4
AUT-886 Comprehensive Application ▶ ▣	4
COM-781 Written Communication in the Workplace ▶ -OR-	3 ▣
ENG-105 Composition I ▶	3 ◆
Total Credits 19	

Semester 4

AUT-204 Automotive Automatic Transmissions and Transaxles ▣	4
AUT-315 Automotive Differentials and 4-Wheel Drive ▣	4
AUT-631 Automotive Electronics ▶ ****	4
AUT-827 Automotive Ignition Systems ▶ ▣	4
SPC-101 Fundamentals of Oral Communication	3 ◆
Total Credits 19	

Math Electives

MAT-122 College Algebra ▶	5 ◆
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 ◆

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Collision Repair and Refinishing

The Collision Repair and Refinishing program prepares you with the training and knowledge needed for an entry-level career in the vehicle collision and repair industry. You will gain hands-on skills in:

- Tools and equipment usage
- Parts assembly
- Body filler application
- Body straightening
- Auto body repair and welding
- Corrosion protection
- Paint masking procedures and preparation
- Paint color matching, mixing, and application techniques
- Hazardous waste handling and disposal
- Project management

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

You may receive the following certifications: I-Car Platinum Non-Structural Technician ProLevel 1, I-Car Platinum Refinish Technician ProLevel 1, Air Conditioning, Painter, 6H NESHAP, and Mitchell Estimating.

Transfer Information

An articulation agreement allows you to transfer your Collision Repair and Refinishing 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

EMPLOYERS



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 as:

- 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

Example Careers and Average Wages

	Entry	Average	Experienced
Automotive Body and Related Repairers	\$24,800	\$38,800	\$45,800
Transportation Equipment Painters	\$27,200	\$34,900	\$38,700

Source: 2016 Iowa Wage Report, Iowa Workforce Development

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

Business	Location
Billion Auto	Clive, IA
Black Hawk Auto Refinishers	La Porte City, IA
Brimeyer Auto Body	Dubuque, IA
Clemons Chevrolet	Marshalltown, IA
Deery Brothers Collision Center	Cedar Falls, IA
Droste's Auto Care	Waterloo, IA
Dunlap Motors	Independence, IA
Iowa Auto Rebuilders	Waterloo, IA
Rydell Chevrolet	Waterloo, IA
Witham Auto Centers	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](#)

Collision Repair and Refinishing AAS Degree Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 70

Program Start: Fall only

2017–2018 Suggested Sequence of Study

» The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

» When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

- ◆ General education course
- ▣ Non-transfer general education course
- ▶ Course has a prerequisite and/or corequisite.
- ⌚ Course meets the first 8 weeks of the semester.
- ◐ Course meets the second 8 weeks of the semester.

Semester 1

CRR-306 Introduction to Collision Repair ◐	6
CRR-806 Introduction to Refinishing ⌚	6
MAT-772 Applied Math -OR-	3 ▣
MAT-110 Math for Liberal Arts ▶ -OR-	3 ◆
MAT-156 Statistics ▶ -OR-	3 ◆
Math Electives	3
Total Credits 15	

Semester 2

CRR-331 Basic Collision Procedures ▶ ◐	6
CRR-836 Refinishing II ▶ ⌚	6
PSY-102 Human and Work Relations -OR-	3 ▣
PSY-111 Introduction to Psychology -OR-	3 ◆
SOC-110 Introduction to Sociology	3 ◆
Total Credits 15	

Semester 3

COM-781 Written Communication in the Workplace ▶ -OR-	3	▣
ENG-105 Composition I ▶	3	◆
CRR-510 Collision Production Technology ▶ ①	7	
CRR-740 Estimating I ▶	3	
CRR-877 Refinishing Applications ▶ ②	7	
Total Credits 20		

Semester 4

CRR-657 Advanced Collision Repair ▶ ③	7	
CRR-750 Estimating II ▶	3	
CRR-881 Refinishing Production Technology ▶ ④	7	
SPC-101 Fundamentals of Oral Communication	3	◆
Total Credits 20		

Math Electives

MAT-122 College Algebra ▶	5	◆
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	◆

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Basic Collision Repair Diploma Option Courses

Award: Diploma

Required number of credits: 30

Program Start: Fall only

2017–2018 Suggested Sequence of Study

» The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

» When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

- ◆ General education course
- ▣ Non-transfer general education course
- ▶ Course has a prerequisite and/or corequisite.
- ⌚ Course meets the first 8 weeks of the semester.
- ◐ Course meets the second 8 weeks of the semester.

Semester 1

CRR-306 Introduction to Collision Repair ◐	6
CRR-806 Introduction to Refinishing ⌚	6
MAT-772 Applied Math -OR-	3 ▣
MAT-110 Math for Liberal Arts ▶ -OR-	3 ◆
MAT-156 Statistics ▶ -OR-	3 ◆
Math Electives	3
Total Credits 15	

Semester 2

CRR-331 Basic Collision Procedures ▶ ◐	6
CRR-836 Refinishing II ▶ ⌚	6
PSY-102 Human and Work Relations -OR-	3 ▣
PSY-111 Introduction to Psychology -OR-	3 ◆
SOC-110 Introduction to Sociology	3 ◆
Total Credits 15	

Math Electives

MAT-122 College Algebra ▶	5	◆
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	◆

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Construction Equipment Operation

The Construction Equipment Operation program prepares you with the knowledge and skills needed to plan, execute, and complete construction projects that require the moving of earth and materials with heavy construction equipment. You will learn about:

- Project management
- Job site safety
- Blueprint reading
- Construction site preparation using laser transits and GPS technology
- Excavation techniques
- Grading, leveling, and trenching
- Erosion and water runoff control
- Equipment transport
- Equipment inspection, maintenance, and basic repair

You will train and test to obtain your Class A Commercial Driver's License (CDL). Our instructors are trained and state certified to teach the Federal Motor Carrier Safety Administration standards for tractor-trailer drivers and are Third Party Commercial License Testers for the State of Iowa. Federal and state laws require that intrastate drivers be at least 18 years of age.

The program is recognized by the Land Improvement Contractors Association.

Hands-On Learning Opportunities

- **Construction Equipment Simulators:** Develop motor skills and muscle memory skills needed to become an efficient equipment operator. You will also learn industry terminology and various methods for excavating, trenching, grading and filling using various machines while learning how to reduce costs in a safe, controlled environment.
- **Industry Equipment:** Get behind the controls of state-of-the-art heavy equipment machines, including bulldozers, track excavators, skid steer loaders, large wheel loaders, motor graders, mini excavators, all-terrain forklifts, dump trucks, and aerial lifts. You will also use smaller equipment such as plate compactors, tampers, portable air compressors, jack hammers, concrete buggies, power trowels, and concrete saws.
- **Campus Projects:** Put your new and developing skills to work as a part of campus improvement projects. Recent projects have included dredging, grading, landscaping water retention ponds, building shooting ranges, waterways, and soccer field.
- **Employment Experience:** Gain 320 hours of real-world work experience ensuring you have the skills you need to succeed in your future career.

Certifications

You may receive the following certifications: Class A Commercial Driver's License, 10-hour OSHA General Construction Certificate, OSHA Laser Safety Certificate, OSHA Certificate in Fork Lift Operation, Mine Safety and Health Administration (MSHA) Part 46 certification, Iowa DOT Flagger certification, and Aerial Work Platform certification.

Careers

POSITIONS



Graduates find employment as construction equipment operators for:

- Commercial and residential building contractors
- Trenching and excavation contractors
- County, state, and heavy highway road construction contractors
- Road maintenance departments

This profession is expected to grow by 11% through 2024 in Iowa.

	Entry	Average	Experienced
Construction Equipment Operators and Operating Engineers	\$32,400	\$46,700	\$53,900
Highway Maintenance Workers	\$33,400	\$42,700	\$47,300

Source: 2016 Iowa Wage Report, Iowa Workforce Development

GAINFUL EMPLOYMENT

EMPLOYERS

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

Business	Location
Benton's Sand and Gravel Inc.	Cedar Falls, IA
Black Hawk County Landfill	Waterloo, IA
Cedar Falls Construction Co., Inc.	Cedar Falls, IA
Cedar Valley Corp., LLC	Waterloo, IA
C.J. Moyna and Sons	Elkader, IA
Elder Corp	Altoona, IA
JB Holland Construction, Inc.	Decorah, IA
Mannatts Inc.	Brooklyn, IA
Peterson Contractors, Inc.	Reinbeck, IA
Veith Construction Corp.	Cedar Falls, 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](#)

Construction Equipment Operation Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 63

Program Start: Spring, Summer

Before the start of classes you must have a valid driver's license with a good driving record and a stable work history.

During the first week of classes you must complete a DOT physical examination and a DOT drug test with negative results.

2017–2018 Suggested Sequence of Study

➤ The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

➤ When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

➤ Courses are subject to change.

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

Semester 1

HEO-203 Jobsite Safety **	2
TDT-115 Transportation Industry and Driver Regulations *	4
TDT-118 Driving Range I ▶ *	6

Total Credits 12

* Required summer course for summer start students. First 8-week course for spring start students.

** Required summer course for summer start students. Second 8-week course for spring start students.

Semester 2

CON-131 Site Layout and Blueprint Reading **	1
HEO-116 Basic Construction Equipment Operation ▶ *	3
HEO-201 Utility Equipment Operation ▶ *	3
HEO-208 Equipment Operation I ▶ **	5

Semester 2

MAT-772 Applied Math -OR-	3	▣
MAT-110 Math for Liberal Arts ► -OR- Math Elective	3	◆
PSY-102 Human and Work Relations -OR-	3	▣
PSY-111 Introduction to Psychology -OR-	3	◆
SOC-110 Introduction to Sociology	3	◆
Total Credits 18		

* First 8-week fall course for summer start students. Required summer course for spring start students.

** Required summer course for spring start students.

Semester 3

COM-781 Written Communication in the Workplace ► -OR-	3	▣
ENG-105 Composition I ►	3	◆
HEO-118 Routine Service and Repair ►	3	
HEO-209 Equipment Operation II ►	3	
HEO-210 Equipment Operation III ►	4	
SPC-101 Fundamentals of Oral Communication	3	◆
TDT-101 Interpersonal Relations	3	▣
Total Credits 19		

Semester 4

HEO-109 All Terrain Lifts Operation ► *	2	
HEO-110 Support Equipment Operation ► *	2	
HEO-214 Equipment Maintenance ► *	5	
HEO-907 Workplace Experience ► **	5	
Total Credits 14		

* Required summer course for summer start students. First 8-week course for spring start students.

** Required summer course for summer start students. Second 8-week course for spring start students.

Math Electives

MAT-122 College Algebra ►	5	◆
MAT-134 Trigonometry and Analytic Geometry ►	3	◆
MAT-210 Calculus I ►	4	◆
MAT-216 Calculus II ►	4	◆
MAT-219 Calculus III ►	4	◆

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Diesel Truck Technology

The Diesel Truck Technology program prepares you to maintain, troubleshoot, and repair diesel engines a variety of transportation and construction vehicles and equipment. 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 Truck 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

POSITIONS

EMPLOYERS

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

Business	Location
Altorfer, Inc.	Cedar Rapids, IA



Graduates work in truck stops, heavy equipment shops, consumer product dealerships, independent repair shops, and engine machine shops as mechanics, service technicians, and diesel engine specialists.

This profession is expected to grow by 18%* through 2024 in Iowa.

Example Careers and Average Wages

	Entry	Average	Experienced
Bus and Truck Mechanics and Diesel Engine Specialists	\$28,400	\$40,700	\$46,800

Source: 2016 Iowa Wage Report, Iowa Workforce Development

Business	Location
Cedar Valley Corp., LLC	Waterloo, IA
Don's Truck Sales	Fairbank, IA
Harrison Truck Centers	Waterloo, IA
Ryder Truck Rental and Leasing	Cedar Falls, IA
Thompson Truck and Trailer, Inc.	Cedar Rapids and Waterloo, IA
Warren Transport, Inc.	Waterloo, IA

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 Truck Technology Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 71

Program Start: Fall only

2017–2018 Suggested Sequence of Study

» The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

» When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

- ◆ General education course
- ▣ Non-transfer general education course
- ▶ Course has a prerequisite and/or corequisite.
- ▣ Course meets the first 4 weeks of the semester.
- ▣ Course meets the second 4 weeks of the semester.
- ▣ Course meets the third 4 weeks of the semester.
- ▣ Course meets the fourth weeks of the semester.
- ◐ Course meets the second 8 weeks of the semester.

Semester 1

AGM-111 Gas Engine Rebuild ▣	4
AGM-124 Technical Procedures for Power Mechanics Techs ▣	3
COM-781 Written Communication in the Workplace ▶ -OR-	3 ▣
ENG-105 Composition I ▶	3 ◆
DSL-377 Diesel Engine Rebuild ◐	7
Total Credits 17	

Semester 2

AGC-103 Ag Computers	3 ▣
AGM-104 Electricity ▣	4
AGM-333 Electronics ▶ ▣	3
DSL-447 Diesel Fuel Systems ◐	7
MAT-772 Applied Math -OR-	3 ▣
MAT-110 Math for Liberal Arts ▶ -OR-	3 ◆
MAT-156 Statistics ▶ -OR-	3 ◆

Semester 2

[Math Electives](#) 3

Total Credits 20

Semester 3

[AGM-113](#) Hydraulics I ▣ 3

[AGM-224](#) Hydraulics II ▶ ▣ 4

[DSL-415](#) Electronics II ▶ ▣ 3

[DSL-831](#) Preventative Maintenance ▶ ▣ 4

[PSY-102](#) Human and Work Relations -OR- 3 ▣

[PSY-111](#) Introduction to Psychology -OR- 3 ◆

[SOC-110](#) Introduction to Sociology 3 ◆

Total Credits 17

Semester 4

[AGM-408](#) Power Transfer Systems ▶ 7

[DSL-807](#) Diesel Truck Equipment Repair ▶ ☹ 7

[SPC-101](#) Fundamentals of Oral Communication 3 ◆

Total Credits 17

Math Electives

[MAT-122](#) College Algebra ▶ 5 ◆

[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 ◆

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**Applied Sciences and
Engineering Technology**
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16-Week Truck Driving and Transportation Training

The 16-Week Truck Driving and Transportation Training program prepares you to become a professional over-the-road or local truck driver. You will gain the knowledge and skills needed to operate truck and tractor trailers, including:

- Driver's regulations
- Record keeping
- Equipment inspections
- Safety practices
- Cargo securing, loading, and unloading
- Engine starting and shut down
- Clutching and shifting techniques
- Cornering, backing, and docking techniques
- Hazardous materials transport

Hands-On Learning Opportunities

- [Truck Driving Simulators](#): Become comfortable with the controls and operation of a semi truck while learning how to handle various driving situations, how to reduce costs, and improving your efficiency in a safe, controlled environment.
- [Regional Transportation Training Center](#): Start putting your skills into practice on Hawkeye's open driving range, 26-foot wide road, inclines, and left and right turns.
- On-The-Job Training: Gain real-world work experience ensuring you have the skills you need to succeed in your future career.

Certifications

You will be prepared to earn your Class A Commercial Driver's License with various endorsements. Our instructors are trained and state certified to teach the Federal Motor Carrier Safety Administration standards for tractor-trailer drivers and are Third Party Commercial License Testers for the State of Iowa. Federal and state laws require interstate drivers be at least 21 years of age and intrastate drivers must be at least 18 years of age.

Professional Affiliations

This program is approved by the Iowa Department of Transportation, Iowa Department of Education, the Iowa Motor Truck Association, and the Iowa Job Training Program.

Financial Assistance

The 16-week Truck Driving and Transportation Training program is an eligible program for financial aid. [Other financial assistance](#) may be available, if you are eligible.

Careers

POSITIONS



Graduates are trained to be professional truck drivers. Many have entered the related fields as DOT officers, shipping and terminal managers, freight agents, freight brokers, log clerks, traffic specialists, spotters, dispatchers, and transportation salespersons.

Example Careers and Average Wages

	Entry	Average	Experienced
Heavy and Tractor-Trailer Truck Drivers	\$28,100	\$40,600	\$46,900
Light Truck and Delivery Services Drivers	\$19,200	\$31,900	\$38,200

Source: 2016 Iowa Wage Report, Iowa Workforce Development

GAINFUL EMPLOYMENT

EMPLOYERS

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

Business	Location
Cedar Valley Corp., Inc.	Waterloo, IA
Coca Cola Bottling Company	Cedar Rapids, IA
Corkery Transport, Inc.	Jesup, IA
Decker Truck Line, Inc.	Davenport, IA
Denver Construction, Inc.	Waterloo, IA
Don Hummer Trucking Corp.	Oxford, IA
Gypsum Express, Ltd.	Bladwinville, NY
Martin Bros. Distributing Co., Inc.	Cedar Falls, IA
RH Hummer Jr., Inc.	Williamsburg, IA
River Forest Truck Repair	Evansdale, IA
Schneider	Menomonee Falls, WI
Sebetka Bros Trucking	Jesup, IA
City of Waterloo	Waterloo, IA
Waterloo Warehousing & Service Co. Inc.	Waterloo, IA
Werner Enterprises, Inc.	Omaha, NE
West Side Transport	Cedar Rapids, IA
Zuercher Trucking	Postville, 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](#)

16-Week Truck Driving and Transportation Training Courses

Award: Certificate

Required number of credits: 19

Program Start: Fall, Spring, Summer

Before the start of classes you must have a valid driver's license with a good driving record and a stable work history.

During the first week of classes you must complete a DOT physical examination and a DOT drug test with negative results.

2017–2018 Suggested Sequence of Study

➤ The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

➤ When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

➤ Courses are subject to change.

- ▶ Course has a prerequisite and/or corequisite.
- Course meets the first 8 weeks of the semester.
- Course meets the second 8 weeks of the semester.

Semester 1

TDT-101 Interpersonal Relations ●	3
TDT-115 Transportation Industry and Driver Regulations ●	4
TDT-118 Driving Range I ▶ ●	6
TDT-125 Driving Range II ▶ ●	3
TDT-938 Truck Transportation On-the-Job Training ▶ ●	3

Total Credits 19

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Emergency Medical Services

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 Medical Services at Hawkeye Community College 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).

Commission on Accreditation of Allied Health Education Programs
1361 Park Street
Clearwater, FL 33756
(727) 210-2350
www.caahep.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 \(NREMT\)](#).

Community and Continuing Education Options

[Emergency medical responders \(EMR\) and emergency medical technicians \(EMT\) classes](#) are available for individuals who would like to serve their communities as on a volunteer basis.

Hawkeye also offers [continuing education courses](#) for graduates and professionals to maintain their EMS licenses in the State of Iowa.

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

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



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	\$22,600	\$33,200	\$38,500

Source: 2016 Iowa Wage Report, Iowa Workforce Development

**GAINFUL EMPLOYMENT:
PARAMEDIC CERTIFICATE
OPTION**

Business	Location
Mason City Fire Department	Mason City, IA
North Benton Ambulance Service	Vinton, IA
Waterloo Fire Rescue	Waterloo, IA
Waverly Health Center	Waverly, IA
Wheaton Franciscan Healthcare	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](#)

Emergency Medical Services AAS Degree Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 69

Program Start: Fall, Spring, Summer

2017–2018 Suggested Sequence of Study

» The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

» When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

◆ General education course

▶ Course has a prerequisite and/or corequisite.

Semester 1

BIO-168 Human Anatomy and Physiology I	4	◆
EMS-201 Emergency Medical Technician ▶	7	
ENG-105 Composition I ▶	3	◆
HSC-113 Medical Terminology	2	
Total Credits		16

Semester 2

BIO-173 Human Anatomy and Physiology II ▶	4	◆
MAT-110 Math for Liberal Arts ▶ -OR-	3	◆
MAT-156 Statistics ▶ -OR-	3	◆
MAT-122 College Algebra ▶	5	◆
SOC-110 Introduction to Sociology -OR-	3	◆
PSY-111 Introduction to Psychology	3	◆
SPC-101 Fundamentals of Oral Communication	3	◆
EMS Electives	2	
Total Credits		15

Semester 3

EMS-541 Clinical I ▶	3	
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Semester 3

EMS-610 Paramedic Pharmacology and Medication Administration ▶	4
EMS-619 Airway and Patient Assessment ▶	4
EMS-641 Introduction to Paramedicine ▶	3
EMS-678 Traumatic Emergencies for the Paramedic ▶	3
Total Credits 17	

Semester 4

EMS-546 Clinical II ▶	3
EMS-650 Medical and Psychological Emergencies ▶	4
EMS-674 Cardiology for the Paramedic ▶	4
EMS-677 Special Populations for the Paramedic ▶	4
Total Credits 15	

Semester 5 – Summer

EMS-654 EMS Operations ▶	2
EMS-655 Transition to Paramedic Practice ▶	4
Total Credits 6	

EMS Electives

CRJ-285 Physical Conditioning for Public Services	2
EMS-114 Emergency Medical Responder	2
EMS-856 Management of Emergency Medical Services	3
EMS-900 Education in EMS	3
FIR-139 Fire Fighter I	4
FIR-213 Principles of Emergency Services	3
FIR-214 Legal Aspects of Emergency Services	3

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Paramedic Diploma Option Courses

Award: Certificate

Required number of credits: 48

Program Start: Fall only

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.

2017–2018 Suggested Sequence of Study

» The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

» When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

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

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

Prerequisites

BIO-168 Human Anatomy and Physiology I	4	◆
BIO-173 Human Anatomy and Physiology II ▶	4	◆
HSC-113 Medical Terminology	2	
Total Credits		10

Semester 1

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-678 Traumatic Emergencies for the Paramedic ▶	3

Semester 1

Total Credits 17

Semester 2

EMS-546 Clinical II ▶	3
EMS-650 Medical and Psychological Emergencies ▶	4
EMS-674 Cardiology for the Paramedic ▶	4
EMS-677 Special Populations for the Paramedic ▶	4

Total Credits 15

Semester 3—Summer

EMS-654 EMS Operations ▶	2
EMS-655 Transition to Paramedic Practice ▶	4

Total Credits 6

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Fire Science

The Fire Science program prepares you for an entry-level firefighting career and provides the foundation for a future in fire service management. You will gain knowledge and understanding of building construction, management, and fire behaviors and hazards. Gain hands-on training in:

- Fire suppression
- Fire protection
- Fire prevention
- Investigation and inspection
- Safety techniques
- Emergency medical response

Designed in cooperation with local fire department officials, the program provides education paths for individuals seeking a fire services career and for practicing firefighters to advance their careers. Credit may be awarded toward the degree for existing certifications and verified industry training.

Hands-On Learning Opportunities

- Fire Training Facility: Practice firefighting techniques at a state-of-the-art, live fire training facility using tools and equipment used in the industry.

Certification

You may be eligible to take the following International Fire Service Accreditation Congress (IFSAC) certification exams through the Iowa Department of Public Safety, [Iowa Fire Service Training Bureau](#): Firefighter I, Firefighter II, Fire Instructor I, Fire Inspector I, Fire Investigation I, and Fire Investigation II.

Accreditation

The program is recognized as a [Fire and Emergency Services Higher Education \(FESHE\) institution](#). U.S. Fire Administration's National Fire Academy curriculum and standards are followed.



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 working as firefighters in city and county fire departments. With experience, some graduates have advanced their careers to become fire investigators, fire insurance inspectors, or fire protection specialists for city, county, state, and federal governments, private insurance or safety companies, and private fire protection companies.

Example Careers and Average Wages

	Entry	Average	Experienced
Firefighters	\$21,500	\$37,900	\$46,000

EMPLOYERS

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

Business	Location
Fort Dodge Fire Department	Fort Dodge, IA
Mason City Fire Department	Mason City, IA
Waterloo Fire Rescue	Waterloo, IA

	Entry	Average	Experienced
Fire Inspectors and Investigators	\$54,900	\$66,800	\$72,800

Source: 2016 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](#)

Fire Science Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 64

Program Start: Fall, Spring, Summer

2017–2018 Suggested Sequence of Study

» The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

» When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

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

Semester 1

ENG-105 Composition I ▶ -OR-	3	◆
COM-781 Written Communication in the Workplace ▶	3	▣
FIR-130 Fire Prevention	3	
FIR-139 Fire Fighter I	4	
FIR-213 Principles of Emergency Services	3	
MAT-110 Math for Liberal Arts ▶ -OR-	3	◆
MAT-156 Statistics ▶ -OR-	3	◆
MAT-772 Applied Math	3	▣

Total Credits 16

Semester 2

EMS-114 Emergency Medical Responder	2	
FIR-124 Building Construction	3	
FIR-127 Fire Behavior and Combustion	3	
FIR-291 Fire Fighter II Certification ▶	3	
Fire Science Electives	3	

Total Credits 14

Semester 3

FIR-152	Fire Protection Systems	3
FIR-235	Fire Investigation I	3
FIR-400	Emergency Safety and Survival	3
PSY-102	Human and Work Relations -OR-	3 ▣
PSY-111	Introduction to Psychology -OR-	3 ◆
SOC-110	Introduction to Sociology	3 ◆
	Fire Science Electives	3
	Fire Science Electives	3

Total Credits 18

Semester 4

CRJ-285	Physical Conditioning for Public Services	2
FIR-160	Fire Inspector I ▶	3
FIR-655	Fire Science Capstone ▶	2
POL-111	American National Government	3 ◆
SPC-101	Fundamentals of Oral Communication	3 ◆
	Fire Science Electives	3

Total Credits 16

Fire Science Electives

CHM-122	Introduction to General Chemistry ▶	4 ◆
EMS-201	Emergency Medical Technician ▶	7
EMS-900	Education in EMS	3
FIR-145	Strategy and Tactics	3
FIR-149	Fire Protection Hydraulics and Water Supply	3
FIR-158	Fire Officer I ▶	3
FIR-200	Occupational Safety/Health in Emergency Services	3
FIR-214	Legal Aspects of Emergency Services	3
FIR-236	Fire Investigation II ▶	3
FIR-300	Principles of Fire and EMS Administration ▶	3
FIR-335	Fire Instructor I ▶	3

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Police Science

The Police Science program prepares you for a career in city or county law enforcement. You will acquire knowledge of the criminal justice system's operations and purpose, be prepared to meet hiring standards required in Iowa, and develop problem-solving skills. You will gain hands-on, practical training in:

- Police operations
- Crime scene, accident, and general investigations
- Critical incident management
- Report writing and testifying
- Physical fitness conditioning
- Safe and legal use of force in defensive tactics

Becoming a law enforcement officer is challenging. To be successful, it is recommended that you are physically fit and have:

- A clear medical and psychological background
- [A clear criminal history of both detected and undetected crimes](#)
- Strong writing and speaking skills
- Ability to demonstrate knowledge, reasoning, and critical thinking skills
- Proficient technology, firearm, and defensive tactic skills

All Police Science instructors have law enforcement experience and academic training and are dedicated to helping you build these skills and understand if you are a good fit for the law enforcement profession.

Hands-On Learning Opportunities

- Indoor and Outdoor Firing Ranges: Learn effective and proficient firearms use according to law enforcement standards, including safety practices and responsible firearm care.
- [Virtual Firearms Simulator System \(MILO\)](#): Learn and practice decision making using firearms in use of force incidents.
- Crime Scene Lab: Practice legal and ethical evidence collection techniques and analysis.
- 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:

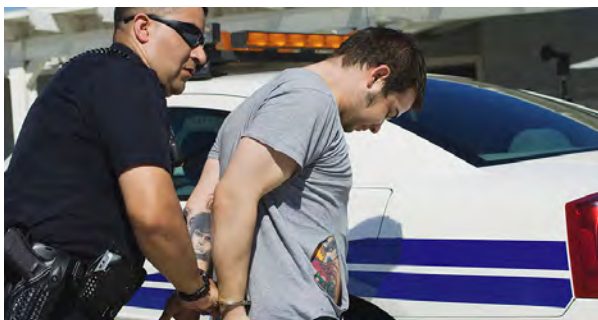
- Felony convictions.
- Domestic abuse convictions.
- Placement on an abuse registry (Sex offender, child/elder abuse).
- Drug convictions, or history of drug use or abuse (methamphetamine, cocaine, heroin, etc.) Each agency (city, county, state, or federal) sets their own limits on marijuana use from 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



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

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.](#)

Example Careers and Average Wages

	Entry	Average	Experienced
Police and Sheriff's Patrol Officers	\$39,100	\$54,300	\$61,900
Gaming Surveillance Officers and Gaming Investigators	\$22,100	\$31,800	
Private/Corporate Security Officers	\$19,200	\$31,700	\$38,000

Source: 2016 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](#)

Police Science Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 62

Program Start: Fall, Spring

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.](#)

2017–2018 Suggested Sequence of Study

➤ The following suggested sequence of study is for new full-time students starting the program in the academic year listed.

➤ When [registering for classes](#) refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

➤ Courses are subject to change.

- ◆ General education course
- ▣ Non-transfer general education course
- ▶ Course has a prerequisite and/or corequisite.
- ⌚ Course meets the first 8 weeks of the semester.
- ⌚ Course meets the second 8 weeks of the semester.

Semester 1

CRJ-100 Introduction to Criminal Justice	3	◆
CRJ-143 Police Operations	3	
CRJ-234 Traffic Law	2	
CRJ-320 Criminal Justice Ethics	3	◆
SOC-110 Introduction to Sociology -OR-	3	◆
SOC-115 Social Problems -OR-	3	◆
SOC-205 Diversity in America	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	◆

Semester 2

MAT-110 Math for Liberal Arts ▶ -OR-	3	◆
MAT-156 Statistics ▶ -OR-	3	◆
MAT-772 Applied Math	3	▣

Total Credits 15

Semester 3

CRJ-151 Defensive Tactics ▶	2	
CRJ-200 Criminology	3	◆
CRJ-252 Basic Firearms ▶ ●	1	
CRJ-254 Advanced Firearms ▶ ●	1	
CRJ-282 Crime Scene Investigation ▶	3	
CRJ-285 Physical Conditioning for Public Services	2	
EMS-114 Emergency Medical Responder	2	
ENG-105 Composition I ▶	3	◆

Total Credits 17

Semester 4

CRJ-141 Criminal Investigation ▶	3	
CRJ-266 Report Writing and Testifying ▶	3	
CRJ-315 Crisis Intervention ▶	3	
CRJ322 Tactical Police Operations ▶	2	
CRJ-952 Internship ▶	2	
SPC-101 Fundamentals of Oral Communication	3	◆

Total Credits 16

Student Success Specialist

Darla Palmer
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Dean

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Associate of General Studies (AGS) Degree

The Associate of General Studies (AGS) degree is awarded upon completion of an individualized course of study that is primarily designed to gain a broad educational background rather than the pursuit of a specific college major or professional/technical program. It is intended as a flexible course of study and may include a combination of liberal arts courses and career program courses. This degree may meet the requirements for those students with specific needs or goals. A minimum of 60 credit hours is required for the AGS degree.

Keep in mind that since this degree is individualized, it may not meet the needs for transfer or job placement as effectively as other degree options.

Completing an Associate of General Studies (AGS) Degree

To be considered for an Associate of General Studies degree, you must work with an academic advisor. Your academic advisor will help determine if the AGS degree is right for you, develop goals, and plan a course of study.

Academic Advisors

Student Services

[Hawkeye Center](#) 208

319-296-4014

[Email us](#)

2017-2018 Course Descriptions

◆ General Education course

ACC: ACCOUNTING

ACC-111 Introduction to Accounting

3 credits—This course covers the terminology, concepts, and procedures involved in financial accounting for businesses. Topics include accounting for cash and accounting for payroll.

Lecture Hours: 48

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. Topics included are the accounting cycle; accounting systems; financial statements; accounting for cash, receivables, payables, inventories, plant assets, partnerships, corporations, and bonds.

Lecture Hours: 64

Prerequisite(s): A minimum grade of D- in MAT-063 or equivalent placement math score.

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 accounting for bonds, the statement of cash flows and financial statement analysis. Managerial accounting topics include job order and process cost systems, cost-volume-profit analysis, budgeting and standard cost systems. Capital investment analysis and activity-based costing are also addressed.

Lecture Hours: 64

Prerequisite(s): A minimum grade of C- in ACC-131.

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-132 or ACC-116.

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 Intermediate Accounting I.

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.

Lecture Hours: 0 Lab Hours: 64

Prerequisite(s): A minimum grade of C- in ACC-115 or ACC-131.

ACC-311 Computer Accounting

Fall 2017 only.

3 credits—This course presents an introduction to a computerized accounting system. Two popular software packages will be used to accumulate, classify, and summarize data about a business.

Lecture Hours: 32 Lab Hours: 32

Prerequisite(s): A minimum grade of C in 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-801 Payroll Accounting

Fall 2017 only.

1 credits—This course involves the study of the federal, as well as the state forms and regulations concerning payroll. Students will be completing a comprehensive payroll simulation.

Lab Hours: 32

Prerequisite(s): A minimum grade of C in ACC-115 or ACC-131.

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.

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 skill building process is continued. This course assists students to improve speed and accuracy. The minimum competency of 40 net words per minute, with no more than five errors per timing, on 3 five-minute timed writings is required.

Lab Hours: 32

Prerequisite(s): A minimum grade of D- in ADM-105.

ADM-131 Office Calculators

1 credits—The 10-key electronic calculator is used in business related applications. The emphasis is on speed and accuracy as the student performs the basic arithmetical procedures.

Lab Hours: 32

ADM-148 Transcription

2 credits—This course builds and strengthens skills in machine transcription. Students are provided instruction for using transcription equipment with emphasis on language skills, including spelling, capitalization, punctuation, and word usage. Emphasis will be on editing, proofreading, and mailability of documents.

Lecture Hours: 16 Lab Hours: 32

Prerequisite(s): A minimum grade of D- in BCA-134 and ADM-105.

Pre/Co-requisite(s): A minimum grade of D- in ADM-159 Proofreading and Editing.

ADM-159 Proofreading and Editing

3 credits—This course emphasizes the applications designed to sharpen skills in detecting and correcting errors in written communications including memos, letters, reports, databases, presentation slides, advertisements, and spreadsheets. It also introduces the student to proofreading and editing skills necessary when using current and new technology (i.e. email messages and voice recognition).

Lecture Hours: 48

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 and ADM-159.

ADM-180 Administrative Management

3 credits—Administrative management is studied including organization, site location, office layout, environment, communication processes, job analysis, job evaluation, salary administration, performance appraisal, and employer/employee relations.

Lecture Hours: 48

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 ADM-105, BCA-134, and ADM-148.

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

ADM-222 Career Capstone

3 credits—Career skills, techniques and strategies that will assist the student in securing and maintaining employment are developed. Students will learn the fundamentals of the job search process, including interviewing skills and employment correspondence. International, legal, and ethical issues as well as technological developments affecting workplace communication skills are incorporated throughout the course. An individual capstone portfolio will be created. It is required that this course be taken the semester in which the student will be graduating.

Lecture Hours: 48

Prerequisite(s): Can only be taken in the term in which the student will be completing their program of study.

ADN: ASSOCIATE DEGREE NURSING

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. Major units in this course include an overview of ethical, legal and professional role/responsibilities of the registered nurse, history of nursing, nursing process and critical thinking, as well as an introduction to APA writing style and research.

Admission without conditions to the Associate Degree Nursing program for the current semester.

Lecture Hours: 32

Co-requisite(s): A minimum grade of C in ADN-531.

ADN-122 Advanced Nursing Skills

2 credits—This course provides supervised practice of advanced nursing skills in a laboratory setting. The student is assisted in gaining skill and accuracy through demonstration, supervised practice and evaluation

Lecture Hours: 16 Lab Hours: 32

Prerequisite(s): Admission to the Associate Degree Nursing program.

Co-requisite(s): ADN-123 Physical Assessment

Pre/Co-requisite(s): A minimum grade of C in ADN-531 Advanced Adult Health Nursing I.

ADN-123 Physical Assessment

2 credits—This course covers basic physical assessment with history taking and data collection, analysis and planning for care, nursing interventions and documentation.

Lecture Hours: 16 Lab Hours: 32

Prerequisite(s): Admission to the Associate Degree Nursing program. This course begins the 3 year time limit for completion of the ADN curriculum. A minimum grade of C in BIO-168.

Co-requisite(s): A minimum grade of C in ADN-122 Advanced Nursing Skills.

Pre/Co-requisite(s): A minimum grade of C in ADN-531 Advanced Adult Health Nursing I.

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 ethical and legal issues, roles of the registered nurse, the nursing process, critical thinking, and Evidence Based Practice guidelines within nursing practice. Preparation for the licensing exam is also included.

Lecture Hours: 32

Prerequisite(s): A minimum grade of C in PNN-214, PNN-215, PNN-216, PNN-217, BIO-151, SPC-101, ADN-121, ADN-122, ADN-123, ADN-281, and ADN-531.

Pre/Co-requisite(s): A minimum grade of C in BIO-186.

ADN-410 Advanced Nursing in OB and PEDS

Fall 2017 only.

5 credits—This course provides comprehensive care for childbearing and pediatric clients in wellness and illness with special emphasis on health interruptions and variations and the nursing process needed to meet these variations. Clinical experiences are provided in selective acute care and community settings.

Lecture Hours: 48 Clinic Hours: 96

Prerequisite(s): Valid Iowa LPN license. A minimum grade of C in ADN-121, ADN-122, ADN-123, and ADN-531.

Pre/Co-requisite(s): A minimum grade of C in ADN-315.

ADN-452 Complex Health Concepts Mod A

5 credits—This course is a study of the concepts of health and illness and of the nursing process in providing comprehensive nursing care for adults requiring advanced medical and surgical care. The content includes a review of shock, fluid, electrolyte, acid base, respiratory, and endocrine disorders. Clinical experiences are provided in selected acute care settings.

This course requires admission to the Associate Degree Nursing Program. Must complete the Associate Degree Nursing curriculum within 3 years of starting this course.

Lecture Hours: 48 Clinic Hours: 96

ADN-453 Complex Health Concepts Mod B

5 credits—This course is a study of the concepts of health and illness and the nursing process in providing comprehensive nursing care for adults requiring advanced medical and surgical care. The content includes a review of cardiac disorders, vascular disorders, digestive disorders, neurologic disorders, and hematologic disorders. Clinical experiences are provided in selected acute care settings.

Lecture Hours: 48 Clinic Hours: 96

Pre/Co-requisite(s): A minimum grade of C in ADN-452.

ADN-455 Complex Health Concepts Mod C

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 advanced medical and surgical care. The content includes a review of immunity, musculoskeletal, thermal injuries, oncology, and renal disorders. Clinical experiences are provided in selected acute care settings.

Lecture Hours: 32 Clinic Hours: 48

Pre/Co-requisite(s): A minimum grade of C in ADN-452 and ADN-315.

ADN-458 Nursing Care of Special Populations

7 credits—This course builds on the concepts of previous nursing courses with an emphasis on the care of high risk obstetric, pediatric and mental health patients. The focus will be on health promotion, ethical/legal considerations, family-centered care and common alterations seen in high risk obstetric, pediatric, and mental health patients.

Lecture Hours: 64 Clinic Hours: 144

Prerequisite(s): A minimum grade of C in ADN-121, ADN-122, ADN-123, and ADN-452.

ADN-477 Psychiatric Nursing

5 credits—This course focuses on the study and application of modern concepts of psychiatric nursing and effective interactions with people. The student will respond therapeutically to clients with maladaptive behaviors through utilization of the nursing process by applying the principles of mental health and psychiatric nursing. This course will also review the NCLEX material.

Lecture Hours: 48 Clinic Hours: 96

Prerequisite(s): Valid Iowa LPN license. A minimum grade of C in ADN-123 and ADN-315.

ADN-499 Passage to Professional Practice

1 credits—This course will prepare the student to enter professional practice. Personal wellness and preparation for licensure will be covered

Lecture Hours: 16

Pre/Co-requisite(s): A minimum grade of C in ADN-315, ADN-453, ADN-455, and ADN-458.

ADN-532 Advanced Adult Health Nursing II

Fall 2017 only.

6 credits—This course is a continuation of Advanced Adult Health Nursing I. Emphasis is placed on the nursing process in providing comprehensive care of the complex medical-surgical adult patient. The content includes cardiac, peripheral vascular, digestive, hematologic, oncologic, urinary and neurologic disorders. Clinical experiences are provided in acute care and community settings. Selected experience in the nurse manager role is included.

Lecture Hours: 64 Clinic Hours: 96

Prerequisite(s): A minimum grade of C in ADN-121, ADN-122, ADN-123, and ADN-531.

Pre/Co-requisite(s): A minimum grade of C in ADN-315.

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.

May be taken for up to 3 credits.

Lecture Hours: 16

AGA: AGRICULTURE – AGRONOMY

AGA-114 Principles of Agronomy

3 credits—This course presents introductory principles of plant-soil-climate relationships in crop production, plant anatomy, crop plant classification and identification, crop physiology, climate, soils, soil water, tillage and seeding, plant breeding, seed and grain quality, weeds, insects, crop diseases, crop management, harvesting and storage. Global Positioning and Geographic Information Systems in crop systems is discussed.

Lecture Hours: 32 Lab Hours: 32

AGA-154 Fundamentals of Soil Science

3 credits—This course presents information on soils and soil fertility, land use, soil formation, soil types, soil testing, soil physical characteristics, soil classes, primary nutrients, secondary nutrients, micro-nutrients, fertilizer materials, fertilizing, and using soil test information. The use of Global Positioning and Geographic Information Systems in recording soil data is covered.

Lecture Hours: 32 Lab Hours: 32

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.

May be taken for up to 3 credits.

Lecture Hours: 16

AGB: AGRICULTURE – FARM MANAGEMENT

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—This course provides the student with an introduction to grain merchandising and farm marketing. It is taught from the standpoint of a country elevator; however, the same principles apply to many other aspects of the grain industry. We emphasize the elevators relationship and responsibility to its customers. The basic fundamentals of marketing are discussed along with the more advanced aspects of managing basis positions, basis trading and managing risks. Some prior knowledge of country elevators and the futures market is useful but not required.

Lecture Hours: 32 Lab Hours: 32

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—Business and economic principles applied to decision making and problem solving in the management of a farm business, cash flow, partial, enterprise, and whole farm budgeting. Information systems for farm accounting, analysis, and control. Obtaining and managing land, capital, and labor resources. Alternatives for farm business organization and risk management.

Lecture Hours: 32 Lab Hours: 32

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—This course presents aspects of the sales process including: selling success, types of sales questions, creating the selling climate, motivation, attitude, referral prospecting, no referral prospecting, phone sales, sales presentations and demonstrations, qualifying the prospect, overcoming objectiveness, closing twelve power closes, and sales paper work.

Lecture Hours: 32 Lab Hours: 32

AGC: AGRICULTURE – COMPREHENSIVE – MISCELLANEOUS

AGC-103 Ag Computers

3 credits—This course will introduce students to the hardware, software, word processing, database and spreadsheet programs, as well as various utility software. Applications of various agricultural management uses are covered throughout. Networks, telecommunication, Global Positioning and Geographic Information Systems are also introduced.

Lecture Hours: 32 Lab Hours: 32

AGC-999 Study Abroad ♦

1 credits—This course explores relative differences between the student's country and study abroad country with emphasis in agriculture. Topics include history, geography, culture, food, language, and agriculture topics. May be taken for up to 5 credits.

Lecture Hours: 16

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.

Lecture Hours: 0 Lab Hours: 32

AGH-112 Introduction to Turfgrass Management

3 credits—This course introduces the types of grass species and their uses; their growth habits, and development as a unique plant species. Proper culture and establishment procedures are studied, as well as their importance to the environment.

Lecture Hours: 48

AGH-119 Herbaceous Plant Materials

2 credits—This course covers identification, adaptation, cultural characteristics and uses of selected annuals, perennials and bulbs suitable for use in landscape and gardens in Iowa. Students will identify the plants covered and will also be required to incorporate them into four flower garden design projects.

Lecture Hours: 32

AGH-123 Woody Plant Materials

3 credits—The identification, morphology, landscape use and culture of native and nonnative woody plants of the Upper Midwest. First part of course will include emphasis on deciduous plants. Last part of course will include emphasis on evergreens.

Lecture Hours: 32 Lab Hours: 32

AGH-134 Greenhouse Production

3 credits—This course explores various employment opportunities in the greenhouse career field. Production theories and practices are studied. Emphasis is on proper techniques of watering, potting, transplanting, fertilizing and various other aspects of greenhouse production. Cultural practices used to produce the most common greenhouse crops are also covered.

Lecture Hours: 48

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-152 Landscape Design Techniques

3 credits—Concepts and applications of landscape design principles are utilized in completing landscape plans. Emphasis is placed on the design principles for preparing, evaluating and selling landscape plans.

Lecture Hours: 32 Lab Hours: 32

AGH-159 Landscape Graphics

2 credits—This course is an introduction to landscape graphics associated with drafting equipment and materials, and computer aided drawings

Lecture Hours: 16 Lab Hours: 32

Prerequisite(s): A minimum grade of C in AGH-152 Landscape Design Techniques.

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, trees, 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—This course provides students with an overall view of how man utilizes horticulture plant materials. Topics covered are fruits, vegetables, ornamental plants and their proper use and care. Proper culture and environmental conditions are also included.

Lecture Hours: 48

AGH-233 Plant Propagation I

3 credits—Introduces students to techniques used in reproducing plants through sexual and asexual methods. Seedlings, vegetative cuttings, grafts and buddings are practiced in the laboratory.

Lecture Hours: 32 Lab Hours: 32

AGH-270 Nursery Production

2 credits—This course introduces the student to theory and techniques of springtime nursery production. Students will plant trees, shrubs and evergreens in the horticulture lab nursery, and participate in other nursery cultural practices, such as: weed control, pruning, cultivation, etc.

Lecture Hours: 16 Lab Hours: 32

AGH-273 Nursery Management

3 credits—Basic management functions are applied to a plant nursery. Advertising, harvest and sale of trees and shrubs from the school nursery provide students with hands-on experiences. Chemical selection for pest control in a nursery will also be covered. Students will be involved in planning the planting of the horticulture lab nursery.

Lecture Hours: 32 Lab Hours: 32

AGH-280 Botany for Horticulture

3 credits—This course presents the basic structure of plant life, plant nomenclature, botanical terminology, the function of plant parts: cells, tissues, roots, and leaves. The physiological processes of plant life; osmosis, photosynthesis, respiration, transpiration, reproduction and the basic principles of genetics, and the plants metabolism is discussed.

Lecture Hours: 32 Lab Hours: 32

AGH-281 Arboriculture

3 credits—A study of tree culture with emphasis on propagation, pruning, transplanting, pest control, urban environment concerns and recognition of hazards and liabilities. Methods of evaluation of values of trees also studied.

Lecture Hours: 48

AGH-292 Garden Center Management

3 credits—Display, promotion and merchandising in the modern garden center will be stressed. Problems of distribution functions of marketing and their costs will be studied. Management's role in organizing a business and financial planning will be discussed.

Lecture Hours: 48

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

AGM: AGRICULTURE – MECHANICS

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-113 Hydraulics I

3 credits—This course covers theory and symbols of hydraulic components. Testing and repair of components is performed according to manufacturer's specifications.

Lecture Hours: 16 Lab Hours: 64

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 D- in AGM-333.

Pre/Co-requisite(s): A minimum grade of D- in AGM-113.

AGM-327 Equipment Maintenance

Fall 2017 only.

7 credits—This course presents background on theory of operation, diagnosis, and repair of brakes and suspension systems. Students gain knowledge and skill in performing preventive maintenance, service, and inspection of equipment. Arc welding and flame cutting will also be taught. Instruction will also cover use of computers for maintenance scheduling.

Lecture Hours: 48 Lab Hours: 128

Prerequisite(s): A minimum grade of D- in AGM-107, AGM-113, AGM-104, DSL-447, and DSL-377.

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 D- in AGM-124.

Pre/Co-requisite(s): A minimum grade of D- in AGM-104.

AGM-408 Power Transfer Systems

7 credits—A study of the power train from the clutch through the rear driving axles. Emphasis is placed on clutch types, transmissions, and drive axles. Key goals of the course are failure analysis and troubleshooting malfunctions.

Lecture Hours: 48 Lab Hours: 128

Prerequisite(s): A minimum grade of D- in AGM-104, AGM-113, AGM-124, AGM-333, and AGM-224.

AGM-417 Ag Equipment Repair

7 credits—This course is designed to give students the opportunity to apply competencies previously achieved to repair and service projects. Also included is theory and operation, diagnosis, and repair of heating and air conditioning systems. Instruction will also cover use of computers for maintenance scheduling.

Lecture Hours: 48 Lab Hours: 128

Pre/Co-requisite(s): A minimum grade of D- in AGM-408.

AGM-932 Internship

8 credits—Students will work on-site at a local industry under the direction of a supervisor. This course may be taken for 1-8 credits.

Lecture Hours: 0 Co-op Hours: 512

Prerequisite(s): Completion of the Electromechanical Engineering Technology program. A minimum grade of D- in AGM-128.

AGP: AGRICULTURE – PRECISION AG

AGP-333 Precision Farming Systems

3 credits—Fundamental processes of Global Positioning System (GPS) with emphasis on its application to agriculture will be covered. General technical aspects of the GPS satellites, differential correction, and hardware will be covered. The specific application of this technology in agriculture for mapping, navigation, variable rate technology (VRT), and data collection will be discussed and demonstrated on the farm laboratory.

Lecture Hours: 32 Lab Hours: 32

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-401 Introduction to GIS Software ♦

1 credits—This course provides a conceptual overview and hands-on experience using the software, giving one the background knowledge to quickly take advantage of Arc GIS Software's powerful display and query capabilities. Students will learn basic Arc GIS Software functionality. Students become familiar with the Arc GIS Software user interface and use Arc GIS Software to create, edit, display, query and analyze geographic and tabular data and create maps and charts for use electronically and in print form.

Lecture Hours: 16

Prerequisite(s): A minimum grade of D- in AGC-103.

AGP-436 Advanced Precision Farming: Hardware

3 credits—This course will focus on the installation, operation, and troubleshooting of precision farming hardware components. Students will learn how to install displays, GPS equipment, and various other components used within precision agriculture. Students will properly operate various precision agriculture hardware systems such as displays, variable rate controllers, and GPS equipment. Special attention will be given to training students to troubleshoot problems and learn how to develop cognitive problem solving skills.

Lecture Hours: 32 Lab Hours: 32

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. The lab portion will concentrate on using georeferenced data from mapping and yield monitoring to develop maps from which a VRT prescription will be synthesized.

Lecture Hours: 32 Lab Hours: 32

AGS: AGRICULTURE – ANIMAL SCIENCE

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 animal agriculture. Life skills development will be incorporated.

Lecture Hours: 32

AGS-216 Equine Science

3 credits—This course presents the basic management and production practices for horses including nutrition, health care, facilities, reproductive management, breeding and evaluation. The course is designed for students wanting to learn how to care for their own horse or for other owners? horses as a herdsman or in a stable.

Lecture Hours: 32 Lab Hours: 32

AGS-218 Domestic Animal Physiology

4 credits—Introduction to the functional anatomy and physiological activities governing the animal body through discussion and observation via video of the various body systems; including cells, senses, nerves, skeletal, circulatory, respiratory, digestive urinary, muscular reproductive and endocrinology. Fundamentals of identification, prevention, and treatment of various common disease problems. This course presents a sound preventative approach to animal health and husbandry as it relates to body health, form and function.

Lecture Hours: 48 Lab Hours: 32

Prerequisite(s): A minimum grade of D- in AGS-113.

AGS-225 Swine Science

3 credits—This course provides an understanding of the principles involved with comprehensive swine management; selection to marketing. Emphasis will be placed on business aspects, production systems, facilities, health, record systems, and analysis. Field trips and guest speakers will be included. Hands-on training will be included through the swine-teaching herd.

Lecture Hours: 32 Lab Hours: 32

AGS-226 Beef Cattle Science

3 credits—This course prepares students to integrate production principles. Management principles involved with comprehensive beef cattle production will be emphasized. Topics included: overview of the industry, budgeting, record analysis, principles of bull management, cow and heifer management practices, preconditioning programs, feedlot management and marketing. Students receive hands-on experience working with the school teaching herd plus field trips and guest speakers.

Lecture Hours: 32 Lab Hours: 32

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 (meat, dairy, and eggs).

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. The course emphasizes the visual appraisal and the carcass evaluation of beef, swine, and sheep. Production records and grading, and wholesale and retail cuts will be studied.

Lecture Hours: 32 Lab Hours: 32

AGS-319 Animal Nutrition

3 credits—This course introduces students to the underlying principles of livestock nutrition through discussion of nutrition information, digestive systems, feedstuffs and ration balancing. Nutritional principles, digestive systems, composition and nutritional characteristics of common feedstuffs, ration formulation and recommended feeding programs of farm animals, including beef and dairy cattle, horses, poultry, sheep and swine will be emphasized.

Lecture Hours: 32 Lab Hours: 32

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.

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 secondary agriculture education professionals to develop and enhance knowledge and skills in specific emerging practices, issues, and technical content areas in the broad industry of agriculture.

Lecture Hours: 16

Prerequisite(s): Secondary Educator.

AGT-805 Employment Experience

5 credits—This course provides students with opportunities to gain on-the-job experience in the agriculture industry. Students will gain an understanding of qualities and skills needed for success in the agricultural field. Coordination and guidance will be provided by department instructors.

Co-op Hours: 320

AGT-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

AGV: AGRICULTURE – VET TECHNOLOGY

AGV-101 Veterinary Assisting

3 credits—This is a Capstone course that will provide students the necessary skills and competencies that are needed to successfully perform the duties of a veterinary assistant. An example of topics covered will include; basic laboratory procedures, animal positioning, and surgical assistance. Staff and animal safety will also be covered.

Lecture Hours: 32 Lab Hours: 32

Prerequisite(s): A minimum grade of D- in 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. Also included will be training, housebreaking and obedience.

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 class introduces the student to means necessary to establish a working relationship with clients in the veterinary field. Familiarizes students with software used in veterinary practice.

Lecture Hours: 64

ANT: ANTHROPOLOGY

ANT-105 Cultural Anthropology

3 credits—This course introduces the student to a comparative study of societies around the world. In this course cultural similarities and differences are explored to illustrate how human beings construct and conduct their existence. It emphasizes the origin and maintenance of the human species by studying its evolution, cultural development, ecology, kinship, organizations, and symbolic expressions. (Same as SOC-208)

Lecture Hours: 48

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. Projects will revolve around paper and card construction, modeling clay, iron wire and found objects.

Lecture Hours: 32 Lab Hours: 32

ART-133 Drawing ♦

3 credits—An introduction to basic drawing. Working with still life props: line, form, values, perspective and composition will be explored, using various wet and dry mediums. Concentration will be on accurate visual drawing.

Lecture Hours: 32 Lab Hours: 32

ART-134 Drawing II ♦

3 credits—This course concentrates on intermediate drawing problems: Gesture, contour, proportions, mapping techniques and values are studied through the use of props and clothed models. Creative interpretation with various media and approaches are stressed.

Lecture Hours: 32 Lab Hours: 32

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. Students will be able to check out digital cameras provided by the college, or may bring their own, approved photographic equipment. In this hands-on class, students will complete specific technique-based assignments and participate in class demonstrations, discussions and critiques. Text: required. Prerequisite: None.

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.

May be taken for up to 3 credits.

Lecture Hours: 16

ART-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

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

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

Prerequisite(s): A minimum grade of D- in AUT-504.

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

Prerequisite(s): A minimum grade of D- in AUT-610 and AUT-643.

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

Prerequisite(s): A minimum grade of D- in AUT-610.

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-643I, and AUT-307.

BCA: BUSINESS COMPUTER APPLICATION

BCA-087 College Prep Computer Skills

3 credits—This non-transfer course is designed to assist students who have limited experience with a personal computer. Skills emphasized will include keyboarding, file management, Internet navigation, email, and entry level functions of word processing and presentation software. Students may use this course to prepare for other computer applications courses.

Lecture Hours: 16 Lab Hours: 64

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-191 Computer Applications

2 credits—This course presents the application of the personal computer as a productivity tool. Basic functions of computer hardware and software and their interaction are introduced. Various components of a computer system are included with hands-on emphasis of the manipulation of word processing, spreadsheet, and database software.

Lecture Hours: 16 Lab Hours: 32

BCA-201 Introduction to Information Systems ♦

3 credits—The purpose of this course is to provide the student with a firm understanding of management information systems. Included are an introduction to hardware and data communication technology, software and data management, and business applications of the technology. The course will present the basics of information system design and management, and provide opportunities to experience working with an electronic spreadsheet, data base management system and programming using HTML.

Lecture Hours: 48

Prerequisite(s): Basic computer, software and keyboarding skills are required.

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-232 Multimedia for Web Design

3 credits—This course is designed to show students the tools and methods for using multimedia objects in web development. Media types discussed will include streaming video and audio, animation, inline media and on-line chat. Students will create website that incorporate multimedia elements.

Lecture Hours: 32 Lab Hours: 32

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.

May be taken for up to 3 credits.

Lecture Hours: 16

BIO: BIOLOGY

BIO-042 Prep Science for Health Careers

3 credits—This course provides a focused examination of study skills/strategies and a foundation in biology to help students be more successful in health career classes. Students will be introduced to and given the opportunity to practice a variety of skills for academic success. Students will be introduced to major topics relating to health science curriculum: basic math, terminology, chemistry, and cell biology. Selected topics from the body systems will also be introduced.

Lecture Hours: 48

Prerequisite(s): A minimum grade of C- in MAT-052 and RDG-039.

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

BIO-159 Fundamentals of Anatomy and Physiology

3 credits—This course provides a basic overview of the anatomy and physiology of the human body. It is designed to provide practical nursing, and other health science students with an understanding of normal body structure and function as a basis for the study of variations from normal health.

Lecture Hours: 48

Prerequisite(s): A minimum grade of C in BIO-042.

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. (To be applicable to any health career program, successful completion with a grade of "C" or better is required.) Each student must enroll for one laboratory section.

Lecture Hours: 48 Lab Hours: 32

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. To be applicable to any health career program, successful completion of both BIO-168 and BIO-173 with a grade of C or better is required.

Lecture Hours: 48 Lab Hours: 32

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-185 Microbiology w/Lab ♦

3 credits—This lecture-laboratory course emphasizes a survey of general topics needed by students entering careers in allied health fields as well as any student desiring a background in microbiology. The course covers aspects of microbial function, nutrition and growth, metabolism, energy procurement, medical genetics, genetic engineering, control using physical and chemical agents, host-parasitic relationships as well as beneficial roles of microorganisms. Coordinated laboratory exercises enhance and support the lecture topics.

Lecture Hours: 32 Lab Hours: 32

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

BIO-247 Applications of Biotechnology ♦

3 credits—This lecture-lab course focuses on the laboratory procedures used in biotechnology and their application to agriculture, nursing, police science, and research. Students will learn the procedures and develop proficiency in such techniques as tissue culture, DNA manipulation, extraction, transformation, polymerase chain reaction (PCR), and DNA fingerprinting. Students will also be introduced to spectroscopy. The course will also provide exposure to new and emerging topics.

Lecture Hours: 32 Lab Hours: 32

Prerequisite(s): A minimum grade of C in CHM-122 and BIO-105, BIO-112, or BIO-185.

BIO-269 Foodology ♦

Effective Spring 2018.

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.

May be taken for up to 3 credits.

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 pertinent to the student's projected objectives within any recognized discipline. Faculty consultation is required prior to registration for this course.

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-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.

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-291 Employment Portfolio and Career Development

2 credits—Develop employment portfolio including resumes, application letters and forms, and follow-up letters. Set career goals, develop prospective employer lists, explore employment tests, learn interviewing strategies, and discuss job etiquette and professional conduct.

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-905 Golf Course Internship

Fall 2017 only.

3 credits—Students will intern at golf courses and country clubs throughout the region and state, focusing on internal and external operations of the course/club.

Co-op Hours: 192

Prerequisite(s): A minimum grade of C- in MGT-222.

BUS-905 Golf Course Internship

1 credits—Students will intern at golf courses and country clubs throughout the region and state, focusing on internal and external operations of the course/club.

Co-op Hours: 64

Prerequisite(s): A minimum grade of C- in MGT-222.

CAD: COMPUTER AIDED DRAFTING

CAD-119 Introduction to Computer-Aided Drafting

3 credits—This course will introduce hands-on computer-aided drafting and design. Basic computer hardware, software and file management will be discussed. Basic two-dimensional engineering CADD drawing creation using Drawing Aids will be covered. Various editing techniques will be examined. CAD drawings will be created, edited and plotted.

For non-majors, student with basic computer proficiency can be enrolled with instructor consent.

Lecture Hours: 16 Lab Hours: 64

Pre/Co-requisite(s): A minimum grade of D in CSC-110, EGT-108, EGT-410, or ELT-192.

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-122 Construction Drawing/Contract

2 credits—The course examines typical building and civil construction plans and introduces the methods of bidding and contracting for building projects.

Lecture Hours: 16 Lab Hours: 32

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): MAT-744 or MAT-122.

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.

Instructor consent if not in program major.

Lecture Hours: 16 Lab Hours: 64

Prerequisite(s): A minimum grade of D- in MAT-744 or MAT-122.

CET-182 Structural Detailing with CAD

2 credits—Structural Detailing uses mostly computer-aided drafting (CAD) and computer techniques to prepare drawings for highway structures which include structural steel, reinforced concrete and structural timber. Course includes the preparation of bar bend details, reinforcing bar lists, and quantity calculations. Topics from the Department of Transportation Specifications are covered also.

Lecture Hours: 16 Lab Hours: 32

Prerequisite(s): A minimum grade of D- in CAD-119.

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: 32

Prerequisite(s): 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: 32 Lab Hours: 64

Prerequisite(s): MAT-744 or MAT-122.

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

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: 16 Lab Hours: 64

Prerequisite(s): 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): MAT-744 or MAT-122.

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.

CHM: CHEMISTRY

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. Highly recommended that the prerequisite class be passed with a C- or better in the past 5 years.

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.

May be taken for up to 3 credits.

Lecture Hours: 16

CHM-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

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-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 site. Students will explore the Document Object Model as well as advanced techniques.

Lecture Hours: 32 Lab Hours: 32

Prerequisite(s): A minimum grade of D in CIS-231 and CIS-215.

CIS-215 Server Side Web Programming

3 credits—This course is designed to give the student the tools and the knowledge to program using the web programming language ASP.NET as a server side language. This course goes over the syntax and usage of the language. This course will introduce the basics of web applications.

Lecture Hours: 32 Lab Hours: 32

Prerequisite(s): A minimum grade of D in WDV-102, WDV-105, and CIS-121.

Pre/Co-requisite(s): A minimum grade of D in MAT-110.

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 D in CIS-215.

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.

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 D in WDV-102, WDV-105, and CIS-121.

Pre/Co-requisite(s): A minimum grade of D in MAT-110.

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.

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 D in CIS-215 and CIS-231.

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): CIS-206.

CIS-303 Introduction to Database

3 credits—This course will introduce students to data management using databases. Focus will be given to database models, data storage concepts, SQL and data warehousing.

Lecture Hours: 32 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-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

CIS-750 Project Management

3 credits—This course is designed to provide students exposure to project management and its importance to improving success in information technology projects. Topics addressed in the course will include triple constraints of project management, project life cycle, cost estimates, value management and motivation theory, and team building. Tools and techniques important to project management will also be presented, including project selection methods, work breakdowns, network diagrams, critical path analysis, and scheduling. Students will have the opportunity to utilize software to help plan and manage an information technology project.

Lecture Hours: 48

Prerequisite(s): A minimum grade of C in NET-313 and a minimum grade of D in NET-213.

CLS: CULTURAL STUDIES

CLS-130 African Cultures ◆

3 credits— 3 credits—This course will explore the development of Sub-Saharan African civilizations from the dawn of humanity to the issues facing the continent today. The first part of the course will look at the indigenous and colonial heritage of Africa. The second part will examine the political, economic, social, religious, environmental, and gender issues and realities facing the African today. The third part will expose students to significant African contributions and trends in prose, poetry, drama, art, music and dance. *Fall 2017.*

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. *Effective Spring 2018.*

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 from its ancient origins to the issues facing the region today. The course will look at the indigenous and colonial heritage of the area; examine its shared cultural, literary, economic, social, and political contributions and trends; and look at the history and current issues facing the individual countries or sub-regional groupings.

Lecture Hours: 48

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.

May be taken for up to 3 credits.

Lecture Hours: 16

CLS-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 up to 5 credits.

Lecture Hours: 16

CNS: CONSERVATION TECHNOLOGY

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.

Lecture Hours: 0 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.

Lecture Hours: 0 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

CNS-929 Individual Projects

1 credits—This course provides in-depth experiences in conservation. Projects are developed in cooperation with and supervised by the instructor dealing with construction, habitat maintenance, wildlife census, habitat mapping, trail development, observation of conservation boards, etc. It includes paper describing the project from start to finish. Hours of credit depend on the scope and depth of the project.

May be taken for up to 3 credits.

Lab Hours: 32

Prerequisite(s): A minimum grade of C- in CNS-121.

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 a current analysis of various minority groups and how media depict these groups. This course helps students understand why and how stereotypical media portrayals have been produced and how the under-representation of diversified images affects their knowledge, attitudes, and behaviors toward.

Lecture Hours: 48

COM-152 ETC: Art and Literary Magazine ♦

Effective Spring 2018.

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 oral and written communications with applications to routine correspondence and oral communication situations in the work place. Students will be involved in activities that provide opportunity for the development and improvement of writing skills and oral communication skills.

Lecture Hours: 48

COM763 Introduction to Professional Writing ♦

3 credits—This course provides students with an introduction to professional writing; it overviews the role of writing as an important part of many careers, as well as part of an academic discipline. This course explores the issues, theories, resources and career opportunities in professional writing, as well as the use of technology to communicate and produce documents.

Lecture Hours: 32 Lab Hours: 32

Prerequisite(s): ENG-105

COM-781 Written Communication in the Workplace

3 credits—This course focuses on composition and editing of curriculum-specific technical and business-related writing projects. Instruction includes formatting, information gathering, document drafting, editing, and written employment strategies.

Lecture Hours: 48

Prerequisite(s): A minimum grade of D- in ENG-061.

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.

May be taken for up to 3 credits.

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-129 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): CON-130.

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-135 Site Planning

3 credits—Students study procedures for developing site plans for a construction project(s). Students will examine aspects of the development of a job site by considering feasibility studies, zoning requirements, site survey and design, and required permits and other pertinent information. The general outline of the Waterloo and Cedar Falls policies will be used as examples.

Lecture Hours: 32 Lab Hours: 32

Prerequisite(s): Must be in program major.

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-214 Exterior Framing Systems I

3 credits—This course will utilize resource efficient advanced framing methods that stress energy efficiency and sustainable design. The "Whole Systems Approach" to residential design and construction will be teamed with Universal Design principles, Optimum Value Engineering techniques, the "Building America" program, and the LEED (Leadership in Energy and Environmental Design) program.

Lecture Hours: 16 Lab Hours: 64

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-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.

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.

Lecture Hours: 0 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-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

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.

Lecture Hours: 0 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, and will build skills and development proficiency with pistol, shotgun and patrol rifle.

Meet with an advisor to register for course.

Lecture Hours: 0 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

CRJ322 Tactical Police Operations

2 credits—This course challenges student skills and decision making within scenario based learning activities.

Lecture Hours: 16 Lab Hours: 32

Prerequisite(s): A minimum grade of C in 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.

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-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.

Instructor consent required to enroll.

Lecture Hours: 0 Co-op Hours: 128

Prerequisite(s): Must be in program major. 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-306 Introduction to Collision Repair

6 credits—In this course students receive training on the proper handling of hazardous waste and EPA issues together with technical information about specific auto body safety and health situations. Specific training is provided in tools/equipment usage, parts assembly, filler application, and straightening techniques. Students will also receive training in autobody welding.

Lecture Hours: 48 Lab Hours: 96

CRR-331 Basic Collision Procedures

6 credits—This course covers specific collision tool and equipment usage, panel repair and alignment, sheet metal pulling and stress relieving, mobile glass servicing, trim removal and replacement, and basic collision repair techniques. Performance tasks will require students to work in actual production style situations. Projects will include straightening collision damage and filler application, utilizing corrosion resistant undercoat/primer.

Lecture Hours: 48 Lab Hours: 96

Prerequisite(s): A minimum grade of D- in CRR-306.

CRR-510 Collision Production Technology

7 credits—In this course, students will receive information and training in common collision repair procedures performed by production collision centers. Specific training is provided in straightening procedures for light and heavy collision damage, specialized tools and equipment, and air conditioning systems relating to collision damage.

Lecture Hours: 64 Lab Hours: 96

Prerequisite(s): A minimum grade of D- in CRR-331.

CRR-657 Advanced Collision Repair

7 credits—In this course, students will receive hands on experience involving high production practices used by industry collision repair technicians. Students will receive training in collision related suspension and steering systems. Additional training will be received in drive train repairs, wheel alignment, brakes, and other vehicle collision related repairs, tools, and equipment.

Lecture Hours: 64 Lab Hours: 96

Prerequisite(s): A minimum grade of D- in CRR-510.

CRR-740 Estimating I

3 credits—This course provides instructional experience in collision handwritten estimating.

Lecture Hours: 32 Lab Hours: 32

Prerequisite(s): A minimum grade of D- in CRR-836 and CRR-331.

CRR-750 Estimating II

3 credits—Introduce students to various aspects of computerized estimating software while reinforcing repair procedures.

Lecture Hours: 32 Lab Hours: 32

Prerequisite(s): A minimum grade of D- in CRR-740.

CRR-806 Introduction to Refinishing

6 credits—Students receive training in use of sanding abrasives, refinishing products, tools and equipment, masking procedures, corrosion protection, and paint preparations. A thorough understanding of personal health and safety issues is also obtained.

Lecture Hours: 48 Lab Hours: 96

CRR-836 Refinishing II

6 credits—Fundamentals of spraying automotive paints are provided in this course together with the uses and application of various types of top coat systems and color mixing/matching using computers.

Lecture Hours: 48 Lab Hours: 96

Prerequisite(s): A minimum grade of D- in CRR-806.

CRR-877 Refinishing Applications

7 credits—This course provides training in paint repair procedures used to match and blend partial or full panel refinish repairs. Students will be exposed to various procedures used in refinishing systems. Students will also receive training in basic electrical fundamentals and basic air bag systems as they apply to collision and refinishing repairs.

Lecture Hours: 64 Lab Hours: 96

Prerequisite(s): A minimum grade of D- in CRR-836.

CRR-881 Refinishing Production Technology

7 credits—In this course, students will receive hands on experience involving high production practices used by industry technicians. Students will be exposed to time management performance tasks involved in numerous areas of refinishing. Skill levels will be enhanced for various refinish tasks such as paint preparation, masking procedures, blending, and overall refinishing.

Lecture Hours: 64 Lab Hours: 96

Prerequisite(s): A minimum grade of D- in CRR-877.

CSC: COMPUTER SCIENCE

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-945 Special Topics in Computer Science

5 credits—This course is for students who are interested in developing the professional and technical skills and knowledge required to forge forward in exploring all areas of computer science. Students use technical knowledge to create solutions to world problems. The class will include a broad introduction to computer science career opportunities, with a focus on college and career readiness and employability skills. Students will explore a vast array of specialty areas available in technology careers where professionals utilize technology to solve business problems and design products. Examples may include software engineering, web development, network design/technologies, management information systems and emerging technologies. All students will have hands-on, active learning opportunities with a full immersion in real-world projects developed by local business partners.

Lecture Hours: 32 Co-op Hours: 192

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-263 Dental Science II

2 credits—This course provides students with basic understanding of biomedical and dental sciences including: Oral pathology and disease processes, pharmacology and therapeutics, emergency treatment, oral hygiene, and nutrition and dietary considerations for dental patients.

Lecture Hours: 32

Prerequisite(s): A minimum grade of C in BIO-163 and DEA-103. A minimum grade of C in BIO-168 and BIO-173 will also fulfill the prerequisite.

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.

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.

Lecture Hours: 0 Lab Hours: 0 Clinic Hours: 192

Prerequisite(s): A minimum grade of C in all Dental Assisting first semester courses and/or departmental approval. Current CPR and Health Sciences department Exposure Control program, OSHA training, and HIPAA training.

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.

Lecture Hours: 0 Co-op Hours: 320

Co-requisite(s): DEA-591.

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): A minimum grade of C in DEA-263, DEA-417, DEA-514, DEA-556, DEA-603, and DEA-702.

Co-requisite(s): DEA-578.

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

Prerequisite(s): A minimum grade of C in DEA-513.

DEA-702 Dental Office Procedures

2 credits—This course is a study of basic responsibilities of dental office receptionists. Procedures included in the course are: management of patient records, filing, completion of insurance claim forms, basic bookkeeping, banking, appointment control, recall management, inventory control, credit and collection, and employer records management. Instruction is provided in computer applications relating to these office management procedures. Also included in this course is a study of office design and office management concepts.

Lecture Hours: 32

DHY: DENTAL HYGIENE

DHY-115 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: 16

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

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.

Lecture Hours: 0 Clinic Hours: 144

Prerequisite(s) *Fall 2017*: A minimum grade of C in DHY-175 and DHY-160.

Prerequisite(s) *Spring 2018*: Prior completion of DHY-175 Fundamentals of Clinical Dental Hygiene and DHY-160 Oral Radiology with a minimum grade of C in each course.

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) *Fall 2017*: A minimum grade of C in DHY-175 and DHY-160.

Prerequisite(s) *Spring 2018*: Prior completion of DHY-160 Oral Radiology and DHY-175 Fundamentals of Clinical Dental Hygiene with a minimum grade of C in each course.

Pre/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.

Pre/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.

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, and 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, and DHY-197, and DHY-298.

Co-requisite(s): DHY-307.

DHY-901 Independent Study Clinical Dental Hygiene

1 credits—This course provides opportunity for a student to focus previous course work and knowledge on a special issue as well as provide for individualized exploration of topics pertinent to the student's projected objectives within any recognized discipline. Faculty consultation is required prior to registration for this course

May be taken for up to 3 credits.

Lab Hours: 32

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.

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: FILM AND THEATRE

DRA-107 Theatrical Arts and Society ♦

3 credits—This course introduces students to a literary appreciation of drama throughout history. Emphasis will be on reading, discussing, and evaluating various plays representative of their era and genre along with discussion of live theatre, film and television performances and how these kinds of dramatic narratives interrelate with societies of the past and present.

Lecture Hours: 48

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 analysis. Through monologue and scene work, as well as exercises, students will experience the acting process.

Lecture Hours: 48

DRF: DRAFTING

DRF-110 Introduction to Technical Drafting

2 credits—This course introduces the student to the drafting environment and includes basic knowledge and fundamental skills of manual drafting. Special emphasis is placed on reproducible line quality, lettering, geometric constructions and layout techniques.

Lecture Hours: 16 Lab Hours: 32

DSL: DIESEL

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-415 Electronics II

3 credits—This course is a more advanced study of electronic principles and electronics components used on equipment today. This course will use computerized OEM and generic test equipment for testing and diagnosis of all types of electronics used on equipment. Lab exercises will be performed on both live and lab equipment.

Lecture Hours: 16 Lab Hours: 64

Prerequisite(s): A minimum grade of D- in AGM-124, AGM-104, and AGM-333.

DSL-447 Diesel Fuel Systems

7 credits—This course focuses on diagnosis, theory and repair of mechanical and electronic fuel systems used in transportation, agriculture, and construction equipment.

Lecture Hours: 48 Lab Hours: 128

DSL-807 Diesel Truck Equipment Repair

7 credits—This course is designed to give students the opportunity to apply competencies previously achieved to repair and service projects. Also included is theory and operation, diagnosis, and repair of heating and air conditioning systems. Instruction will also cover use of computers for maintenance scheduling.

Lecture Hours: 48 Lab Hours: 128

Pre/Co-requisite(s): A minimum grade of D- in AGM-408.

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, basic SMAW welding and oxy/acetylene cutting.

Lecture Hours: 32 Lab Hours: 64

Prerequisite(s): A minimum grade of D- in AGM-124.

ECE: EARLY CHILDHOOD EDUCATION

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-120 Communication with Families

Fall 2017 only.

2 credits—This course is designed to give students a basic understanding of good working relationships with educators, families and community resources. The value of this relationship to all parties involved is examined.

Lecture Hours: 32

ECE-122 Parenting Relationships

Fall 2017 only.

2 credits—An introduction to the general subject matter of family relations. Students will study family systems and parenting in a changing society.

Lecture Hours: 32

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

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.

Lecture Hours: 0 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.

Enrollment limited to Early Childhood Education students.

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.

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

Co-requisite(s): ECE-274.

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 ECN-120 or ECN-130.)

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-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-216 Introduction to Teaching ♦

3 credits—The course Introduction to Teaching: The Teaching Profession is designed to help students become aware of the foundations of teaching, understand the realities of teaching, and gain insight into the process of teaching. It is provided for students who may be undecided about teaching. The course will investigate the tools and information necessary to make a rational and thoughtful choice about pursuing the teaching profession.

Lecture Hours: 48

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

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.

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-800 Exploring Math and Science Teaching

1 credits—Exploring Math and Science Teaching gives the student a chance to hear from effective, successful teachers of math and science on a weekly basis. With assistance from a cooperating K-12 teacher, the student will experience an opportunity to conduct a lesson in an authentic math or science classroom in elementary settings. This class provides an opportunity to sample the world of teaching math or science. Tuition for this one credit course is refunded upon successful completion of the class through the Iowa Math And Science Education Partnership.

Lab Hours: 32

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.

Lecture Hours: 0 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.

Lab Hours: 32

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.

May be taken for up to 3 credits.

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.

EGR-945 Special Topics in Engineering

5 credits—This course is for students who are interested in a combination of rigorous science and engineering fundamentals, entrepreneurship, and innovation. Students use technical knowledge to create solutions to world problems. The class will include a broad introduction to industry-based engineering, with a focus on college and career readiness and employability skills. Students will also learn the essential components of Engineering including design processes. All students will have hands-on, active learning opportunities with a full immersion in real-world projects developed in conjunction with local business partners.

Lecture Hours: 32 Co-op Hours: 192

EGT: ENGINEERING TECHNOLOGY

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-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-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

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-460 PLTW - Civil Engineering and Architecture

3 credits—This course introduces students to the interdependent fields of civil engineering and architecture; students learn project planning, site planning, and building design using specialized computer software (AutoDesk Revit).

Lecture Hours: 16 Lab Hours: 64

Prerequisite(s): EGT-460.

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-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 is an introduction to the fundamental principles of electronic motor drive technologies. Topics to be presented will include servo-motor theory, encoders, tachometers, electronic and mechanical brakes/clutches, and closed-loop systems. Specific drives to be studied will include DC servo, AC variable-frequency, and AC servo.

Lecture Hours: 16 Lab Hours: 32

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

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, motor testing and sizing procedures, manual and magnetic starters, and motor overload protection. Specific topics will include types of electrical distribution systems, transformer theory and operation, electrical safety related to motor systems, lockout/ tagout techniques, use of motor testing devices, and construction, sizing, and installation of motor overload devices. Extensive laboratory exercises will enhance classroom studies.

Lecture Hours: 16 Lab Hours: 64

Prerequisite(s): A minimum grade of C- in 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-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.

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

ELT-701 Embedded Processors

3 credits—This course is an introduction to microcontroller theory and applications. The objective of this course is to provide students with the basic microcontroller theory necessary to understand the operation and interfacing characteristics. This includes typical microcontroller architecture with C programming, Input/output and interfacing concepts, hardware/software interaction and applications.

Lecture Hours: 32 Lab Hours: 32

Prerequisite(s): ELT-409.

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-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.

ELE: ELECTRICAL TECHNOLOGY

ELE-194 Power Generators and Transformers

2 credits—The Power Generators and Transformers course will provide students with a working knowledge of how generators and transformers function. Training will cover the safety aspects of high voltage/power generators and transformers as they connect to the utility grids.

Lecture Hours: 16 Lab Hours: 32

ELE-218 Motion Control

2 credits—This course is an introduction to electronic motion control system components and programming of a motion control system through a PLC.

Lecture Hours: 16 Lab Hours: 32

Prerequisite(s): A minimum grade of C- in ELT-139.

ELT: ELECTRONICS

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-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-320 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-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.

Lecture Hours: 0 Lab Hours: 64

Prerequisite(s): A minimum grade of D- in ELT-494.

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

Prerequisite(s): A minimum grade of C in ENG-060, ENG-061, COM-781, ENG-105, or ENG-106 or meet requirement with equivalent assessment score. A minimum grade of C in RDG-039 or RDG-040 or meet requirement with equivalent assessment score.

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.

Lecture Hours: 0 Co-op Hours: 192

Prerequisite(s): A minimum grade of C in HSC-113.

Co-requisite(s): A minimum grade of C in EMS-610, EMS-619, EMS-641, and EMS-678.

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.

Lecture Hours: 0 Co-op Hours: 192

Prerequisite(s): A minimum grade of C in EMS-541, EMS-610, EMS-619, EMS-641, and EMS-678.

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, BIO-173, and HSC-113.

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, BIO-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-678.

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.

Lecture Hours: 0 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 EMS-641, EMS-678, EMS-541, EMS-610, and EMS-619.

Co-requisite(s): EMS-650.

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-678.

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 BIO-168, BIO-173, and HSC-113.

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

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.

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

ENV: ENVIRONMENTAL SCIENCE

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): ENV115

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-170 Photovoltaic and Hybrid Electrical Systems

2 credits—The Photo-voltaic and Hybrid Electrical systems course will provide students with an opportunity to size, construct, maintain, and analyze residential sized hybrid systems. Students will gain first hand experience working with electrical energy systems consisting of wind generators, photo-voltaic arrays, battery storage systems, inverters and system controllers.

Lecture Hours: 16 Lab Hours: 32

ENV-185 Solar Photovoltaic Design and Installation

2 credits—Introduces solar photovoltaic system requirements, design and configurations, installation techniques and their application in residential and commercial construction.

Lecture Hours: 16 Lab Hours: 32

ESL: NON-INTENSIVE ENGLISH AS A SECOND LANGUAGE

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

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

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-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.

Lecture Hours: 0 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

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-151 Elementary Spanish I ♦

5 credits—This course is student-centered introductory instruction in the basic components of the Spanish language. The course will help students develop the skills necessary for the acquisition and perfection of the primary concepts of reading, writing, listening, and speaking in the Spanish language.

This course is not recommended for students who have completed one year or more of high school Spanish or the equivalent.

Lecture Hours: 80

FLS-152 Elementary Spanish II ♦

5 credits—Provides continued instruction in the basic and necessary linguistic elements of Spanish to enable the learner to communicate verbally and in writing within the limits of the language presented.

Lecture Hours: 80

Prerequisite(s): FLS-151 or equivalent course or instructor approval.

FLS-241 Intermediate Spanish I ♦

4 credits—This course is student-centered instruction that reviews essential grammatical elements in the language and introduces new topics as a continuation of the first year of Spanish. Instruction will enable learners to further develop proficiency in speaking, listening, writing, reading, and cultural understanding of Spanish speaking countries.

Lecture Hours: 64

Prerequisite(s): A minimum grade of C- in FLS-152.

FLS-242 Intermediate Spanish II ♦

4 credits—This course is student-centered instruction that promotes further linguistic development as a continuation of Intermediate Spanish I. Instruction will enable learners to expand their understanding of Spanish culture while increasing grammatical knowledge and spontaneous vocabulary usage.

Lecture Hours: 64

Prerequisite(s): A minimum grade of C- in FLS-241.

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 GY110T Physical Geography. The course explores the concepts, resources, and specialized methods necessary to understand the major elements of Physical Geography.

Lab Hours: 32

Pre/Co-requisite(s): GEO-131.

GRA: GRAPHIC COMMUNICATIONS

GRA-105 Drawing and Composition

4 credits—This course introduces the student to a variety of art-making materials and media, provides a broad range of drawing experiences designed to expand the student's artistic perception, and enhances the student's ability to develop appropriate art-based solutions to common graphic design problems.

Lecture Hours: 32 Lab Hours: 64

GRA-124 Electronic Illustration

4 credits—This course provides students with the knowledge, skills, and experiences needed to create vector artwork. Students will utilize the leading vector drawing software to develop essential vector art rendering techniques.

Lecture Hours: 48 Lab Hours: 32

Prerequisite(s): GRA-133.

GRA-133 Desktop Publishing

4 credits—This course introduces the student to computer generated layout and design production skills using electronic publishing software. Emphasis is a "hands-on" introduction to the leading page-layout application program utilized in the graphic communications industry.

Lecture Hours: 32 Lab Hours: 64

GRA-142 Graphic Imaging

4 credits—This course provides students with the knowledge, skills, and experiences needed to create raster graphics. Students will utilize the leading digital imaging software to develop essential image manipulation techniques.

Lecture Hours: 48 Lab Hours: 32

Prerequisite(s): GRA-133.

GRA-150 Introduction to Web Design

3 credits—This course introduces students to the fundamentals of Website design and development. Emphasis is placed on designing cross-browser compatible interfaces and standards compliant Websites. Domain registration, Website hosting, search engine optimization, accessibility, usability, and interoperability will be discussed.

Lecture Hours: 32 Lab Hours: 32

GRA-160 Interactive Multimedia

3 credits—This course emphasizes designing interactive presentations using multimedia. Students will conceptualize, design and deliver interactive content.

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 knowledge, skills, and experiences needed to create Website graphics. Students will utilize digital imaging software and emerging Web technologies to develop skills in constructing and implementing Web page graphics.

Lecture Hours: 32 Lab Hours: 32

Prerequisite(s): A minimum grade of D in GRA-124 and GRA-142.

GRA-196 Design and Layout I

4 credits—This course emphasizes the fundamentals of design and layout in visual communications. The course provides experience in the type selection process for design application.

Lecture Hours: 32 Lab Hours: 64

Pre/Co-requisite(s): A minimum grade of D- in GRA-133.

GRA-197 Design and Layout II

4 credits—This course applies the principles and methods of design and layout to creating solutions for design problems. The process involved with communicating a client's product, service or image to a specific or general audience is explored in project application.

Lecture Hours: 48 Lab Hours: 32

Prerequisite(s): A minimum grade of D in GRA-196 and GRA-133.

GRA-205 Design and Layout III

4 credits—This course expands the dimension of the process of design to include specific information and experiences pertaining to advertising design and other advanced design formats.

Lecture Hours: 48 Lab Hours: 32

Prerequisite(s): A minimum grade of D in GRA-124, GRA-197, and GRA-142.

GRA-206 Advanced Design and Layout

4 credits—This course expands the dimension of the process of design to include specific information and experiences pertaining to advertising design and other advanced design formats.

Lecture Hours: 48 Lab Hours: 32

Prerequisite(s): A minimum grade of D in GRA-133 and GRA-196.

Pre/Co-requisite(s): A minimum grade of D in GRA-124, GRA-142, and GRA-197.

GRA-221 Principles of Illustration

3 credits—This course develops an understanding of illustration within the context of graphic communications. Students will have the opportunity to produce original illustrations using a variety of media, tools and techniques.

Lecture Hours: 32 Lab Hours: 32

GRA-232 Photo Direction

3 credits—This course provides students with the knowledge and experiences needed to direct a commercial photographer during a commercial photo shoot. Emphasis is placed on communication between a design director and commercial photographer. Studio procedures and equipment requirements will be discussed. An introduction to the basics of digital photography, digital camera operation, studio lighting, and still photography for advertising design will be presented.

Lecture Hours: 32 Lab Hours: 32

Pre/Co-requisite(s): A minimum grade of D in GRA-142.

GRA-238 Web Design and Layout

4 credits—This course provides students with the knowledge, skills, and experiences needed to design and layout a static Website. Students will utilize the leading Website design software and Web design formatting languages to develop skills in designing, building, publishing, and maintaining a static Website.

Lecture Hours: 48 Lab Hours: 32

Prerequisite(s): A minimum grade of D in GRA-124, GRA-142, and GRA-197.

GRA-239 CMS Web Design

3 credits—This course provides students with the knowledge, skills, and experiences needed to develop a dynamic Website. Students will utilize an open source Web Content Management System and leading Website design software to develop skills in implementing, administering, and designing a CMS based Website.

Lecture Hours: 32 Lab Hours: 32

Prerequisite(s): A minimum grade of D in GRA-238.

GRA-290 Portfolio Preparation

3 credits—The course is intended to advance student knowledge in portfolio and resume construction and job search strategies.

Lecture Hours: 32 Lab Hours: 32

Pre/Co-requisite(s): A minimum grade of D in GRA-205.

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.

May be taken for up to 3 credits.

Lecture Hours: 16

GRA-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.

May be taken for up to 3 credits.

Lecture Hours: 16

HCM: HOSPITALITY, CULINARY ARTS, AND MANAGEMENT

HCM-138 Food Fundamentals

3 credits—Studies the composition of foods and the scientific principles involved in food preparation. Emphasizes basic food handling competencies and cookery techniques. Students work with herbs, spices, dairy, eggs, fruits, vegetables, starches, stocks, sauces and soups, learning to produce quality products. Focuses on the development of proper kitchen procedures, use and care of equipment, sanitation, safety, cost control and efficient work methods.

Lecture Hours: 48

HCM-200 Dining Service

2 credits—Students will learn basic serving strategies, side work, service methods, styles of food service dining room etiquette, sanitation techniques POS systems dining room functions and the use of sound management techniques and quality customer service.

Lecture Hours: 16 Lab Hours: 32

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-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: 32

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-589 Introduction to Restaurant Management

3 credits—Students will develop fundamental skills necessary to begin a career in the restaurant field of hospitality. Topics include customer service, management and scheduling. General overviews of both front and back of the house will be covered.

Lecture Hours: 48

HCM-602 Introduction to Food and Bar Operations

3 credits—Focuses on the management of food and beverage operations in lodging establishments. Includes stewarding, banquets, restaurant, beverage and room service. Prepares students for internships in lodging operations.

Lecture Hours: 48

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.

Can be taken for up to 5 credit hours.

Lecture Hours: 0 Co-op Hours: 192

Prerequisite(s): A minimum grade of C- in HCM-608, HCM-605, and HCM-589.

HCR: HEATING AND AIR CONDITIONING

HCR-111 Residential Forced Air Heating Systems

3 credits—This course presents application of energy sources and equipment as they apply to heating, ventilation, air humidification and filtration systems.

Lecture Hours: 16 Lab Hours: 64

HCR-114 Boiler Fundamentals

4 credits—This class informs the students of the concepts, terms, and the major components of steam systems. Topics include the basic steam heating cycle. Also covered in this course are the safety procedures necessary when working on low-pressure steam boilers and systems. Students will be able to install and maintain specific steam straps and recognize the common piping configurations used with steam heating systems.

Lecture Hours: 16 Lab Hours: 96

Co-requisite(s): HCR-282, HCR-415, and HCR-517.

HCR-126 Solar Thermal Installation

2 credits—The Solar Thermal Installation course introduces solar thermal system requirements, design and configurations, installation techniques, operation and their application in residential and commercial construction.

Lecture Hours: 16 Lab Hours: 32

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: 16 Lab Hours: 64

Co-requisite(s): HCR-429, HCR-602, and HCR-283.

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-201 Manual J and D HVAC Design

3 credits—The Manual J and Manual D Residential HVAC Design course will provide students with the necessary skills to analyze a residential building's heating and cooling loads, and design appropriate ductwork systems. Students will begin the process using pencil and paper worksheets and Excel spreadsheets; then finish using Manual J and Manual D dedicated software programs.

Lecture Hours: 32 Lab Hours: 32

HCR-281 Applied Practices I

5 credits—This course provides students with practice in servicing and repair of the equipment in the HVACR lab to develop basic proficiency.

Lecture Hours: 0 Lab Hours: 160

HCR-282 Applied Practices II

3 credits—This course provides students with opportunities to apply the theory to practice to become proficient in the service and repair of the equipment in the HVACR lab area.

Lecture Hours: 0 Lab Hours: 96

Co-requisite(s): HCR-114, HCR-415, and HCR-517.

HCR-283 Applied Practices III

3 credits—This course provides the students a capstone opportunity to apply the theory to practice on the equipment in the HVACR lab to gain entry level proficiency in service and repair.

Lecture Hours: 0 Lab Hours: 96

Prerequisite(s): A minimum grade of D- in HCR-282.

Co-requisite(s): HCR-137, HCR-429, and HCR-602.

HCR-415 Controls for HVACR

3 credits—This course presents a more advanced study of electrical controls and their applications in the HVACR industry.

Lecture Hours: 16 Lab Hours: 64

Pre/Co-requisite(s): A minimum grade of D- in HCR-455.

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

Co-requisite(s): HCR-127, HCR-602, HCR-852, and HCR-912.

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-517 HVACR Systems II

5 credits—This course presents a continuing and advanced study of systems in heating, ventilation, air conditioning, and refrigeration.

Lecture Hours: 16 Lab Hours: 128

Co-requisite(s): HCR-282 and HCR-415.

HCR-602 HVACR Systems III

2 credits—This course presents alternative application of energy sources and equipment as they apply to heating, ventilation, air-cooling and refrigeration systems.

Lecture Hours: 0 Lab Hours: 64

Prerequisite(s): HCR-516.

Co-requisite(s): HCR-429 and HCR-912.

HCR-852 Operation Strategies

2 credits—This course presents customer relations and principles of successful business techniques. The job search and interview process will also be covered.

Lecture Hours: 32

Co-requisite(s): HCR-114, HCR-415, HCR-517, and HCR-282.

HCR-911 HVACR Field Experience I

1 credits—This course places students in professional settings in the HVACR industry. Emphasis is on observation and participation in the business practices of the HVACR industry.

Lecture Hours: 0 Co-op Hours: 64

Co-requisite(s): HCR-283, HCR-429, HCR-602, and HCR-137.

HCR-912 HVACR Field Experience II

2 credits—This course places students in professional settings for experiences in the Heating, Cooling and Air-Conditioning trades. Emphasis is given to observation of and participation in: troubleshooting, installation document preparation, and business practices. This course is repeatable with different content.

Lecture Hours: 0 Co-op Hours: 128

Prerequisite(s): All first and second semester program courses and a current program 2.00 cumulative GPA.

Co-requisite(s): HCR-429 and HCR-602.

HEQ: HEAVY EQUIPMENT

HEQ-100 Introduction to Construction Equipment Operation

1 credits—The Introduction to Construction Equipment Operation Course will provide students with the knowledge of basic requirements and skillsets necessary to become entry level equipment operators in the construction industry. Students will explore the various types of equipment and unique operating characteristics of each. Jobsite safety and preparation will be discussed as well as PPE and communications with employers, fellow workers, and the public.

Lecture Hours: 16

HEQ-104 Equipment Maintenance I

2 credits—This course will assist students in the basic knowledge and skills necessary to perform routine maintenance and repairs on different types of construction equipment. Individual component and systems service intervals will be discussed and analyzed. Students will receive practice in fluid and filter replacing as well as recognizing, troubleshooting, replacing and repairing defective and worn components and parts. The need for ongoing operator input and involvement in the maintenance process will be explored.

Lecture Hours: 16 Lab Hours: 48

HEQ-105 Skid Steer Operation

3 credits—The Skid Steer Equipment Operation Course will give students access to the hands-on operation of Skid Steer equipment used in the construction industry. Students will be able to develop the motor skills and competencies necessary to safely operate equipment in all sorts of workplace settings and environments. Students will gain practice in operating by completing exercises in moving materials, leveling, grading, digging, trenching, and loading trucks, in all types of terrain and jobsite conditions. Students will demonstrate proper inspection, start up, operating and shut down procedures on a daily basis. The ability to set up and complete projects according to a written site plan will be practiced.

Lecture Hours: 16 Lab Hours: 96

HEQ-106 Compact Excavator Operation

3 credits—The Compact Excavator Operation Course will give students access to the hands-on operation of compact excavators used in the construction industry. Students will be able to develop the motor skills and competencies necessary to safely operate equipment in all sorts of workplace settings and environments. Students will gain practice in operating by completing exercises in moving materials, leveling, grading, digging, trenching, and loading trucks, in all types of terrain and jobsite conditions. Students will demonstrate proper inspection, start up, operating and shut down procedures on a daily basis. The ability to set up and complete projects according to a written site plan will be practiced.

Lecture Hours: 16 Lab Hours: 96

HEQ-107 Wheel Loader Operation

2 credits—The Wheel Loader Operation Course will give students access to the hands-on operation of Wheel Loaders used in the construction industry. Students will be able to develop the motor skills and competencies necessary to safely operate loaders in all sorts of workplace settings and environments. Students will gain practice in operating by completing exercises in moving materials, leveling, grading, digging, and loading trucks, in all types of terrain and jobsite conditions. Students will demonstrate proper inspection, start up, operating and shut down procedures on a daily basis. The ability to set up and complete projects according to a written site plan will be practiced.

Lab Hours: 96

HEQ-109 All Terrain Lifts Operation

2 credits—The All-Terrain Lifts Operation Course will give students access to the hands-on operation of all-terrain lifts and platforms used in the construction industry. Students will be able to develop the motor skills and competencies necessary to safely operate equipment in all sorts of workplace settings and environments. Students will gain practice in operating by completing exercises in moving materials, loading and unloading materials from trucks, and operating the work platform safely in all types of terrain and jobsite conditions. Students will demonstrate proper inspection, start up, operating and shut down procedures on a daily basis. Students will obtain an OSHA Certificate in Fork Lift Operation as part of this program.

Lecture Hours: 16 Lab Hours: 32

Prerequisite(s): A minimum grade of D in CON-108 or HEQ-203.

HEQ-110 Support Equipment Operation

2 credits—The Support Equipment Operation Course will introduce students to various types of mechanized machines and devices used on jobsites. Types of equipment include plate compactors, tampers, portable air compressors, jack hammers, concrete buggies, power trowels, concrete saws, and others. Students will gain practice in the safe operation and care of these types of machines.

Lecture Hours: 16 Lab Hours: 32

Prerequisite(s): A minimum grade of D in CON-108 or HEQ-203.

HEQ-116 Basic Construction Equipment Operation

3 credits—The Basic Construction Equipment Operation Course will provide students with the knowledge of basic requirements and skillsets necessary to become entry level equipment operators in the construction industry. Students will explore the various types of equipment and unique operating characteristics of each. Students will use Construction Equipment Simulators to develop basic operating skills.

Lecture Hours: 32 Lab Hours: 32

Prerequisite(s): A minimum grade of D in CON-108 or HEQ-203.

HEQ-118 Routine Service and Repair

3 credits—This course will assist students in the basic knowledge and skills necessary to perform routine maintenance and repairs on different types of construction equipment. Individual component and systems service intervals will be discussed and analyzed. Students will receive practice in fluid and filter replacing as well as recognizing, troubleshooting, replacing and repairing defective and worn components and parts. The need for ongoing operator input and involvement in the maintenance process will be explored

Lecture Hours: 16 Lab Hours: 64

Prerequisite(s): A minimum grade of D in HEQ-203.

HEQ-201 Utility Equipment Operation

3 credits—The Utility Equipment Operation Course will introduce students to the operation of machines used in the construction industry when working in close proximity to buildings, underground utilities, and jobsites with limited operational spaces. Students will operate various machines such as Skid Steer Loaders, Mini Excavators, Loader Backhoes, All-Terrain Forklifts, Aerial Lifts, and related attachments. Students will gain experience digging over, under, and around underground utilities, excavating next to foundations and walls, and undercutting slabs for utility installations. The installation and operation of attachments, trenchers, breakers, soil conditioners, posthole digger, materials forks, and others will be introduced and practiced. Students will gain knowledge of pre-operational inspections, loading and securing equipment for transport and required licensure for various truck-trailer combinations and weight ratings.

Lecture Hours: 16 Lab Hours: 64

Pre/Co-requisite(s): A minimum grade of C in CON-108 or HEQ-203.

HEQ-203 Jobsite Safety

2 credits—The Jobsite Safety course will introduce students to numerous requirements, hazards, certifications, personal protective equipment, and machine mounted safety equipment, which relate to operating equipment and being present on various work locations in the construction industry. Students will be introduced to the National OSHA Safety Standards required of the general construction industry. Students will complete the classroom and hands on Laser Safety Training portion of the OSHA Regulations. Students will practice the proper techniques using and inspecting personal protective

equipment required in the construction field. Upon successful completion of this course students will receive the 10-hour OSHA General Construction Certificate and the OSHA Laser Safety Certificate.

Lecture Hours: 16 Lab Hours: 32

HEQ-208 Equipment Operation I

5 credits—The Equipment Operation I Course will introduce students to preoperational inspection, and basic safe operation of various machines used by the construction industry. Experience and skills will be developed using track and rubber wheeled equipment to complete exercises in moving materials, grading, leveling, trenching, and loading trucks, Students will demonstrate proper inspection, start up, operating and shut down procedures on a daily basis. The use of PPE and safe professional operating procedures will be followed daily.

Lecture Hours: 16 Lab Hours: 128

Prerequisite(s): A minimum grade of D in HEQ-203.

Pre/Co-requisite(s): A minimum grade of D in HEQ-116.

HEQ-209 Equipment Operation II

3 credits—The Equipment Operation II Course will assist students in using skills developed to layout and complete earth moving projects in a real world environment. Students will review site plans, obtain permits, identify water runoff paths, survey, place grade stakes, use the One Call Service, calculate material needs, and other requirements to prepare a jobsite for excavation. Students will coordinate the use of machines and equipment needed for the projects. The use of PPE and safe professional operating procedures will be followed daily.

Lecture Hours: 32 Lab Hours: 32

Prerequisite(s): A minimum grade of D in HEQ-116, HEQ-203, and HEQ-208.

HEQ-210 Equipment Operation III

4 credits—The Equipment Operation III Course will use student skills developed in prior coursework to complete projects using various equipment. Students will build on prior skills to complete more advanced and technical maneuvers. Finish grading, seeding, and placement of permanent erosion barriers will be practiced. Focus will be on operating to industry professional standards and abilities to prepare students for employment.

Lecture Hours: 0 Lab Hours: 128

Prerequisite(s): A minimum grade of D in HEQ-203, HEQ-116, and HEQ-208.

Pre/Co-requisite(s): A minimum grade of D in HEQ-209.

HEQ-214 Equipment Maintenance

5 credits—This course will assist students in the basic knowledge and skills necessary to perform maintenance and repair components and systems found on construction equipment. Individual component and systems repair will be discussed and practiced. Students will gain hands-on practice in

testing and repairing construction equipment components. Basic welding and flame cutting will be introduced.

Lecture Hours: 32 Lab Hours: 96

Prerequisite(s): A minimum grade of D in HEQ-203.

HEQ-907 Workplace Experience

5 credits—This course provides students with opportunities to gain on-the-job experience in the construction industry. Students will gain experience and appreciation of qualities and skills needed for success in the equipment operating field. Coordination and guidance will be provided by department instructors.

Lecture Hours: 0 Co-op Hours: 320

Prerequisite(s): A minimum grade of D in HEQ-203, HEQ-116, HEQ-118, HEQ-201, HEQ-208, HEQ-209, and HEQ-210.

Pre/Co-requisite(s): A minimum grade of D in HEQ-214, HEQ-109, and HEQ-110.

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 pre-historic times to the present.

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—United States history from the perspective of women starting in the colonial period through the present day. The course examines the historical development of women's role in the family, concepts of sexuality, economic and political roles, and intellectual tradition. A comparative analysis of women's roles in other areas of the world is also provided.

Lecture Hours: 48

Prerequisite(s): A minimum grade of C- in HIS-151, HIS-152, or WST-101.

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.

May be taken for up to 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-146 Beginning Medical Terminology

3 credits—This course introduces the concepts necessary for building a basic medical vocabulary.

Lecture Hours: 48

HIT-156 Intermediate Medical Terminology

3 credits—This course continues to build a medical vocabulary through the study of anatomy and physiology, common diseases and surgeries of the body systems including musculoskeletal, nervous, cardiovascular, respiratory, and integumentary.

Lecture Hours: 48

Prerequisite(s): A minimum grade of C- in HIT-146.

HIT-166 Advanced Medical Terminology

3 credits—The course continues to build a medical vocabulary through the study of anatomy and physiology, common diseases and surgeries of the body systems including digestive, urinary, male reproductive, female reproductive, and endocrine.

Lecture Hours: 48

Prerequisite(s): A minimum grade of D- in HIT-156.

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): A minimum grade of C- in HIT-146.

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): A minimum grade of C- in HSC-146.

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

Pre/Co-requisite(s): A minimum grade of D- in HIT-250 and HIT-215.

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

Prerequisite(s): A minimum grade of D- in HIT-125.

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

Prerequisite(s): A minimum grade of D- in HIT-125.

HIT-510 Coding Certification Review

2 credits—This course reviews and summarizes the information received in the medical billing/coding program to prepare students for a national coding certification exam.

Lecture Hours: 32

Co-requisite(s): A minimum grade of D- in HIT-240 and HIT-280.

HSC: HEALTH SCIENCES

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-124 Advanced Medical Terminology

Fall 2017 only.

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-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

Prerequisite(s): A minimum grade of C- in HIT-146.

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-949 Special Topics ♦

Effective Spring 2018.

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

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-181 Heating, Ventilating, and Air Conditioning

2 credits—The Heating, Ventilating, and Air Conditioning Systems (HVAC) course will introduce students to the environmental function control of temperature, moisture content, air quality and air circulation in a conditioned space. Our labs allow the learner to view and examine various types of HVAC systems with respect to installation, components, and characteristics.

Lecture Hours: 16 Lab Hours: 32

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.

Lecture Hours: 0 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.

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, Latinos, Native Americans, Asian-Americans, women, and gays/transgender/lesbians. Genre to be read will include short stories, poetry, and novels with emphasis on the ideas and issues shared in common by the various silenced groups and the unique perspective of each. Class activities will build on students' skills in reading, discussing and writing about literature acquired in Introduction to Literature.

Lecture Hours: 48

Prerequisite(s): A minimum grade of C- in LIT-101.

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-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

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-225, and MAP-342.

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

Prerequisite(s): A minimum grade of C- in HIT-146. A minimum grade of D- in ADM-148 and ADM-159.

MAP-141 Medical Insurance

3 credits—This course is an introduction to various details and forms relative to medical insurance programs and CPT coding.

Lecture Hours: 48

MAP-152 Computer Patient Billing

Fall 2017 only.

2 credits—An introduction to an automated patient billing software will be covered in this course.

Lecture Hours: 16 Lab Hours: 32

Pre/Co-requisite(s): A minimum grade of D- in MAP-141.

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: 48 Lab Hours: 32

Pre/Co-requisite(s): A minimum grade of C in MAP-111 and MAP-342.

MAP-228 Med Lab Procedures II

3 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: 32

Prerequisite(s): A minimum grade of C in MAP-225.

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: 32 Lab Hours: 32

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: 32 Lab Hours: 32

Prerequisite(s): A minimum grade of C in MAP-343, 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

Prerequisite(s): A minimum grade of C- in HIT-146.

MAP-603 Employment Seminar

1 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: 16

Prerequisite(s): A minimum grade of C in MAP-117, MAP-111, MAP-225, MAP-342, MAP-228, and MAP-343.

MAP-624 Practicum

5 credits—This course provides the student with an opportunity to apply clinical, laboratory, and administrative skills in a supervised, non-remunerated practicum in a medical facility. Emphasis is placed on enhancing competence in clinical and administrative skills necessary for comprehensive patient care and strengthening professional communications and interactions. The emphasis is on practical work experience for which the student has already acquired the necessary theoretical knowledge and basic skills. Students will demonstrate a professional manner and image and work to improve time management and ongoing personal goal setting. Direct supervision is provided by a clinical professional or preceptor. The experience is supported by instructor site visits and classroom seminars. Upon completion, students should be able to function as an entry-level healthcare professional.

Proof of a negative tuberculin-screening test, immunizations, or titers, approved background check, and current healthcare provider level CPR certification required.

Lecture Hours: 0 Co-op Hours: 320

Prerequisite(s): Must be enrolled in the Medical Assistant program, complete all classes with a minimum grade of C, and be approved by the program director.

MAT: MATHEMATICS

MAT-045 Fundamentals of Math

4 credits—This course is designed to help students meet minimum competencies for their basic skills in mathematics in the areas of whole numbers, fractions, decimals, percent, and ratio/proportion. Critical thinking, problem solving, and conceptual development are emphasized. Students will be prepared for learning higher order mathematical concepts

Lecture Hours: 64

Prerequisite(s): Appropriate placement scores or equivalent.

MAT-048 Preparatory Math for Elementary Algebra

4 credits—This course is designed to prepare students for Elementary Algebra. The course will provide instruction in arithmetic and introduce algebra. Students successfully completing the course will meet competencies in basic arithmetic with whole numbers, integers, fractions, and decimals. Successful completion will assure skills needed for basic algebraic problems and a variety of application problems.

Lecture Hours: 64

Prerequisite(s): Appropriate placement scores.

MAT-052 Pre-Algebra

3 credits—This course is designed to combine both classroom instruction and individualized instruction to prepare students for Elementary Algebra. Teacher-student interaction as well as student interaction with one another will be provided for and encouraged.

Lecture Hours: 48

Prerequisite(s): MAT-045.

MAT-063 Elementary Algebra

4 credits—This course is designed to combine both classroom instruction and individualized instruction to provide students with the critical thinking skills necessary for their subsequent courses and programs. Teacher-student interaction, as well as student interaction with one another, will be provided for and encouraged.

Lecture Hours: 64

Prerequisite(s): A minimum grade of D in 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

Prerequisite(s): A minimum grade of C- in MAT-063 or appropriate placement scores.

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-122 College Algebra ♦

5 credits—Begins a two semester sequence to prepare students for the calculus sequence. The central theme is the concept of functions, their properties, graphs and applications. Functions studied include polynomial, rational, exponential, and logarithmic functions.

Lecture Hours: 80

Prerequisite(s): MAT-102 or appropriate 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 scores.

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): MAT-122 or equivalent placement score.

MAT-151 Math Reasoning for Teachers I ♦

3 credits—This course explores mathematics as problem solving, communication, connections, and reasoning with regard to tasks involving numeration, relationships, estimation, and number sense of whole and rational numbers, probability and statistics. Activities and models appropriate to elementary school mathematics are used to represent these topics. This course does not count toward the mathematics requirement for the AA or AS degree.

Lecture Hours: 48

Prerequisite(s): A minimum grade of C in MAT-063 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-134 or MAT-128 or appropriate placement scores.

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): A minimum grade of C in MAT-063 or equivalent placement score.

Co-requisite(s): ELT-291.

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-744 Technical Math

4 credits—In this course students are exposed to the real number system, solution of linear equations, formula rearrangement, solution of word problems, functions and graphs, polynomials, factors and factorization, exponent functions and exponential equations. Emphasis is placed on critical thinking and problem solving skills.

Lecture Hours: 64

Prerequisite(s): MAT-063 or equivalent placement score.

MAT-747 Technical Math II

4 credits—In this course students continue the study of mathematics in various technical applications including trigonometry, geometry, polynomials, vectors, and complex numbers.

Lecture Hours: 64

Prerequisite(s): A minimum grade of C- in MAT-744.

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, and introduction to geometry. Instruction includes use of scientific hand-held calculators and emphasis placed on critical thinking, problem solving skills.

Lecture Hours: 48

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

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

Co-requisite(s): A minimum grade of D in MFG-302.

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

Prerequisite(s): MFG-211 and MFG-222.

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.

Lecture Hours: 0 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.

Lecture Hours: 0 Co-op Hours: 128

Prerequisite(s): A minimum grade of D in MFG-211 and MFG-222.

Pre/Co-requisite(s): A minimum grade of D in MFG-214.

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.

Lecture Hours: 0 Lab Hours: 96

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

Prerequisite(s): A minimum grade of D in MFG-309.

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.

Lecture Hours: 0 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

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.

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.

May be taken for up to 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

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-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.

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.

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-185.

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.

MLT-270 Immunology and Serology

2 credits—In this course, the focus is on the reactions of the body's immune system to foreign substances. There is emphasis on reactions between antigens and antibodies and students will learn to detect diseases such as syphilis, infectious mononucleosis, rheumatic fever and others.

Lecture Hours: 16 Lab Hours: 32

Prerequisite(s): A minimum grade of C in 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.

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-185, 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-103 Basic Digital Photography

3 credits—An introduction to DSLR camera operation, including exposure control and modes, focus techniques, and white balance. Artistic issues like framing, camera angle, use of color and composition will be addressed as well. Students will produce final images using industry standard software. Students must furnish an approved DSLR camera.

Lecture Hours: 32 Lab Hours: 32

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

MMS-138 Introduction to Website Dynamics

3 credits—This course will introduce students to basic web design principles, content management, marketing theory and system management practices.

Lecture Hours: 32 Lab Hours: 32

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-233 Intermediate Digital Photography

3 credits—This course expands on the theory and techniques taught in Basic Digital Photography and addresses a variety of commercial applications . The course will present further instruction in event photography, people and portrait photography and product and promotional photography. The course will include instruction on portable flash equipment, studio equipment, light modifiers and utilizing natural light to the photographer's benefit.

Lecture Hours: 32 Lab Hours: 32

Prerequisite(s): A minimum grade of C- in MMS-103.

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-300 Cinematography

3 credits—In this course students will gain hands-on experience in digital cinematography. Students will plan and practice camera techniques used for interior and exterior lighting, composition and framing, green screen techniques and other aspects of visual storytelling. Students will practice mechanical aspects of the lens: f-stops, depth of field and rack focus shots. Terminology and theory specific to cinematography will be explored as well as the strategies for common production and photography obstacles will be addressed and put into practice. Projects will be completed in groups as well as individual efforts.

Lecture Hours: 48

Prerequisite(s): A minimum grade of D in MMS-111 and MMS-213 .

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-303 Scriptwriting

3 credits—Introduces professional scriptwriting techniques, with focus on properly formatting scripts for film, television and radio, including narrative, commercial and broadcast copy. The student will be required to develop scripts using professional screenplay and scriptwriting software.

Lecture Hours: 32 Lab Hours: 32

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-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-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-410 Film Editing

3 credits—In this course, students are introduced to digital (computer) editing. A brief overview of the editing process is covered. Students learn the basics of capturing video and/or digital files, basic editing

techniques, basic color effects, audio with video, and storing in a non-destructive style of editing. Students will produce their own edited versions of supplied footage.

Lecture Hours: 32 Lab Hours: 32

Prerequisite(s): A minimum grade of D in 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.

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-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.

Lecture Hours: 0 Co-op Hours: 64

Prerequisite(s): A minimum grade of D in MMS-111, MMS-105, MMS-103, and MMS-138.

MMS-949 Special Topics

3 credits—This course offers a specialized study or project under the supervision of a faculty member and approved by the division chair. It may not duplicate any course already in the catalog. Students earn credit based upon the agreed upon credit and contact hours. Instructor permission required.

Lecture Hours: 32 Lab Hours: 32

Prerequisite(s): A minimum grade of D in MMS-103, MMS-105, MMS-111, and MMS-138.

MUA: MUSIC – APPLIED

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-319 Applied Voice II ♦

1 credits—Provides applied lessons and guided instruction in tone production, technique, musicianship, and performance practice. Students advance their skills through weekly lessons and regular practice of fundamental techniques and solo repertory. This course can be repeated with different content for credit.

May be repeated once.

Lecture Hours: 16

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: COMPUTER NETWORKING

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 computer compatible hardware including troubleshooting basic network and internet connectivity, dial-up, DSL, and cable. Additionally, this course will also cover the latest memory, bus, peripherals, and wireless technologies.

Lecture Hours: 32 Lab Hours: 64

NET-152 Advanced Network Technology

3 credits—This course will cover the advanced topics of networking topologies, management utilities, performance monitoring and management, construct network security, develop and maintain network documentation and determine appropriate action for common problems. Students will learn skills associated with network remote access, performance monitoring and extension of network services via wireless technologies. This course will build and expand upon Cisco 1-4 concepts and skills.

Lecture Hours: 48

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.

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-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.

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 server based operating system. Students will study the design, implementation, and support a Network Server network including specialized servers that are common to most networks.

Lecture Hours: 32 Lab Hours: 32

Prerequisite(s): A minimum grade of C- in NET-109.

NET-320 Advanced Server Configuration

3 credits—This course provides advanced concepts for supporting network based servers. Students will learn the skills necessary to install, configure, and manage network server technologies typically implemented with a server based operating system. Students will study the design, implementation, and optimization of both advanced and emerging services that a network server commonly provides for business networks.

Lecture Hours: 32 Lab Hours: 32

Prerequisite(s): A minimum grade of C in NET-313.

NET-346 Windows Exchange Server

3 credits—This course provides students with the knowledge and skills that are needed to update and support a reliable, secure messaging infrastructure. This infrastructure is used for creating, storing, and sharing information by using Microsoft Exchange Server in a medium-sized to large-sized (100 to 5,000 seats) messaging environment. This course offers a significant amount of hands-on practices, discussions, and assessments that assist students in becoming proficient in the skills that are needed to update and support Exchange Server.

Lecture Hours: 32 Lab Hours: 32

Pre/Co-requisite(s): NET-313.

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): NET-313.

NET-710 SQL Database

2 credits—This course is designed to give the student the basics of computer database administration. To teach the student what a database server is and how it is used in a modern computer network. The course will inform the student about the components of the database and the tools used to tune the database software for optimum performance.

Lecture Hours: 16 Lab Hours: 32

Prerequisite(s): 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): Instructor consent is needed to verify that students are getting the correct section for their major and that only fourth semester graduating students take this course.

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.

Co-op Hours: 128

Prerequisite(s): A minimum grade of C in NET-109. Must be in program major and completed 30 credits in one of the following programs: Network Administration and Engineering, Information Systems Management, and Web Design and Development.

NET-945 Special Topics in Information Technology

5 credits—This course is for students who are interested in developing the professional and technical skills and knowledge required to forge forward in exploring all areas of information technology. Students use technical knowledge to create solutions to world problems. The class will include a broad introduction to career opportunities in the information technology field, with a focus on college and career readiness and employability skills. Students will explore a vast array of specialty areas available in technology careers where professionals utilize technology to solve business problems and design products. Examples may include computer systems and hardware solutions, network design/technologies, storage, infrastructure and processes to create, process, store, secure and exchange all forms of electronic data. All students will have hands-on, active learning opportunities with a full immersion in real-world projects developed by local business partners.

Lecture Hours: 32 Co-op Hours: 192

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.

May be taken for up to 3 credits.

Lecture Hours: 16

OTA: OCCUPATIONAL THERAPY ASSISTING

OTA-102 Human Movement and Occupation

3 credits—Study of the interrelationship between the central nervous system, peripheral nervous system, and musculoskeletal system and analysis of functional movement required for engagement in occupation. Formal and informal biomechanical assessment methodologies are presented. Students will gain skill in utilizing assessment data for the occupational therapy process in collaboration with the occupational therapist.

Lecture Hours: 16 Lab Hours: 64

Prerequisite(s): Admission to Phase II of the Occupational Therapy Assistant program.

OTA-103 Task Analysis

3 credits—The development and emergence of human occupational performance throughout the lifespan is examined by exploring areas of occupation, occupational roles, habits and routines. Students will learn to analyze occupational tasks and functional activity demands, grade and adapt activities, and build the basic skills necessary for teaching therapeutic activities to meet the needs of occupational therapy consumers, either individually or in groups. Emphasis will be placed on the use of occupation-based media as a means of understanding a client's cognitive and functional performance. The significance of context and environment will also be explored in relationship to program planning and implementation of therapeutic interventions. Additional topics include an introduction to note writing and goal development.

Lecture Hours: 16 Lab Hours: 64

Prerequisite(s): Admission to Phase II of the Occupational Therapy Assistant program.

OTA-104 Assistive Tech and EM

2 credits—An introduction to the role of assistive technology and environmental modification used to facilitate occupational performance. Topics will include: determination of need, selection of and instruction in use of assistive technology and/or environmental modification, low vs. high tech equipment options, and assessment of client safety during occupational performance.

Lecture Hours: 16 Lab Hours: 32

Prerequisite(s): Admission to Phase II of the Occupational Therapy Assistant program.

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-104.

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-104.

OTA-203 Level I Fieldwork Pediatrics

2 credits—Students will be participant-observers in settings providing occupational therapy services to children and/or adolescents. Emphasis will be placed on development of professional work habits and supervisory collaboration.

Lecture Hours: 16 Co-op Hours: 64

Prerequisite(s): A minimum grade of C in OTA-102, OTA-103, and OTA-104.

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-104.

OTA-302 Physical OTA Skills

3 credits—Structured experiential learning will provide opportunities for the student to solidify knowledge, develop and practice professional behaviors utilized in the occupational therapy process for individuals experiencing disruption in motor and sensory-perceptual abilities needed for adaptive occupational performance.

Lecture Hours: 16 Lab Hours: 64

Prerequisite(s): A minimum grade of C in OTA-311, OTA-312, OTA-313, and OTA-501.

OTA-310 Adult Physical Conditions and Occupations

3 credits—The second in a sequence of courses addressing conditions causing disruption of occupational skills and life roles in humans throughout the lifespan. This course presents theoretical frameworks and models of practice for understanding the occupational nature of early to middle adulthood at home, work and in the community. Approaches for applying the occupational process by the occupational therapy assistant is studied within the contexts of a variety of physical disorders, conditions, and circumstances affecting this period of human development.

Lecture Hours: 48

Prerequisite(s): A minimum grade of C in OTA-311, OTA-312, OTA-313, and OTA-501.

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-203, and OTA-204.

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-203, and OTA-204.

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 development of professional work habits and supervisory collaboration.

Co-op Hours: 64

Prerequisite(s): A minimum grade of C in OTA-201, OTA-202, OTA-203, and OTA-204.

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-501.

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-501.

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 professional 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-501.

OTA-501 Professional Practice for OTA

3 credits—This course speaks to the management and service roles of the occupational therapy assistant, as well as ongoing responsibilities of a career as an occupational therapy healthcare professional. Active learning strategies requiring the student to transcend from a student to entry level practitioner.

Lecture Hours: 48

Prerequisite(s): A minimum grade of C in OTA-201, OTA-202, OTA-203, and OTA-204.

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-310, OTA-302, 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.

PEA: PHYSICAL EDUCATION – ACTIVITIES

PEA-102 Aerobic Fitness I ♦

1 credits—This aerobic course, designed to improve physical fitness levels, starts at the beginner level with students progressing at their own pace. Participants will be given the opportunity to engage in

various types of cardiovascular exercise, some being set to music. Abdominal and low-back exercises are also emphasized.

Lab Hours: 32

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-125 Indoor Cycling ♦

1 credits—This aerobic course introduces students to a low-impact, go at your own pace, cardiovascular workout with no complicated moves to learn. The class is set to music, conducted in a group format, and uses specially built stationary bicycles to improve current health and fitness levels.

Lab Hours: 32

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.

Lecture Hours: 0 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-176 Volleyball I ♦

1 credits—This skill course introduces students to the lifetime activity of volleyball. This will be a fundamental course, teaching the basics of the game from scoring to the actual playing. This course will also cover volleyball etiquette. The class will play two on two, three on three, and standard volleyball.

Lab Hours: 32

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.

Lecture Hours: 0 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-196 Iron Yoga-Pilates Infusion ♦

1 credits—This skills course provides students with an opportunity to contrast and compare yoga and Pilates, and use a host of equipment to compliment both. Emphasis will be placed on muscular strength and endurance, flexibility, physical balance and mind control.

Lab Hours: 32

PEA-287 Weight Training II ♦

Effective Spring 2018.

1 credits—This skill course emphasizes the importance of variation in the weight training regimen by incorporating different training systems.

Lecture Hours: 0 Lab Hours: 32

Prerequisite(s): Minimum grade of D in PEA-187 Weight Training I

PEA-294 Weight Training III ♦

Effective Spring 2018.

1 credits—Weight Training III provides consistent routine instruction in the performance of weight training exercises with emphasis on complex biomechanics of lifting.

Lecture Hours: 0 Lab Hours: 32

PEC: PHYSICAL EDUCATION – COACHING / OFFICIATING

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-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-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-266 Leadership Techniques for Fitness Programs ♦

3 credits—This course will prepare students to develop and implement an individualized and group approach to exercise leadership in healthy populations. The student will also become proficient in writing, leading, and demonstrating safe and effective methods of exercise by applying the fundamental principles of exercise science.

Lecture Hours: 32 Lab Hours: 32

Prerequisite(s): A minimum grade of C- in BIO-163 or BIO-168.

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 C- 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 C- in MAT-063 or appropriate placement score.

PHS-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

PHT: COMMERCIAL PHOTOGRAPHY

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: 32 Lab Hours: 32

Prerequisite(s): A minimum grade of D in PHT-108.

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): 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-132 Photo Design II

3 credits—This course presents the physical, physiological, and psychological dimensions of color and light as perceived by people. The interaction of colors is explored as it relates to studying the forms of color, color harmonies, and color contrasts.

Lecture Hours: 48

Prerequisite(s): A minimum grade of D in PHT-102.

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. Simple commercial techniques will be applied in practical assignments.

Lecture Hours: 32 Lab Hours: 32

Prerequisite(s): A minimum grade of D in PHT-106, PHT-108, and PHT-109.

PHT-208 Basic Photojournalism

3 credits—This survey of photojournalism as a profession leads to publishable photographs through practical assignments. The techniques and working style of outstanding photojournalists are presented in multi-image programs.

Lecture Hours: 48

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-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.

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: 32 Lab Hours: 32

Prerequisite(s): A minimum grade of D in PHT-204.

PHT-229 Intermediate Photojournalism

3 credits—This course prepares students to find employment with various publications and media outlets including newspapers, magazines, public relations departments and internet outlets. Portfolio presentation is required upon completion

Lecture Hours: 48

Prerequisite(s): A minimum grade of C in PHT-208.

PHT-235 Tech. for Studio Promotion

3 credits—This course emphasizes fundamental promotional methods used in professional portrait photography studios and provides exposure to the various advertising and marketing strategies to promote the studio and raise public awareness.

Lecture Hours: 32 Lab Hours: 32

Prerequisite(s): A minimum grade of D in PHT-202 or 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.

PHT-245 History of Photography

3 credits—This course introduces the student to the history of the photographic profession and its ascent to the modern art form we know today. The people, processes, and their contribution to society throughout photography's short history will be discussed and studied. In addition, the medium's future will be examined.

Lecture Hours: 48

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.

PHT-252 Film and Print Scanning

3 credits—This course will study the conversion from analog film and prints into a digital format that can be used within electronic image editing and output.

Lecture Hours: 32 Lab Hours: 32

Prerequisite(s): PHT-215 or PHT-216.

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

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 demonstrated through operation of everyday devices and systems. Emphasis on understanding physical principles behind working of modern technologies and interplay between science and technology.

Lecture Hours: 48

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-747, MAT-128, MAT-134, or appropriate placement score to enroll in MAT-210.

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 D- in MAT-514 or MAT-747.

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.

PNN: PRACTICAL NURSING

PNN-100 Nursing Assistant

3 credits—This course is designed to meet the training requirements of the Omnibus Reconciliation Act of 1987 (OBRA) for aides working in nursing facilities (NF) and skilled nursing facilities (SNF). Emphasis in the course is on students achieving a basic level of knowledge and demonstrating skills to provide safe, effective resident/client care. This course parallels PNN-132 Nursing Fundamentals I.

Lecture Hours: 32 Lab Hours: 16 Clinic Hours: 32

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 C in HSC-108, BIO-168, and ENG-105.

Co-requisite(s): A minimum grade of C in PNN-116, PNN-117, PNN-207, BIO-173, and MAT-122.

PNN-116 Introduction to Nursing Skills Lab

2 credits—This course provides the student with knowledge and practical application of basic nursing skills while incorporating concepts learned in Introduction to Nursing. Students learn and practice basic nursing skills in personal care, Infection control, safety, vital signs, sterile technique, patient safety, documentation, and medication administration. There is major emphasis on the critical elements of nursing procedures and the scientific rationale for performing the procedures correctly.

Lecture Hours: 16 Lab Hours: 32

Prerequisite(s): A minimum grade of C in HSC-108, BIO-168, and ENG-105.

Co-requisite(s): A minimum grade of C in PNN-115, PNN-117, PNN-207, BIO-173, and MAT-122.

PNN-117 Nursing Clinical I

1 credits—This course provides students with an introduction to clinical nursing. Emphasis is placed on utilization of the nursing process as a basis for clinical decision making and development of critical thinking. Nursing professionalism and basic nursing skills such as infection control, hygiene, asepsis, vital signs, and physical assessment are introduced.

Clinic Hours: 48

Prerequisite(s): A minimum grade of C in HSC-108, BIO-168, and ENG-105.

Co-requisite(s): A minimum grade of C in PNN-115, PNN-116, PNN-207, BIO-173, and MAT-122.

PNN-207 Introduction to Pharmacology

3 credits—This course introduces students to the basic principles of pharmacology and medication administration. The student will focus on the safe use, pharmacological principles, indications, and nursing implications related to drug therapy when caring for individuals and families across the life-span. General characteristics of selected medications including pharmacokinetics, pharmacogenomics, side effects, adverse effects, contraindications, and administration will be discussed.

Lecture Hours: 48

Prerequisite(s): A minimum grade of C in HSC-108, BIO-168, and ENG-105.

Co-requisite(s): A minimum grade of C in PNN-115, PNN-116, PNN-117, BIO-173, and MAT-122.

PNN-214 Basic Health Alterations A

Fall 2017 only.

3 credits—This course builds on the knowledge attained in previous course work. Emphasis is placed on applying the nursing process to clients and families across the lifespan, in a variety of settings. The content is organized according to body systems, focusing on nursing implications for clients with predictable health problems, as well as related health promotion and disease prevention strategies.

Systems included in this course are: Musculoskeletal; Integumentary; GI/GU; Renal; Endocrine and Sensory.

Lecture Hours: 48

Prerequisite(s): A minimum grade of C in PNN-115, PNN-116, PNN-117, PNN-207, and BIO-173. A minimum grade of C in MAT-122, MAT-110, MAT-102, MAT-128, MAT-134, MAT-156, MAT-210, MAT-216, or MAT-219.

Pre/Co-requisite(s): A minimum grade of C in PNN-215, PNN-216, PNN-217, PNN-311, and BIO-151.

PNN-215 Basic Health Alterations B

Fall 2017 only.

3 credits—This course builds on the knowledge attained in previous course work. Emphasis is placed on applying the nursing process to clients and families across the lifespan, in a variety of settings. The content is organized according to body systems, focusing on nursing implications for clients with predictable health problems, as well as related health promotion and disease prevention strategies. Systems included in this course are: hematologic, cardiovascular, respiratory, neurological, integumentary and immune.

Lecture Hours: 48

Prerequisite(s): A minimum grade of C in PNN-115, PNN-116, PNN-117, PNN-207, and BIO-173. A minimum grade of C in MAT-122, MAT-110, MAT-102, MAT-128, MAT-134, MAT-156, MAT-210, MAT-216, or MAT-219.

Pre/Co-requisite(s): A minimum grade of C in PNN-214, PNN-216, PNN-217, BIO-151, and PNN-311.

PNN-216 Health Promotion and Maintenance Across the Lifespan

Fall 2017 only.

2 credits—This course builds on the knowledge attained in previous courses, emphasizing health promotion and maintenance across the lifespan. Exemplars from maternal-child nursing and mental health nursing will be used in demonstrating the integration of principles of the nursing process and health care agencies. Cultural, ethical and legal challenges will be discussed.

Lecture Hours: 32

Prerequisite(s): A minimum grade of C in PNN-115, PNN-116, PNN-117, PNN-207, and BIO-173. A minimum grade of C in MAT-122, MAT-110, MAT-102, MAT-128, MAT-134, MAT-156, MAT-210, MAT-216, or MAT-219.

Pre/Co-requisite(s): A minimum grade of C in PNN-214, PNN-215, PNN-217, BIO-151, and PNN-311.

PNN-217 Nursing Clinical II

Fall 2017 only.

4 credits—This course is a study of nursing care of clients. The course stresses clinical and theoretical application as applied to clients throughout their life span. Emphasis is on the nursing process to develop

critical thinking skills to implement a plan of care with a holistic, individualized approach in a structured clinical setting. The clinical experience will provide application of critical thinking skills, prioritizing, theoretical and legal issues, documentation and collaboration with other members of the healthcare team.

Lecture Hours: 0 Clinic Hours: 192

Prerequisite(s): A minimum grade of C in PNN-115, PNN-116, PNN-117, PNN-207, and BIO-173. A minimum grade of C in MAT-122, MAT-110, MAT-102, MAT-128, MAT-134, MAT-156, MAT-210, MAT-216, or MAT-219.

Pre/Co-requisite(s): A minimum grade of C in PNN-214, PNN-215, PNN-216, BIO-151, and PNN-311.

PNN-311 PN Issues and Trends

1 credits—This course is an overview of the role of the licensed practical nurse. This course introduces students to the history, educational preparation, legal and ethical requirements, cultural and spiritual sensitivity. Scopes of practice, career opportunities, and beginning the job search are addressed.

Lecture Hours: 16

Prerequisite(s) *Fall 2017*: A minimum grade of C in PNN-115, PNN-116, PNN-117, PNN-207, and BIO-173. A minimum grade of C in MAT-122, MAT-110, MAT-102, MAT-128, MAT-134, MAT-156, MAT-210, MAT-216, or MAT-219.

Pre/Co-requisite(s) *Fall 2017*: A minimum grade of C in PNN-214, PNN-215, PNN-216, PNN-217, and BIO-151.

Prerequisite(s) *Spring 2018*: Prior completion with a grade of C in each of the following courses:

- PNN-115 Introduction to Nursing
- PNN-116 Introduction to Nursing Skills Lab
- PNN-117 Nursing Clinical I
- PNN-207 Introduction to Pharmacology
- BIO-173 Human Anatomy and Physiology II
- MAT-122 College Algebra -OR-
MAT-110 Math for Liberal Arts -OR-
MAT-102 Intermediate Algebra -OR-
MAT-128 Precalculus -OR-
MAT-134 Trigonometry and Analytic Geometry -OR-
MAT-156 Statistics -OR-
MAT-210 Calculus I -OR-
MAT-216 Calculus II -OR-
MAT-219 Calculus III

Pre/Co-requisite(s) *Spring 2018*: BIO-151 Nutrition with a minimum grade of C.

PNN-330 Medical-Surgical Nursing I

5 credits—This course is a study of the concepts of health and illness and of the nursing process in providing basic nursing care to individuals with respiratory, endocrine, musculoskeletal, neurological, immune, and sensory disorders. Clinical experiences are provided in selected acute care settings.

Lecture Hours: 48 Clinic Hours: 96

Pre/Co-requisite(s): A minimum grade in BIO-151, PNN-311, and PNN-333.

PNN-332 Lifespan and Health Promotion and Mental Well-Being

2 credits—This course is designed to enable students to become familiar with the dynamic aspects of human growth and development and the wellness continuum over the life span. Socio-economic, cultural, and spiritual variables will be incorporated into the understanding of holistic and patient centered care. The course will include the beginning study of mental health concepts with emphasis placed on self-awareness, recognizing therapeutic relationships, and nursing interventions to meet the emotional needs of the client, including the elderly. Planning of care will include various health care agencies and community resources. Ethical and legal challenges will be discussed.

Lecture Hours: 32

Pre/Co-requisite(s): A minimum grad of C in BIO-151, PNN-311, PNN-330, and PNN-332.

PNN-333 Medical-Surgical Nursing II

5 credits—This course is a study of the concepts of health and illness and of the nursing process in providing basic nursing care to individuals with cardiovascular, peripheral-vascular, hematologic, gastrointestinal, gall bladder/liver/pancreatic, genital-urinary (reproductive and renal), and integumentary disorders. Clinical experiences are provided in selected acute care settings.

Lecture Hours: 48 Clinic Hours: 96

Pre/Co-requisite(s): A minimum grad of C in BIO-151, PNN-330, PNN-331, and PNN-332.

POL: POLITICAL SCIENCE

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

PSY: PSYCHOLOGY

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 with emphasis in the areas of learning, cognition, motivation, personality, behavioral disorder, therapy, and social influence. An understanding of the impact of both theoretical perspectives and experimental evidence on the formulation of the science of human behavior is also stressed. Psychological theories and principles are utilized to explain and predict behavior.

Lecture Hours: 48

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."

May be taken for up to 3 credits.

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

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-120, PTA-150, PTA-211, and PTA-284 and pass PTA-310.

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): Acceptance into Phase II of the Physical Therapist Assistant program.

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): Acceptance into Phase II of the Physical Therapist Assistant program.

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): Acceptance into Phase II of the Physical Therapist Assistant program.

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-120, PTA-150, PTA-211, and PTA-284 and pass PTA-310.

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): Acceptance into Phase II of the Physical Therapist Assistant program.

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-120, PTA-150, PTA-211, and PTA-284 and pass PTA-310.

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, motor control, special topics in women's health, and cardiovascular function.

Lecture Hours: 32 Lab Hours: 32

Prerequisite(s): A minimum grade of C in PTA-111, PTA-194, PTA-120, PTA-150, PTA-211, and PTA-284 and pass PTA-310.

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-120, PTA-150, PTA-211, and PTA-284 and pass PTA-310.

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

PTA-310 PTA Clinical I

1 credits—This course consists of Health Care Provider level CPR and First Aid certification; HIPAA, OSHA Hazard Communication (includes blood borne pathogens), and Mandatory Reporter Training for Child and Dependent Adult Abuse; and introduction to the clinic during the first two weeks of the semester, followed by weekly on-site clinical experience in local settings. The course will allow for observation and application of physical therapy interventions and application of elemental principles of patient care to uncomplicated patients under direct supervision and at the discretion of the Clinical Instructor.

Co-op Hours: 64

Prerequisite(s): Acceptance into Phase II of the Physical Therapist Assistant program.

PTA-311 PTA Clinical II

1 credits—This course consists of clinical experiences throughout the semester. The students will have the opportunity to apply skills and knowledge developed in previous course work per the discretion of the Clinical Instructor.

Lecture Hours: 0 Co-op Hours: 64

Prerequisite(s): A minimum grade of C in PTA-111, PTA-194, PTA-120, PTA-150, PTA-211, and PTA-284 and pass PTA-310.

PTA-412 PTA Clinical III

4 credits—This course consists of a full-time clinical rotation at one clinical site. The student will apply skills and knowledge from all previous coursework to patient care with the purpose of developing entry-level clinical competency. Clinical competencies will be continued. An oral presentation will be presented to the staff. The clinical site may require travel away from the local region, including out-of-state.

Lecture Hours: 0 Co-op Hours: 256

Prerequisite(s): A minimum grade of C in PTA-113, PTA-195, PTA-212, PTA-231, and PTA-248.

Pre/Co-requisite(s): A minimum grade of C in PTA-284 and PTA-311.

PTA-413 PTA Clinical IV

4 credits—This course consists of a full-time clinical rotation at one clinical site. The student will continue to apply skills and knowledge obtained from all previous coursework and clinical experiences. Clinical competencies must be completed by the end of this rotation. An oral presentation will be presented to the staff that differs from Clinical III. A one day review of clinical questions and licensure examination details will follow the end of the clinical. Location of clinical sites may require travel away from the local region, including out-of-state.

Co-op Hours: 256

Prerequisite(s): PTA-412.

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

Prerequisite(s): A minimum grade of C in RCP-875.

RDG: READING

RDG-038 College Preparatory Reading I

3 credits—This course is designed to help students improve their reading proficiency in order to manage college textbooks successfully.

Lecture Hours: 48

Prerequisite(s): Appropriate placement scores or equivalent.

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.

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.

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-116 Strategies for Online Academic Success

1 credits—This course prepares students to be successful in the online environment by introducing them to campus resources and academic strategies while equipping them with basic technology skills, such as file management, posting to discussion boards, and navigating a course website. It also gives them practical experience as an online or hybrid learner by using a Course Management System.

Lecture Hours: 16

SDV-127 Study Strategies ♦

1 credits—This course provides a focused examination of the strategies and skills needed for students to be successful at the college level. Students will be introduced to and given opportunity for practice of a variety of skills for academic success and study strategies.

Lecture Hours: 16

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-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

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 the sociological perspective and related critical thinking skills as a way of examining the cause and effect nature of contemporary social problems. Within this examination, emphasized are (a) the interdependence of social problems, (b) how social inequality is an inherent characteristic of all social problems, and (c) the relationship between definitions of social problems and social policies.

Lecture Hours: 48

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, and functions of the family and dysfunctions. Statuses such as being single to marriage to parenthood are emphasized, as are alternative lifestyles with respect to sexuality and family.

Lecture Hours: 48

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

SOC-180 Social Work Interactional Skills ♦

Effective Spring 2018.

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 ♦

Effective Spring 2018.

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.

Lecture Hours: 0 Lab Hours: 32

Pre/Co-requisite(s): Minimum grade of C in SOC-180 Social Work Interactional Skills.

SOC-195 Urban Studies ♦

3 credits—This course is an interdisciplinary introduction to the study of urban issues and culture with an emphasis on the growth and development of urban areas. It utilizes a wide range of approaches: historical, political, social, spatial, economic and cultural to examine the unique qualities and problems of urban life.

Lecture Hours: 48

Prerequisite(s): A minimum grade of C- in HIS-152, SOC-110, SOC-115, GEO-115, or POL-111.

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—Introduction to the sociological study of group relations in the United States. Basic concepts such as culture, groups, inequality, prejudice and discrimination will be explored. Focus will be on class, race, and gender, however other statuses (such as sexual orientation, religion, age, and abilities) will also be discussed. Students will gain a better understanding of the relationship between individuals and society, as well as the experiences of minority groups.

Lecture Hours: 48

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.

May be taken for up to 5 credits.

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

May be taken for up to 3 credits.

Lecture Hours: 16

SPC: SPEECH

SPC-101 Fundamentals of Oral Communication ◆

3 credits—This course presents elements of the oral communications process with emphasis on developing interpersonal, small group, and public speaking skills. Students will be involved in activities that provide opportunity for the understanding and improvement of their oral communication skills.

Lecture Hours: 48

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 explores concepts, contexts, and processes of person-to-person communication in relationships. Emphasis is placed on understanding how social worlds are created through conversation.

Lecture Hours: 48

SPC-132 Group Communication ♦

3 credits—Group Process examines the principles of small group communication processes with opportunities for students to apply theory in various structured discussion situations.

Lecture Hours: 48

Prerequisite(s): A minimum grade of C- in SPC-101.

SPC-140 Oral Interpretation ♦

3 credits—This course will explore literature through performance using creative individual and group explorations. Students will learn to select, analyze, rehearse and perform literature of various types using vocal and physical techniques.

Lecture Hours: 48

TDT: TRUCK DRIVING AND TRANSPORTATION

TDT-100 Interpersonal Relations

2 credits—This course covers personal health and safety, public and employer relations and stress management on the job in a new career. Also included in the course are written communication and oral communication skills. Instruction is provided in employment seeking skills, resumes, cover letters, thank you letters, letters of application, personal record keeping, and desirable work attitude.

Lecture Hours: 32

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.

Lecture Hours: 0 Lab Hours: 96

Prerequisite(s): A minimum grade of D in TDT-115.

TDT-126 Commercial License Preparation

3 credits—This course is an introduction to The Federal Motor Carrier Safety Administrations' rules and regulations pertaining to drivers of commercial motor vehicles. This course prepares students to pass the knowledge tests required to obtain a Class A CDL.

Lecture Hours: 48

TDT-128 Driving Skills Development

3 credits—This course provides students with hands-on experience in basic maneuvers with trucks and trailers. Proper techniques are taught in engine starting and shut down, clutching, shifting, cornering and backing. Behind the wheel training will include pulling both loaded and empty trailers in rural, city and interstate highway settings. Emphasis is placed on defensive driving and proper technical practices. Students will prepare for a Class A Commercial Drivers License with all endorsements.

Lecture Hours: 16 Lab Hours: 96

Co-requisite(s): TDT-126.

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.

Lecture Hours: 0 Co-op Hours: 192

Prerequisite(s): A minimum grade of D in TDT-100, TDT-115, and TDT-118.

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-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 student develop a toolbox of techniques to improve their programming skills for web application development.

Lecture Hours: 32 Lab Hours: 32

Prerequisite(s): A minimum grade of C in 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-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-104 Introduction to MIG Welding

2 credits—This course is an introduction to the Gas Metal Arc Welding process, also known as MIG Welding and Flux Cored Arc Welding. Topics include safety, theory of operation, advantages of both processes, types of power sources, types of wire electrodes and shielding gases, types of metal transfer, types of joints, minor equipment maintenance and basic welding terminology. Shop practice will include welding the five basic joints, with both welding processes, on mild steel in the flat and horizontal positions.

Lecture Hours: 16 Lab Hours: 32

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-111 Welding Blueprint Reading

3 credits—This course is an introduction to basic welding blueprint reading. Topics include: the importance of blueprints as a form of communications, basic lines and views, dimensioning methods, tolerances, bill of material, identifying structural shapes and basic sketching principles. The application and interpretation of AWS welding symbols and abbreviations is emphasized. Students will fabricate parts from the blueprint book.

Lecture Hours: 48

WEL-112 Welding Blueprint Reading Advanced

Fall 2017 only.

2 credits—This course is a continuation of Blueprint Reading I. The application and interpretation of AWS welding symbols and abbreviations is emphasized in this unit. Students will also fabricate parts from the blueprint book.

Lecture Hours: 32

Prerequisite(s): WEL-111.

WEL-125 Fusion and Braze Welding

2 credits—This course is an introduction to Oxy-acetylene fusion welding and braze welding of steel and cast iron. Topics include: process theory, safety, fusion welding/braze welding techniques for mild steel, fusion welding/braze welding techniques for cast iron and weld quality.

Lab Hours: 96

Prerequisite(s): WEL-134 and WEL-155.

WEL-134 Cutting Processes

2 credits—This course is an introduction to principles and practices of oxy-fuel cutting, plasma cutting, and arc air gouging. Topics include: safety, theory of operation, equipment, proper set-up procedures and basic terminology. Shop practice includes plasma cutting and arc air gouging principles and practices and flame cutting of mild steel.

Lecture Hours: 16 Lab Hours: 48

WEL-155 Arc Welding I (SMAW)

4 credits—This course is an introduction to the Shielded Metal Arc Welding process, also known as stick welding. Topics of study include: safety, theory of operation, types of welding power sources, advantages of the process, types of mild steel electrodes, types of joints, basic welding terms, and AC and DC current. Shop practice on the five basic joints will be performed in the flat and horizontal positions with various mild steel electrodes.

Lecture Hours: 16 Lab Hours: 144

WEL-164 Arc Welding II (SMAW)

Fall 2017 only.

4 credits—This course is a continuation of Arc Welding I. Vertical down, vertical up, and overhead welding procedures and techniques are introduced. Successful completion of the AWS Structural Steel Welding performance test is stressed. In addition, the student is introduced to the theory and practices of Hardsurfacing with the Shielded Metal Arc Welding process. Safety procedures are reviewed.

Lab Hours: 192

Prerequisite(s): WEL-155.

WEL-187 Advanced GMAW

Fall 2017 only.

Vertical down, vertical up and overhead welding procedures and techniques are introduced. Successful completion of the AWS Structural Steel Welding performance test is stressed. Safety procedures are reviewed.

Lab Hours: 192

Prerequisite(s): WEL-186.

WEL-191 Gas Tungsten Arc Welding

3 credits—This course is an introduction to Gas Tungsten Arc Welding process, also known as T.I.G. Topics of study include: safety, theory of the process, advantages, types of power sources, pulsed power sources, types of electrodes and shielding gases, basic joints, basic welding terminology, and AC and DC current. Shop practice on the five basic joints in all positions will be emphasized. The learner will weld on mild steel, aluminum and stainless steel sheet.

Lab Hours: 144

Prerequisite(s): WEL-155

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-234 Introduction to GMAW II

2 credits—The introduction to Gas Metal Arc Welding II course will allow students to enhance their basic welding hands-on skills to improve their proficiency using Metal Inert Gas (MIG) welding processes. Shop practice will include welding the five basic joints, with both welding processes, on mild steel in the flat and horizontal positions.

Lab Hours: 96

Prerequisite(s): A minimum grade of C in WEL-104.

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.

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.

Lecture Hours: 0 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.

Lecture Hours: 0 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.

Lecture Hours: 0 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.

Lecture Hours: 0 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.

Lecture Hours: 0 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.

Lecture Hours: 0 Lab Hours: 32

Co-requisite(s): WEL-251, WEL-252, and WEL-253.

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.

Lecture Hours: 0 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.

Lecture Hours: 0 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-710 Robotic Welding

6 credits—This course is an introduction to robotic welding. Students will learn the advantages and limitations of welding robots and their current application in modern manufacturing. Robot components

and basic robot programming are covered in detail. The variables for Gas Metal Arc Welding, arc welding safety, robot safety and weld quality and weld defects are included.

Lecture Hours: 48 Lab Hours: 144

Prerequisite(s): WEL-111, WEL-155, WEL-186, WEL-187, and MAT-772.

WEL-928 Independent Study

2 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 is repeatable with different content for credit.

Lecture Hours: 0 Lab Hours: 64

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

WTT: WIND ENERGY AND TURBINE TECHNOLOGY

WTT-103 Introduction to Wind Energy

2 credits—The Wind Turbine Fundamentals course will provide students with the knowledge of the different types of Wind Turbines. their development and their current status will be presented. The evolution of small(watts) to large(mega-watt) systems will be reviewed. The characteristics of wind capture and conversion will be analyzed from a regional, national and global perspective. Jobs, training and safety related to the wind industry will be studied. Students will be expected to carry out research and present reports on selected turbines or wind turbine manufactures.

Lecture Hours: 16 Lab Hours: 32

WTT-144 Wind Turbine System Controls

3 credits—The Wind Turbine System Controls course will cover the control functions necessary to maximize a wind turbines output, to enable safe operation and useful life.

Lecture Hours: 32 Lab Hours: 32