



NORTH IOWA AREA  
COMMUNITY COLLEGE

# General Catalog

2016-2017



# TABLE OF CONTENTS

General Information . . . . .	4
Enrollment Services . . . . .	11
Admissions . . . . .	12
School Partnerships . . . . .	13
Instructional Resources . . . . .	15
List of Majors . . . . .	19
Career Programs . . . . .	25
Agricultural Technology . . . . .	26
Business . . . . .	32
Family and Human Services . . . . .	58
Health . . . . .	64
Industrial Technology . . . . .	82
College Transfer Programs . . . . .	93
General Education/Other Transfer Courses . . . . .	96
Online @ NIACC . . . . .	108
Course Descriptions . . . . .	113
Staff . . . . .	163
Index . . . . .	173

This catalog is published for informational purposes and should not be construed as the basis of a contract between a student and North Iowa Area Community College. Every effort is made to provide information that is accurate at the time the catalog is prepared. However, information concerning regulations, policies, fees, curricula, courses, and other matters contained in this catalog is subject to change at any time during the period for which the catalog is in effect.

**For more information about opportunities at North Iowa Area Community College, call the Admissions Office at (641) 422-4245 or 1-888 GO NIACC (466-4222), Ext. 4245.**  
**Address: 500 College Drive, Mason City, IA 50401**  
**Website: [www.niacc.edu](http://www.niacc.edu)**  
**E-mail: [request@niacc.edu](mailto:request@niacc.edu)**

# General Information

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LOCATION AND HISTORY

ACCREDITATION AND APPROVAL

BOARD OF DIRECTORS

STRATEGIC PLAN 2011-2017

GENERAL EDUCATION

DEGREE REQUIREMENTS

FACILITIES/SERVICES

CONTINUING EDUCATION

NORTH IOWA AREA COMMUNITY COLLEGE FOUNDATION

NONDISCRIMINATION POLICY

DISABILITY SERVICES

OFFICE HOURS



## General Information

### LOCATION AND HISTORY

North Iowa Area Community College (NIACC) is located just off Highway 122, four miles east of downtown Mason City, Iowa, a community of almost 30,000 which serves as an active business center for northern Iowa and southern Minnesota. The community is served by the Mason City airport and a bus line.

The North Iowa Area Community College District (Area 2) was formed in 1966 in compliance with laws enacted by the 1965 Iowa Legislature, which provided for the delivery of postsecondary education in Iowa.

The NIACC Board of Directors assumed operation of Mason City Junior College, which was the first public two-year college in Iowa and one of the earliest in the country having been established in 1918 by the Mason City Independent School District.

Construction of the present campus began in 1970. A campus directory can be found in the back of this catalog.

### ACCREDITATION AND APPROVAL

North Iowa Area Community College has been accredited since 1919 by The Higher Learning Commission of the North Central Association, 30 North LaSalle Street, Suite 2400, Chicago, IL 60602, (800) 621-7440.

### BOARD OF DIRECTORS

David Steffens, Jr., Board President, Norsemen Trucking, Inc., Lake Mills, 2000-2017

John Rowe, Board Vice President, Financial Advisor, Mason City, 2013-2019

Toni Noah, Retired, Charles City, Past Board President, 2006-2017

John Heilskov, CPA, Hampton, 2002-2019

Dean Cataldo, Retired, Garner, 2003-2019

Karen Knudtson, Realtor, Mason City, 1989-2019

Doug Krabbe, Senior Lending Officer, Osage, 2013-2017

Jim Niemants, Investment Representative, Clear Lake, 2005-2017

Jean Torgeson, Certified Legal Nurse Consultant, Manly, 2001-2019

Kathy Grove, Secretary and Treasurer, North Iowa Area Community College

## STRATEGIC PLAN 2011-2017

### Vision

North Iowa Area Community College is our region's first choice for post-secondary education, recognized for its commitment to quality teaching and learning and dedication to seamless educational opportunities, exemplary programs and services, responsive and collaborative partnerships with business and industry, and steadfast commitment to the individuals we serve locally, regionally, and internationally.

### Mission

The mission of North Iowa Area Community College is to enhance the quality of life for the people of North Iowa through comprehensive educational opportunities, progressive partnerships, exemplary service, and responsive leadership.

### Core Values

- Academic Excellence
- Integrity
- Community

### Strategic Priorities

#### *Keeping NIACC First in Education*

#### Student Quality Experience

NIACC students will have a superior learning experience as evidenced by the College collaborating to increase organizational efficiencies, delivering top-quality service, practicing learning college principles, optimizing financial aid opportunities, and increasing academic quality and student completion and success.

#### Quality and Relevant Education

NIACC embraces assessment as a critical and essential strategy for the continuous improvement of its programs, courses, and 21st century student learning outcomes.

#### Educational Center for Excellence

NIACC's Center for Excellence in Teaching and Learning serves as a resource for all employees teaching NIACC courses, in all venues across our district by providing educational support services and supporting innovative pedagogy and assessment methodology.

#### Expand Outreach Centers

NIACC has a strong and enhanced presence in its regional centers as evidenced by the innovative utilization of technology, expanded educational and cultural offerings, and strong public school partnerships.

#### Performance Metrics

NIACC has useful and meaningful key performance indicators that measure and communicate the effectiveness of teaching and learning strategies, student engagement, and administrative processes that support the educational process.



***Keeping NIACC First in Leadership***Innovative Educational Methods

NIACC's innovation is recognized through the research, development and application of innovative educational methods of instruction, course and program development, workforce preparation, small business development and entrepreneurship, and community engagement.

Premier Employer/Culture

NIACC is an exemplary workplace that serves as a model for other institutions across Iowa and the nation.

Collaboration with Community and Regional Organizations

NIACC promotes economic growth in North Iowa as evidenced through its facilitation of economic and workforce development strategies, which engage and collaborate with the region's economic development corporations, business and industry partners, regional and state organizations, and national initiatives.

Advocacy

NIACC advocates for education, economic vitality and the social welfare of the residents of North Iowa by engaging actively in the legislative process, economic and business development, and community service and cultural efforts.

***Keeping NIACC First in Partnership***New Types of Partnerships

NIACC's new partnerships reflect best practices, leveraging technology, facilities, and emerging innovative educational and economic strategies.

New Educational Partnerships

NIACC's new educational partnerships take advantage of new teaching and learning strategies, partnerships with other educational institutions, community-based organizations, governmental agencies, and corporate partners in support of student learning.

New Regional (Community Development) Partnerships to Promote Growth

NIACC's expanded regional partnerships provide benefit to North Iowa communities evidenced by economic growth and opportunities traced back to NIACC's direct involvement.

Partner Viability

Each NIACC partnership provides relevant and effective use of partner resources resulting in mutual benefit to partners, the community and students.

**GENERAL EDUCATION*****Philosophy***

Education is the foundation of a democratic society. General education engages students in an ongoing endeavor to acquire the knowledge and tools necessary to understand their environment and contribute to their communities.

***Definition***

A collection of diverse experiences in learning that teach generalized skills in communication, critical analysis, research, global awareness, interpersonal relations, aesthetics, math, and technology and survey subject matter to allow for applications of this learning in the classroom and community.

***General Education Program***

The General Education program at NIACC is based on eight learning objectives:

1. Communication and Interpersonal Skills: Students will possess appropriate reading, writing, speaking, listening and interpersonal skills to interact with others and express themselves effectively through written, oral, visual, and electronic methods.
2. Quantitative Skills: Students will use quantitative skills and the concepts and methods of mathematics to solve problems across disciplines.
3. Critical Thinking: Students will demonstrate goal-directed reasoning to arrive at valid conclusions, meaningful solutions, and informed evaluations.
4. Information Literacy: Students will be able to locate and use information from a variety of appropriate sources to support their judgments and arguments.
5. Technological Skills: Students will demonstrate the ability to access, understand, manage, and use technology needed to solve problems and extend human capabilities.
6. Global Awareness: Students will become familiar with the languages, history, geography, and social norms of other cultures, in order to foster cooperation, understanding, and appreciation.
7. Aesthetics: Students will create, appreciate, understand, and evaluate the nature and value of the fine arts or elements of craftsmanship.
8. Scientific Literacy: Students will demonstrate knowledge and understanding of scientific concepts and processes required for personal decision making and responsible participation in civic affairs.

These learning objectives are addressed in the General Education core of each degree program.

## DEGREE REQUIREMENTS

### Associate Degrees

#### Associate in Arts

Purposes of the degree:

1. Provide a degree goal for students who choose to follow a course of study which is specifically designed for transfer to a baccalaureate degree program.
2. Provide the essential general education, grade, and semester hour requirements for upper division status at most senior colleges and universities.

Requirements for the degree include:

1. Completion of at least sixty-two (62) semester hours of work consisting of courses whose principal design is for a baccalaureate program. Up to 16 semester hours of career courses can be used as elective credit. Developmental courses cannot be used to meet this requirement.
2. One-half of the required semester hours must be completed under the aegis of North Iowa Area Community College including 15 of the last 30 semester hours.
3. A minimum overall cumulative grade point average of 2.00 (C) including a 2.00 (C) cumulative grade point average in all course work at NIACC. Developmental courses are not used in calculating the cumulative grade point average for graduation.
4. Completion of the following General Education Core with a minimum of 41 semester hours:

Communication . . . . . 9 s.h.

This requirement can be satisfied by baccalaureate-oriented communication or speech courses with a minimum of two courses in English composition.

Social Sciences . . . . . 8 s.h.

Humanities . . . . . 8 s.h.

Performance courses such as vocal and instrumental music may satisfy no more than four hours of this requirement. (Additional performance courses will be counted as elective credit.)

Natural Science/Mathematics\* . . . . . 8 s.h.

(including at least one math and at least one science course)

Distributed Requirement . . . . . 8 s.h.

(to be taken from among the four divisions above)

\*It is recommended that students take a minimum of four semester hours of laboratory science.

5. Completion of SDV1-119 College Essentials (1 s.h.).

#### Associate in Science

The purpose of the Associate in Science Degree is to provide a degree goal for students who choose to follow a Natural Science degree program.

Requirements for the degree include:

1. Completion of at least sixty-two (62) semester hours of work consisting of courses whose principal design is for a baccalaureate program. Up to 16 semester hours of career courses can be used as elective credit. Developmental courses cannot be used to meet this requirement.
2. One-half of the required semester hours must be completed under the aegis of North Iowa Area Community College including 15 of the last 30 semester hours.
3. A minimum overall cumulative grade point average of 2.00 (C) including a 2.00 (C) cumulative grade point average in all course work at NIACC. Developmental courses are not used in calculating the cumulative grade point average for graduation.
4. Completion of the following General Education Core with a minimum of 41 semester hours:
 

Communication . . . . . 9 s.h.

Social Sciences/Humanities . . . . . 8 s.h.

Natural Science/Mathematics . . . . . 20 s.h.  
(must include at least one math and at least one science course)

Distributed Requirement . . . . . 4 s.h.
5. Completion of SDV1-119 College Essentials (1 s.h.).

#### Associate in Applied Science

Purposes of the degree include:

1. Provide a degree goal for students who choose to follow a course of study which is specifically designed to lead to employment upon completion of two years of study.
2. Provide the student with an entry skill level appropriate to the career for which he/she has been preparing.
3. Provide the student with general education skills: communication, social science and/or humanities, and math and/or science.

Requirements for the degree include:

1. Completion of at least sixty (60) semester hours of a prescribed two-year career curriculum. Developmental courses cannot be used to meet this requirement.
2. One-half of the required semester hours must be completed under the aegis of North Iowa Area Community College (including 15 of the last 30 semester hours), unless specified otherwise by a program's accrediting agency.
3. A minimum overall cumulative grade point average of 2.00 (C) including a 2.00 (C) cumulative grade point average in all course

work at NIACC. Developmental courses are not used in calculating the cumulative grade point average for graduation.

4. Completion of a general education core of at least 15 semester hours including 3 semester hours from each of the following categories: Communications, Social Science/Humanities, and Natural Science/Mathematics.

### **Associate in General Studies**

Purposes of the degree include:

1. Provide a degree goal for students who choose to follow an individualized course of study which is not specifically designed for transfer to a baccalaureate degree program.
2. Provide an attainable associate degree for students who complete career programs of less than two years duration.
3. Provide an associate degree for career education students who wish to enroll in selected courses to reach a personal career objective.
4. Provide a degree goal for students whose educational goals shift after initial commitment has been made.
5. Provide a flexible associate degree for students who attend college on a part-time or other nontraditional basis.

Requirements for the degree include:

1. Completion of at least sixty (60) semester hours of work designed to meet the personal or career goals of each individual student. Developmental courses cannot be used to meet this requirement.
2. One-half of the required semester hours must be completed under the aegis of North Iowa Area Community College including 15 of the last 30 semester hours.
3. A minimum overall cumulative grade point average of 2.00 (C) including a 2.00 (C) cumulative grade point average in all course work at NIACC. Developmental courses are not used in calculating the cumulative grade point average for graduation.



### **Diploma**

Purposes of the diploma include:

1. Provide a diploma goal for students who choose to follow a course of study which is specifically designed to lead to employment.
2. Provide the student with an entry skill level appropriate to the career for which he/she has been preparing.

Requirements for the diploma include:

1. Completion of at least thirty (30) semester hours of credit including a minimum of 3 semester hours of general education credit.
2. A minimum overall cumulative grade point average of 2.00 (C) including a 2.00 (C) cumulative grade point average in all course work at NIACC. Developmental courses are not used in calculating the cumulative grade point average for graduation.

### **Certificates**

Certificates of completion are awarded to indicate that a student has satisfactorily completed a program of instruction other than those indicated previously. Certificates are usually issued to students upon completion of a short-term program of study with a 2.00 (C) grade point average.

## **FACILITIES/SERVICES**

The main campus in Mason City consists of contemporary, attractive facilities located around lakes in a park-like setting. The 500-acre campus provides facilities for instructional, administrative, recreational, and community activities. Up-to-date laboratories offer the latest in technological equipment. Adequate parking is available without charge for students and staff members. The Campus View Housing Complex is located at the north edge of the campus.

### **Agriculture Technology Lab**

The NIACC farm lab consists of a cow/calf operation, farrow/breeding facility, pole barn, swine confinement, pasture, and no-till demonstration fields.

### **Athletic/Recreational Fields**

Baseball, softball, soccer, and recreational fields are located on the east edge of the campus.

### **Career Counseling and Employment Center**

The Career Counseling and Employment Center is located in the Pierce Administration Building, Room 106, or can be reached by phone at 641-422-4413. The Center provides NIACC students and alumni resources and support in successfully securing employment and opportunities. A variety of resources, tools, and activities are available to students and alumni as well as one-on-one support. The Career Counseling and Employment Center works in partnership with IowaWORKS–North Iowa through the Workforce Development Partnership to enhance the resources and service

available. For more information on the Career Counseling and Employment Center and its services, see the Student Handbook or the NIACC website.

### **Conference Center**

The Muse-Norris Conference Center, located east of the Auditorium and Fine Arts area, serves NIACC and community groups for education-related meetings and activities. A multi-purpose recreational area is found on the lower level.

### **Business Training and Support**

The John Pappajohn Entrepreneurial Center provides entrepreneurial training and business consulting services to aspiring entrepreneurs, small business owners, and individuals working in high growth industries. The comprehensive programs are designed to increase successful new business starts, reduce the high failure rate of young ventures, and strengthen business growth opportunities. For more information, call (641) 422-4111.

### **Laboratories**

The attractive facilities available in the Natural Science and Mathematics Divisions are considered unusually complete for a community college. The math lab and the physical and biological science laboratory areas provide for effective learning opportunities.

The laboratories in the Business Division, Buettner Careers Building, and Murphy Manufacturing Technology Center contain the latest equipment and facilities for proper instruction in the career and technical areas.

Computer labs are available throughout campus (including the residence halls) and are available to all students for instructional use, Writer's Workbench analysis, checking e-mail, or web browsing and research. Lab attendants are on staff to assist students. Students have access to this equipment days and evenings, Monday through Saturday.

### **Library**

Conveniently located in the Clifford H. Beem Center, the NIACC Library serves the College as a vital part of the learning experience. Built in 1977, it is an attractive facility providing seating for 150 people. Conference rooms provide areas for group study. Collections include books, reference materials, and nonbook media in the forms of audiotapes, videotapes, DVDs, and electronic resources. The Library subscribes to state and national newspapers as well as area papers; periodical subscriptions cover a broad spectrum of subjects to meet user needs. Materials are coordinated with the curriculum, supporting the career and technical and the academic. In addition, a collection of contemporary fiction is maintained. The Library's online catalog makes it easy to locate resources. For more information on the Library and its services, see page 17.

### **North Iowa Community Auditorium**

A variety of opportunities are available to NIACC students through the North Iowa Community Auditorium, a modern 1156-seat facility located on the NIACC campus. Students perform regularly on stage through the NIACC vocal and instrumental music departments. In addition to student and community shows, performances by nationally and internationally known artists are available to NIACC students, often at reduced prices.

Before the show or between classes, students may browse through the Auditorium Gallery where they will see various exhibits created by famous artists and NIACC art faculty and students.

### **On-Campus Housing**

Completed in 2015, the Campus View Housing Complex provides housing facilities to 396 single men and women. Located at the north edge of campus, the housing complex includes a computer lab, laundry facilities, recreational and study area, C-store, and adjacent dining facility.

### **Recreation Center**

The College opened the Recreation Center during the fall semester of 2008. The facility is just over 41,000 square feet and houses numerous wellness spaces and equipment for students, staff and faculty:

- A suspended walk/jog track
- A state-of-the-art athletic training room
- Two volleyball/basketball/tennis courts
- Athletic Department offices
- Locker rooms for men and women
- Two golf/baseball/softball hitting cages
- Wrestling room
- Intramural/Recreation Office

North Iowa Area Community College recognizes the value of development of both mind and body. The Recreation Center, along with classes and extracurricular activities, enhances the overall experience for our NIACC community.

### **Small Business Assistance**

The Small Business Development Center offers assistance to small business owners or would-be entrepreneurs in all areas of business management, including sources of capital, loan applications, marketing strategies, and financial planning and analysis. Assistance includes counseling, training, and information. Services are either free or low cost.

The SBDC is affiliated with Iowa State University and the U.S. Small Business Administration under Agreement No. 5-7770-0016-14. For more information, call (641) 422-4342.

### **Student Activity Center**

Located in the heart of campus, the Student Activity Center offers a classy, comfortable atmosphere for studying, dining, lounging, and visiting with classmates and instructors. Meals and snacks may be obtained in the Food Court, Monday through Friday. Vending machines are also available.

### **Student Learning Center**

The Student Learning Center, located in Beem Center, offers opportunities to all college students and potential students who wish to:

1. Increase their understanding/learning in NIACC courses through one-on-one or small group academic support.
2. Improve their skills in reading, writing, math, and study techniques (for example, note-taking, test-taking, time management) either as brush-up before enrollment or while participating in a NIACC course.



3. Gain high school credit/s, in a self-directed study format through the High School Credit Program after approval from the student's high school.
4. Validate their skills by participating in a testing program such as HSED or CLEP. To register for a CLEP exam, call 641-422-4101.

For further information, students should contact their counselor, the Learning Center staff, or refer to the Instructional Resources section of this catalog.

#### **Tobacco-Free Campus**

Pursuant to the Iowa Smokefree Air Act smoke/tobacco use, including cigarettes, cigars, pipes & smokeless tobacco is prohibited. The use of e-cigarettes is also prohibited. Smoking is defined as the burning or inhaling of tobacco or other matter that can be smoked or inhaled, or the inhaling of smoke or vapor from an electronic smoking device. Use is prohibited in all North Iowa Area Community College owned property including vehicles, facilities, parking areas, and grounds.



## **CONTINUING EDUCATION**

#### **Office Hours**

Continuing Education office hours are Monday through Friday 7:30 a.m. - 4:15 p.m.

#### **Business Management**

NIACC can help employees learn how to communicate better, deal with workplace stress, delegate effectively, understand motivational concepts, manage their time, and build their leadership skills for maximum organizational effectiveness.

#### **Community Education**

North Iowa Area Community College partners with local communities and their school districts and has five outreach centers to remove the barriers of distance in providing lifelong learning opportunities to the people of the area. Most community education centers have an advisory board and an operations board comprised of community members who provide insight for local education programs and facility planning.

#### **Computer Skills**

Computer proficiency is a vital part of competitiveness in today's business world. NIACC can provide the highest quality and most cost-effective computer training in North Iowa. Classes are taught on campus or at the work site.

#### **Health and Wellness**

A wide range of health-related offerings are provided. Activities for the health professional focus on courses that meet licensing/relicensing requirements for various boards. Courses for the general public are also available. For the convenience of the student, a mix of traditional, online, and hybrid course delivery methods are used.

#### **Lean Enterprise**

A Lean Enterprise uses a systematic approach to eliminating waste and producing what your customers want when they want it. It does not matter if your business is a service or a manufacturer, NIACC can implement Lean principles into your workplace. Curriculum is available that specializes in manufacturing, process, office and health care environments.

#### **Lifelong Learning Institute**

NIACC offers the opportunity for adults to become a member of the Lifelong Learning Institute, a community of adults of all ages who learn for the joy of learning without grades, tests, papers or long-term classes. The Lifelong Learning Institute serves people of all educational backgrounds and provides the perfect way to expand knowledge while meeting other like-minded adults. The focus of the Lifelong Learning Institute is on fun, friendship and college-level learning. Members can take advantage of short courses, lectures and discussions, study circles, social events, civic engagement opportunities and more. Topics for the courses are based on member requests and interests. Class length varies from one session to 12 weeks of class depending on the course content and instructor. A \$99 annual membership fee provides members with a variety of membership benefits. There is no additional tuition for Lifelong Learning Institute courses, lectures and study circles.

#### **Manufacturing Skills and Processes**

NIACC can help industries educate new employees or advance the skills of current employees about new processes, procedures and technologies. Standardized offerings include courses through the American Production and Inventory Control Society (APICS), the National Association of Purchasing Management (NAPM), and the American Society of Quality (ASQ).

#### **Online, ICN and Facilities**

With Continuing Education's availability of over 500 courses delivered online, a company can benefit from programs across the country. The statewide fiber optics capabilities (ICN) also allow employees to attend seminars and workshops in interactive television classrooms and take some courses without leaving town.

#### **Retired Senior Volunteer Program**

The Retired Senior Volunteer Program (RSVP) of North Central Iowa is part of a national network of programs called Senior Corps that recruits adults 55 and older to use their skills, talents, and life experience to help meet community needs through volunteer service. Volunteers work with students in elementary and middle schools throughout a four-county area. Partnerships are based on established criteria, which indicate unmet community needs that could be met by the skills, wisdom, and time of RSVP volunteers. RSVP of North Central Iowa focuses on helping children and youth achieve their full potential through assistance with literacy and mentoring. RSVP serves the counties of Cerro Gordo, Hancock, Winnebago, and Worth. NIACC became the sponsor agency of RSVP of North Central Iowa in June 2009.

**State Funding Programs**

The Iowa Jobs Training program (260F) invests in customized training for existing employees. The program is designed to provide funding to train or retrain a company's workforce. The Iowa New Jobs Training Program (260E) assists businesses that are creating new positions. The program is designed to lower the cost of adding and training the newly created positions. Companies must qualify under the parameters of the programs to receive assistance.

**NORTH IOWA AREA COMMUNITY COLLEGE FOUNDATION**

The North Iowa Area Community College Foundation was incorporated in 1968 as the official fund-raising arm of the College. It is recognized by the Internal Revenue Service as a 501(c)(3) not-for-profit, tax-exempt corporation operating for the express benefit of the College. It is governed by a Board of Directors who serve in a noncompensated capacity.

The Foundation supports the mission of the College by serving as a financial resource in a variety of areas, including program development, equipment acquisition, building construction, cultural opportunities, and student scholarships. Private gifts through the Foundation have played an important role in the College's history, and there are many ways that individuals, businesses, and organizations may support the College.

The Foundation is authorized to solicit and receive gifts of cash, property, equipment, and/or bequests and to purchase or lease property for the benefit of the College. Foundation books and records are audited annually.

**NONDISCRIMINATION POLICY**

It is the policy of North Iowa Area Community College to not discriminate on the basis of race, color, national origin, sex (including pregnancy), disability, age, sexual orientation, gender identity, genetic information, creed, religion, actual or potential parental, family or marital status or veteran's status in its programs, activities or employment practices as required by the Iowa Code sections 216.6 and 216.9, Titles VI and VII of the Civil Rights Act of 1964 (42 U.S.C. § 2000d and 2000e), the Equal Pay Act of 1973 (29 U.S.C. § 206, et seq.), Title IX (Educational Amendments, 20 U.S.C. §§ 1681 – 1688), Section 504 (Rehabilitation Act of 1973, 29 U.S.C. § 794), and the Americans with Disabilities Act (42 U.S.C. § 12101, et seq.).

Individuals having questions or complaints related to compliance with this policy should contact Shelly Schmit, EEO/AA Officer, 500 College Drive, Mason City, IA 50401 or via telephone at 641-422-4211. Inquiries may also be directed to the Director of the Office for Civil Rights, U.S. Department of Education, Citigroup Center, 500 W. Madison, Suite 1475, Chicago, IL 60661, phone number 312/730-1560, fax 312/730-1576.

**DISABILITY SERVICES**

North Iowa Area Community College strives to provide an accessible environment for students, faculty, and staff. We provide support to students with disabilities in reaching academic goals and work to ensure equal access to educational opportunities. North Iowa Area Community College employs a Disability Services Counselor

who coordinates services between students with disabilities and their interactions with the college. Working in partnership with the student, the Disability Services Counselor will assist in developing an individual plan for services that will include accommodations in testing and instruction.

A student needing accommodations should register with NIACC Disability Services and speak to the Disability Services Counselor in the Student Access Office, AB106. For additional information, contact us at 1-888-466-4222, Ext. 4413, and ask for a brochure regarding Disability Services or to request a meeting with the Disability Services Counselor. Our website is <http://www.niacc.edu/student-life/disability-services/>.

North Iowa Area Community College supports you in your right to file a grievance when you believe you have been denied equal access to NIACC's services, programs, and activities. For a description of this procedure you may contact NIACC Disability Services or find it on our website at <http://www.niacc.edu/student-life/disability-services/policies-procedures/grievance-procedure/>.

A Disability Services Student Handbook can be found on our website at <http://www.niacc.edu/student-life/disability-services/disability-services-student-handbook/> or can be provided in hard copy (or an alternate format), upon request, and lists contact information for NIACC's ADA Coordinator and ADA Compliance Officer, along with other helpful information.

**OFFICE HOURS**

The administrative offices of the North Iowa Area Community College are open Monday through Friday from 7:45 a.m. - 5:00 p.m. Additional hours by appointment.

# Enrollment Services

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ADMISSIONS

SCHOOL PARTNERSHIPS



## Admissions

Students begin the admissions process by contacting the Admissions Office located on the first floor of the Activity Center. Office hours are 7:45 a.m. to 5:00 p.m., Monday through Thursday; 7:45 a.m. to 4:15 p.m., Friday; and by appointment.

For more information, call 641-422-4245 or 1-888-466-4222, Extension 4245, or visit our website at [www.niacc.edu/admissions](http://www.niacc.edu/admissions).

### Applying to the College

North Iowa Area Community College is an “open door” public two-year college. Generally, you will not encounter any problems in being admitted, but you must complete certain admissions steps. (Please note that admission to the College does not ensure admission to all programs offered.)

*All application materials are to be submitted to the Admissions Office, North Iowa Area Community College, 500 College Drive, Mason City, Iowa 50401. You may also fill out an on-line application at <http://apply.niacc.edu>.*

1. Carefully complete the NIACC Application for Admission. Note that your social security number and intended major are required on the application. Once you are accepted, you will receive a student identification number. This ID number will be on your acceptance letter.
2. Submit your high school transcript. Upon graduation, you must submit a final transcript. If you obtained your High School Equivalency Diploma (HSED), please forward your scores in place of a high school transcript. (If you do not have your high school diploma or equivalent, contact the College to find out how we can help you earn one or go to the following website for more information: [www.niacc.edu/learning-support](http://www.niacc.edu/learning-support). A student will be allowed to take courses for one semester while obtaining the HSED. The student will not be eligible for financial aid during the semester he/she is completing the HSED.)
3. An assessment of your skills and abilities is required as part of the registration process. You may either submit your American College Test (ACT) scores, Scholastic Aptitude Test (SAT) scores, or Accuplacer test scores. Accuplacer is offered free to students who will be enrolling at NIACC. Contact the Admissions Office for assessment times.
4. If your goal is to obtain an Associate in Arts or Associate in Science degree, you will be required to take the Assessment and Learning in Knowledge Spaces (ALEKS®) math placement assessment to determine math readiness. ALEKS® is a web-based system designed to assist in determining which math courses a student is ready to begin. For more information and testing times, go to [www.niacc.edu/placement](http://www.niacc.edu/placement).
5. If you have earned credits at another college, have your transcript(s) forwarded to NIACC.

Note: Students applying for the Associate Degree Nursing, Practical Nursing, LPN to ADN, or Physical Therapist Assistant programs need to review the NIACC catalog for additional program requirements: [www.niacc.edu/catalog](http://www.niacc.edu/catalog).

**High school students** may enroll in college credit classes with the approval of the high school administration. Students should first meet with their high school counselor to secure course approval and then complete the Career Link High School Registration Form. Contact your high school guidance counselor for more information.

### International Students

International Students are required to follow steps below to be granted acceptance to North Iowa Area Community College.

1. Submit an Application for Admission
2. Submit a \$50 (U.S.) nonrefundable application fee
3. Provide a copy of your passport
4. Complete the personal information form
5. Provide an official copy of your high school transcript (sent directly from your high school). All transcripts must be translated and notarized if in other than the English language.
6. Submit a bank statement showing sufficient funds to cover one year's expenses and an affidavit of support from a third party legally responsible for all payment.
7. Submit proof of English proficiency; only required if English is not your first language. English proficiency is determined by a standardized test. Please see the information on our international student web site.
8. Student Transfer form (completed **ONLY** by students transferring in to NIACC from another college/university in the U.S.)

Contact the Admissions Office for an international student admissions packet, or visit our website at [www.niacc.edu/admissions/international-students](http://www.niacc.edu/admissions/international-students).

International students who will be enrolled in on-line classes only at North Iowa Area Community College **will not** be required to complete the international student admissions packet, submit their TOEFL or IELTS score or pay the \$50 application fee. Any international student who will be taking a combination of on-line and on-campus classes will need to follow the application process for on-campus international students.

### New Student Registration

Registration information will be mailed in May to students who have indicated a Fall start term on their application for admission; and students indicating a Spring (January) start will receive the information in November. This information is sent out in the order that applications for admissions are received. Selecting a date for your registration can be made on-line once you receive your registration letter. On your scheduled registration day, you will learn about programs and services available, schedule classes, and arrange payment options. All items listed under Applying to the College must be on file by your registration day or it will delay the registration process.

### Summer School Students

If the only term you plan to enroll in is the summer term, you will need to check our website: [www.niacc.edu/academics/summer-classes](http://www.niacc.edu/academics/summer-classes) for registration information and instructions.

### Orientation

All new and transfer students who are entering NIACC for the first time and who intend to take day classes are required to attend a new student orientation. During orientation, students learn about NIACC policies and procedures, academic requirements, faculty expectations, and are given information about financing their education, student housing, and student activities. Students will also learn how to adapt to their new college environment.

## College Essentials

All degree-seeking students are required to register for SDV-199, College Essentials. The purpose of the course is to familiarize NIACC students with student systems like MyNIACC, Web Advisor, student e-mail, and other campus resources. This online class is a pass/no pass course. Students are expected to complete all sections prior to the Friday before mid-term of the semester.

## School Partnerships

NIACC is currently developing cooperative programs with high schools in our service area to identify career program prerequisites, to reward students for previous learning experiences, to provide a challenging educational experience for each student, and to ensure a smoother transition for students into postsecondary degree programs.

## Career Link Programs and Classes

Career Link programs and classes are educational partnerships between high schools and NIACC. Career Link focuses on providing students with skills needed to perform in today's workforce. A major component is an applied (hands-on) curriculum that recognizes the widely varying learning styles of students. It involves the creation of a carefully designed sequence of high school and college courses leading to an associate degree. Student career exploration and planning, along with a parental community awareness of workforce needs and employment opportunities, are vital components of a Career Link program.

Career Link programs include:

- Accounting
- Agriculture
- Automotive Service Technology
- Building Trades
- Business Administration
- Diesel Technology
- Entrepreneurship and Small Business Management
- Health Care
- Heating and Air Conditioning Technology
- Hospitality Management
- Industrial Technology
- Professional Administrative Services
- Sports Management
- Teacher Education
- Tool and Die Technology
- Welding

In addition to the on-campus programs, **Career Link Academies** are located across North Iowa. Students from surrounding high schools travel to the Career Link Academy where they complete up to 23 semester hours of college credit during their senior year.

NIACC has established Career Link Academies at the following sites:

*Automotive Service Technology* - NIACC Main Campus

*Entrepreneurship* - Garner-Hayfield-Ventura High School

*Health Careers* - West Hancock High School and Hancock County Memorial Hospital

*Industrial Technology* - Rockwell

Many school districts offer NIACC classes taught at the high school

during the regular school day. High school instructors, who meet NIACC teaching qualifications, teach the courses. NIACC textbooks and course outlines are utilized. The result is a savings of time and resources for the student.



**Nationally  
Accredited  
Program**

The NIACC Career Link program is nationally accredited by NACEP, the National Alliance of Concurrent Enrollment Partnerships. This accreditation demonstrates that the Career Link program meets or exceeds rigorous national standards of quality in the areas of curriculum, instructors, students, assessment, and program evaluation.

For information about the Career Link programs and classes available at your high school, contact your high school counselor or contact the NIACC School Partnership Department at (641) 422-4175 or 1-888-466-4222, Ext. 4175. Website: <http://www.niacc.edu/admissions/postsecondary-enrollment-options/career-link-2/>.

## Post Secondary Enrollment Options (PSEO)

The Post Secondary Enrollment Options Act provides high school juniors and seniors with the opportunity to take college courses prior to high school graduation. The Act has a dual purpose: 1) to provide a constant challenge for students by promoting rigorous educational pursuits; and 2) to provide a wider variety of options for students. Students earn high school and college credit for courses taken. Post secondary credits earned are transferable to other colleges and universities depending on degree requirements at that institution. Contact your high school counselor for further information on Post Secondary Enrollment Options.



## Project Lead The Way (PLTW)

At the high school level, the nationwide Project Lead The Way (PLTW) Pathways to Engineering program is a four-year sequence of courses which, when combined with traditional high school math and science courses, introduces students to the scope, rigor, and discipline of engineering prior to entering college. PLTW forms partnerships among universities, community colleges, secondary schools, and business/industry to increase the quality and quantity of engineers. The University of Iowa, Iowa State University, and the community colleges (including NIACC) are actively involved with the national PLTW initiative.

Students who successfully complete PLTW concurrent enrollment courses while in high school will earn NIACC technical elective college credit as follows:

EGT-400, PLTW - Introduction to Engineering Design (3 s.h.)

EGT-410, PLTW - Principles of Engineering (3 s.h.)

EGT-420, PLTW - Digital Electronics (3 s.h.)

EGT-460, PLTW Civil and Architectural Engineering (3 s.h.)

Students enrolled in a NIACC Industrial Technology program will qualify for course substitutions as follows:

PLTW Course Name	Substitutes for This Course	Required in NIACC Career Program
EGT-400, Introduction to Engineering (3 s.h.)	ELT-190, Introduction to Technical Computing and CAD (3 s.h.)	Industrial Systems Technology Industrial Technology Wind Turbine Technology
EGT-410, Principles of Engineering (3 s.h.)	PHY-720, Career Physics (4 s.h.)	General Machinist Heating and Air Conditioning Technology Tool and Die Technology
EGT-420, Digital Electronics (3 s.h.)	ELT-115, Electronic Concepts (3 s.h.)	Automotive Service Technology Diesel Technology Heating and Air Conditioning Technology Industrial Technology
EGT-460, Civil Engineering and Architecture (3 s.h.)	CON-110, Construction Drawing (1 s.h.) CON-112, Blueprint Reading and Estimating (3 s.h.)	Building Trades

# Instructional Resources

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LEARNING SUPPORT DIVISION

LIBRARY

TECHNOLOGY SERVICES



# Instructional Resources

## LEARNING SUPPORT DIVISION

The mission of the Learning Support Division is to provide support and access to educational opportunities for students, and to maintain a wide variety of resources to meet the informational and educational needs of the NIACC community.

This includes assessment, developmentally appropriate classroom and tutorial instruction, and assistance in utilization of library resources.

### Assessment/Testing

- Pearson VUE and Prometric Certifications
- ASE Certification
- College Level Examination Program (CLEP)
  - › To register for a CLEP exam appointment, call 641-422-4237.
- Test Proctoring
  - › For students needing testing accommodations, these are arranged through the special populations counselor.
- Proctoring for Non-NIACC Courses (test fee)
- Dental Examinations
- High School Equivalency Diploma (HSED) (*formerly GED*):
  - › HSED Testing Site: NIACC Campus--Beem Center Room 100; five tests including Social Studies, Science, Mathematics, Language Arts Writing, and Language Arts Reading.
  - › NIACC Foundation Scholarship: For eligible HSED candidates enrolling at NIACC each fall semester.
  - › Requirements of HSED Testing: Procedures/policies clarified by calling 641-422-4176
  - › Testing Center Schedule: [www.niacc.edu/learning-support/testing-and-tutoring/](http://www.niacc.edu/learning-support/testing-and-tutoring/)

### Adult Education and Literacy

Adult literacy provides adults 17 and older accessible, quality instruction that develops life, work, and literacy skills. These skills provide the opportunity for higher learning, better pay and job potential, and a sense of accomplishment. Programs include Adult Basic Education (ABE), English as a Second Language (ESL), High School Equivalency Diploma (HSED). For more information, call 641-422-4176

#### Adult Basic Education (ABE)

Adult Basic Education (ABE) provides reading, math, writing and English instruction for those who are functioning below a ninth-grade level. Instruction is often contextualized around interest of the students and/or the high demand jobs in the North Iowa area.

#### English as a Second Language (ESL)

Students learn the English language and the culture of this country. Classes are student-centered and communication-based. Both oral and written communication are emphasized.

#### High School Equivalency Diploma (HSED)

HSED classes enable adults to acquire their secondary diploma or equivalent. Instructors prepare for and facilitate learning to meet students' individual needs. Transition to postsecondary and/

or employment is emphasized. NIACC scholarships available for eligible HSED graduates enrolling at NIACC.

#### High School Equivalency Diploma (online)

HSED online classes offer a blended approach for students who cannot regularly attend an HSED class. Students take pre-assessments and official HiSET practice tests at their local HSED class site, while part of their instruction is online with guidance from an instructor.

## PRIOR LEARNING ASSESMENT

### Portfolio Review

Portfolio review is a means for students to earn credit for classes for learning they have acquired through prior work experience, employer training programs, volunteer or community service, or personal experiences.

Students must demonstrate that they have acquired the learning, knowledge, skills, and competencies that match the learning outcomes of the NIACC credit class by completing the requirements of the Alternative Credit Portfolio Rubric to an 80% level or higher. Credit earned will be identified with an "L" grade on the NIACC transcript, indicating credit was from prior learning. Students pay half the tuition costs for the prior learning credits. The credit will not apply to the grade point average calculation. NIACC offers a one credit hour PLA review class to assist with creating the portfolios. While generally these credits do not transfer to post-secondary institutions, students should check with their academic advisors for transfer information.

Prior Learning credit requests cannot be made to replace a failing grade for a course previously attempted. To be eligible to request prior learning/alternative credit, a student must be currently enrolled and in good standing at NIACC or be eligible for re-admission to the college. For more information, contact NIACC Admissions at 641-422-4245.

### Mastery Math, Mastery Writing, and Mastery English as a Second Language (ESL)

Mastery Programs offer students opportunities to develop skills in math, writing, and ESL through individualized, competency-based instruction in a hybrid, arranged schedule format. Students enroll to brush up skills, accelerate learning, prepare for credit courses, or co-enroll as academic support of credit courses. Credit is pass/no pass and does not count towards a degree.

### Student Learning Center

The Student Learning Center, located in Beem Center, offers opportunities to all college students who wish to:

1. Learn or improve existing study skills including but not limited to test-taking skills, note-taking, and time management.
2. Improve personal and academic skills in writing, math, and/or reading.
3. Gain high school credit/s, in a self-directed study format through the High School Credit Program after approval from the student's high school.

4. Drop in for tutoring in NIACC class work, or to study individually or in small groups at no charge.
5. Study in a comfortable, helpful environment.
6. Participate in student-led study groups known as "Supplemental Instruction."

## **LIBRARY**

The role of the NIACC library is to support the curriculum and to provide resources and services to meet the needs of students, faculty and area residents.

The library is open 58 hours per week, including four evenings. The library is staffed by a professional librarian and three library assistants as well as student workers. Library orientations are offered at the beginning of each semester to inform students of library resources, policies, and procedures and to help students develop their information literacy skills. An online version of the orientation is available on the library's web page. A student ID is required to check out materials from the library. The NIACC library is connected to thousands of libraries across the country allowing students to borrow materials via the OCLC interlibrary loan system. Other services for students include photocopying, faxing, and group study rooms.

The physical collection includes a wide variety of books, media, and periodicals. Subscriptions include national newspapers, North Iowa area newspapers, and journals. A number of electronic databases, offering full-text journal articles, newspapers, streaming video, and electronic books are available through the library's web page. Educational videos and tutorials provide additional learning opportunities through the library website.

The library provides service 24 hours a day to students via the website. Students enrolled in online or face to face courses can access library resources on campus or remotely using NIACC usernames and passwords. A chat service is also available to provide reference service remotely.

The library's Café Bean provides a casual atmosphere where students can meet and relax with coffee. A wireless hub is available for students wishing to use their laptops. The Writer's Workbench Computer Lab is located within the library and has 30 computers and staff to help students develop their writing skills..

## **TECHNOLOGY SERVICES**

The Technology Services Division provides technology-related support to the campus in the areas of computer services, media services, online course support, and telecommunications. Technology Services staff members set up and maintain the computers in the computer labs, data networks, Internet, and computer applications. In addition, staff members support classroom presentation equipment such as overhead projectors, video projectors, large screen computer displays, and interactive television classrooms (ICN).

### **E-Mail/Internet**

NIACC provides e-mail accounts and on-campus Internet access to all students enrolled in credit classes. Wireless Internet access is available throughout campus and the college residence halls. (See the Technology Policy in the Student Handbook.)

### **The Iowa Communications Network (ICN)**

NIACC is proud to be a part of the ICN, a statewide two-way interactive video/audio/data network with over 800 electronic classrooms, connecting every county in the state. NIACC has three interactive television classrooms on campus in Mason City and one at the NIACC Charles City Center. In addition, there are ICN classrooms at nearly all area high schools. Students can participate in a variety of college classes at the remote sites, communicating with the instructor and other students via two-way video and audio. The ICN also provides Internet and data services to the college.

### **Online Instruction and Support**

NIACC offers many courses that can be taken online via the Internet, which can lead to an Associate in Arts Degree or an Associate in Applied Science Degree. Online courses provide the flexibility to work on course assignments evenings and weekends to accommodate job and family schedules. Most courses start and end on the traditional semester schedule. A student needs to have access to a computer and an Internet connection, or can use the computers in the NIACC computer labs. New courses are in development every year. NIACC is a member of the Iowa Community College Online Consortium (ICCO). Additional online courses are available to NIACC students through this partnership. For current information, visit the online course web page at <http://www.niacc.edu/academics/online-courses/>.

*NOTE: The Iowa Community College System is a public system also registered as a private system with the Minnesota Office of Higher Education pursuant to Minnesota Statute 136A.61 to 136A.71. Registration is not an endorsement of the system institutions. Credits earned at the system institutions may not transfer to all other Minnesota institutions.*

### **24x7 Technical Support**

NIACC provides a 24-hours a day, 365 days a year technical help desk for NIACC students, faculty, and staff. The help desk is designed as the first stop for issues or questions related to the technical capabilities and services provided by the College.

The help desk can be contacted in a number of ways: by phone, by e-mail, by web form, or by an online chat session. For urgent issues, contact the help desk by phone at 1-866-614-5020; for less urgent issues, the help desk is available via e-mail ([helpdesk@NIACC.edu](mailto:helpdesk@NIACC.edu)).





# List of Majors

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**CAREER CLUSTERS® - OVERVIEW**

**MAJORS LISTED BY CAREER CLUSTER®**

















**MAJORS LISTED IN ALPHABETICAL ORDER**

**MAJORS LISTED BY CREDENTIAL**





















Career Clusters function as a useful guide in developing programs of study bridging secondary and postsecondary curriculum and for creating individual student plans of study for a complete range of career options. As such, it helps students discover their interests and their passions, and empowers them to choose the educational pathway that can lead to success in high school, college, and career.

 <b>Agriculture, Food &amp; Natural Resources</b>	The production, processing, marketing, distribution, financing, and development of agricultural commodities and resources including food, fuel, fiber, wood products, natural resources, horticulture, and other plant and animal products/resources.
 <b>Architecture &amp; Construction</b>	Careers in designing, planning, managing, building, and maintaining the built environment.
 <b>Arts, A/V Technology &amp; Communications</b>	Designing, producing, exhibiting, performing, writing, and publishing multimedia content including visual and performing arts and design, journalism, and entertainment services.
 <b>Business Management &amp; Administration</b>	Business Management and Administration careers encompass planning, organizing, directing, and evaluating business functions essential to efficient and productive business operations. Business Management and Administration career opportunities are available in every sector.
 <b>Education &amp; Training</b>	Planning, managing, and providing education and training services, and related learning support services.
 <b>Finance</b>	Planning, services for financial and investment planning, banking, insurance, and business financial management.
 <b>Government &amp; Public Administration</b>	Executing governmental functions to include Governance; National Security; Foreign Service; Planning; Revenue and Taxation; Regulation; and Management and Administration at the local, state, and federal levels.
 <b>Health Science</b>	Planning, managing, and providing therapeutic services, diagnostic services, health informatics, support services, and biotechnology research and development.
 <b>Hospitality &amp; Tourism</b>	Hospitality & Tourism encompasses the management, marketing, and operations of restaurants and other food services, lodging, attractions, recreation events, and travel related services.
 <b>Human Services</b>	Preparing individuals for employment in career pathways that relate to families and human needs.
 <b>Information Technology</b>	Building linkages in IT occupations framework: for entry level, technical, and professional careers related to the design, development, support, and management of hardware, software, multimedia, and systems integration services.
 <b>Law, Public Safety, Corrections &amp; Security</b>	Planning, managing, and providing legal, public safety, protective services, and homeland security, including professional and technical support services.
 <b>Manufacturing</b>	Planning, managing, and performing the processing of materials into intermediate or final products and related professional and technical support activities such as production planning and control, maintenance, and manufacturing/process engineering.
 <b>Marketing</b>	Planning, managing, and performing marketing activities to reach organizational objectives.
 <b>Science, Technology, Engineering &amp; Mathematics</b>	Planning, managing, and providing scientific research and professional and technical services (e.g., physical science, social science, engineering) including laboratory and testing services, and research and development services.
 <b>Transportation, Distribution &amp; Logistics</b>	Planning, managing, and providing scientific research and professional and technical services (e.g., physical science, social science, engineering) including laboratory and testing services, and research and development services.

*The National Career Clusters® Framework provides a vital structure for organizing and delivering quality programs through learning and comprehensive programs of study. In total, there are 16 Career Clusters in the National Career Clusters Framework, representing more than 79 Career Pathways to help students navigate their way to greater success in college and career.*

**Majors - Listed by Career Cluster®**

 <b>CareerClusters®</b> <small>PATHWAYS TO COLLEGE &amp; CAREER READINESS</small> <b>Agriculture, Food &amp; Natural Resources</b>		 <b>CareerClusters®</b> <small>PATHWAYS TO COLLEGE &amp; CAREER READINESS</small> <b>Education &amp; Training</b>		 <b>CareerClusters®</b> <small>PATHWAYS TO COLLEGE &amp; CAREER READINESS</small> <b>Hospitality &amp; Tourism</b>	
Agriculture	26, 102	Athletic Trainer	102	Hospitality Management	46
Agriculture Education	102	Coaching	81	 <b>CareerClusters®</b> <small>PATHWAYS TO COLLEGE &amp; CAREER READINESS</small> <b>Human Services</b>	
Agriculture Marketing & Finance	31	Early Childhood Education	61	Human Services	62, 102
Agriculture Operations Management	29	Elementary Education	102	Social Work	102
Agriculture Sales & Service	30	Family & Consumer Sciences	102	Sociology	102
Agriculture Technology	28	History	102	 <b>CareerClusters®</b> <small>PATHWAYS TO COLLEGE &amp; CAREER READINESS</small> <b>Information Technology</b>	
Animal Ecology	102	Physical Education	102	Business Technology	37
Biology	102	Secondary Education	102	Computer Science	102
Environmental Sciences	102	Teacher's Aide	102	Information Assurance & Security	39
Forestry	102	 <b>CareerClusters®</b> <small>PATHWAYS TO COLLEGE &amp; CAREER READINESS</small> <b>Finance</b>		Information Technology	40
Horticulture	102	Accounting	34-36, 102	 <b>CareerClusters®</b> <small>PATHWAYS TO COLLEGE &amp; CAREER READINESS</small> <b>Law, Public Safety, Corrections &amp; Security</b>	
Veterinary Medicine	102	Insurance & Financial Management	47	Criminal Justice	60, 102
 <b>CareerClusters®</b> <small>PATHWAYS TO COLLEGE &amp; CAREER READINESS</small> <b>Architecture &amp; Construction</b>		Finance	102	Law	102
Building Trades	86	 <b>CareerClusters®</b> <small>PATHWAYS TO COLLEGE &amp; CAREER READINESS</small> <b>Government &amp; Public Administration</b>		Legal Office	53, 54
Heating & Air Conditioning Technology	87	Administration	51	 <b>CareerClusters®</b> <small>PATHWAYS TO COLLEGE &amp; CAREER READINESS</small> <b>Manufacturing</b>	
 <b>CareerClusters®</b> <small>PATHWAYS TO COLLEGE &amp; CAREER READINESS</small> <b>Arts, A/V Technology &amp; Communications</b>		Political Science	102	General Machinist	88
Art	102	 <b>CareerClusters®</b> <small>PATHWAYS TO COLLEGE &amp; CAREER READINESS</small> <b>Health Science</b>		Industrial Systems Technology	89
Communications	102	Advanced Emergency Medical Technician	66	Industrial Technology	90, 102
English	102	Chiropractic	102	Tool & Die Technology	88
Family & Consumer Sciences	102	Dental Hygiene	102	Welding	91
Graphic Design	44, 45	Dentistry	102	 <b>CareerClusters®</b> <small>PATHWAYS TO COLLEGE &amp; CAREER READINESS</small> <b>Marketing</b>	
Journalism	102	Emergency Medical Responder	66	Marketing & Sales	49
Music	102	Emergency Medical Technician	66	Marketing	102
Public Relations	102	Exercise Science	102	 <b>CareerClusters®</b> <small>PATHWAYS TO COLLEGE &amp; CAREER READINESS</small> <b>Science, Technology, Engineering &amp; Mathematics</b>	
Speech	102	Health Promotion/Community Health	102	Actuarial Science and Statistics	102
Theatre	102	Medical Administrative Assistant	55, 56	Biology	102
 <b>CareerClusters®</b> <small>PATHWAYS TO COLLEGE &amp; CAREER READINESS</small> <b>Business Management &amp; Administration</b>		Medical Laboratory Technician	69	Biotechnology	102
Accounting	34-36, 102	Medical Assistant	68	Chemistry	102
Administrative Office	51	Medical Technology	102	Engineering	102
Business	32	Medicine	102	Environmental Science	102
Business Administration	43	Mortuary Science	102	Geography	102
Business Management	48	Nurse Aide (CNA)	67	Mathematics	102
Economics	102	Nursing-Bachelors Degree (BSN)	102	Physics	102
Entrepreneurship & Small Business Management	41	Nursing-Associate Degree (RN)	70	 <b>CareerClusters®</b> <small>PATHWAYS TO COLLEGE &amp; CAREER READINESS</small> <b>Transportation, Distribution &amp; Logistics</b>	
Management Information Systems	102	Nursing-Practical Nursing (LPN)	74	Automotive Service Technology	84
Software Applications Specialist	57	Occupational Therapy	102	Diesel Technician	85
Sport Management	50	Optometry	102	<b>Other</b>	
		Pharmacy	102	General Studies	102
		Physical Fitness & Wellness	80, 102	Liberal Arts	102
		Physical Therapy	102		
		Physical Therapy Assistant	76		
		Physician Assistant	102		
		Psychology	102		
		Radiologic Technology	78		
		Radiology	102		

## Majors - Listed in Alphabetical Order

Accounting, Career & Technical	34-36	Health Promotion/Community Health	102	Public Relations	102
Accounting, Transfer	102	Heating & Air Conditioning Technology	87	Radiologic Technology	78
Actuarial Science	102	History	102	Radiology	102
Administrative Office	51	Horticulture	102	Secondary Education	102
Agriculture, Transfer	102	Hospitality Management	46	Social Work	102
Agricultural Marketing & Finance	31	Human Services, Career & Technical	62	Sociology	102
Agricultural Operations Management	29	Human Services, Transfer	102	Software Applications Specialist	57
Agricultural Sales & Service	30	Industrial Systems Technology	89	Speech	102
Agriculture Technology	28	Industrial Technology, Career & Technical	90	Sport Management	50
Art	102	Industrial Technology, Transfer	102	Teacher's Aide	102
Athletic Training	102	Information Assurance & Security	39	Tool & Die Technology	88
Automotive Service Technology	84	Information Technology Specialist	40	Veterinary Medicine	102
Biology	102	Insurance & Financial Management	47	Welding	91
Building Trades	86	Journalism	102		
Business, Transfer	102	Law	102		
Business Administration	43	Legal Office Associate	53-54		
Business Technology Specialist	37	Liberal Arts	102		
Chemistry	102	Management	48		
Chiropractic	102	Management Information Systems	102		
Communications	102	Marketing	102		
Computer Science	102	Marketing & Sales	49		
Criminal Justice	60,102	Mathematics	102		
Dental Hygiene	102	Medical Administrative Assistant	55,56		
Dentistry	102	Medical Assistant	68		
Diesel Technology	85	Medical Laboratory Technician	69		
Early Childhood Education, Career & Technical	61	Medical Technology	102		
Early Childhood Education, Transfer	102	Medicine	102		
Economics	102	Mortuary Science	102		
Elementary Education	102	Music	102		
Engineering	102	Nurse Aide (CNA)	67		
Entrepreneurship & Small Business Management	41	Nursing-Associate Degree (RN)	70		
Environmental Sciences	102	Nursing-Bachelor's Degree (BSN)	102		
Exercise Science	102	Nursing-Practical Nursing (LPN)	74		
Family & Consumer Science	102	Occupational Therapy	102		
Foundations in Business	43	Optometry	102		
Foundations in Technology	38	Pharmacy	102		
Fundamentals of Hospitality Management	46	Physical Education	102		
Finance	102	Physical Fitness & Wellness	80		
Forestry	102	Physical Therapy	102		
General Machinist	88	Physical Therapist Assistant	76		
General Studies	102	Physician Assistant	102		
Geography	102	Physics	102		
Graphic Design	44,45	Political Science	102		
		Psychology	102		

## Majors - Listed by Credential Arts & Sciences

ASSOCIATE IN ARTS DEGREE (TRANSFER)			
Athletic Trainer	102	Music	102
Accounting	102	Nursing-Bachelor's Degree (BSN)	102
Actuarial Science & Statistics	102	Occupational Therapy	102
Agriculture	102	Optometry	102
Art	102	Pharmacy	102
Athletic Trainer	102	Physical Education	102
Biology	102	Physical Fitness & Wellness	102
Business	102	Physical Therapy	102
Business Management	102	Physician Assistant	102
Chemistry	102	Physics	102
Chiropractic	102	Political Science	102
Coaching	102	Psychology	102
Communications	102	Public Relations	102
Computer Science	102	Radiology	102
Criminal Justice	102	Secondary Education	102
Dental Hygiene	102	Social Work	102
Dentistry	102	Sociology	102
Early Childhood Education	102	Speech	102
Economics	102	Teacher's Aide	102
Elementary Education	102	Theatre	102
Engineering	102	Veterinary Medicine	102
English	102		
Environmental Sciences	102		
Exercise Science	102		
Family & Consumer Science	102		
Finance	102		
Forestry	102		
General Studies	102		
Geography	102		
Health Promotion/Community Health	102		
History	102		
Horticulture	102		
Human Services	102		
Industrial Technology	102		
Journalism	102		
Law	102		
Liberal Arts	102		
Management	102		
Management Information Systems	102		
Marketing	102		
Mathematics	102		
Medical Technology	102		
Medicine	102		
Mortuary Science	102		



## Majors - Listed by Credential (continued)

### Career and Technical

ASSOCIATE IN APPLIED SCIENCE DEGREE			
Accounting	34	Marketing & Sales	49
Administrative Office	51	Physical Fitness & Wellness	80
Agriculture Marketing & Finance	31	Nursing-Practical Nursing (LPN)	74
Agricultural Operations Management	29	Sport Management	50
Agricultural Sales & Service	30	Welding	91
Automotive Service Technology	84		
Business Administration	43	CERTIFICATE (CAREER & TECHNICAL)	
Business Technology Specialist	37	Accounting	36
Criminal Justice	60	Criminal Justice	60
Diesel Technology	85	Entrepreneurship & Small Business Management	41
Entrepreneurship & Small Business Management	41	Foundations in Business	43
General Machinist	88	Foundations of Technology	38
Graphic Design	44	Fundamentals of Hospitality Management	44
Heating & Air Conditioning Technology	87	Graphic Design	45
Hospitality Management	46	Human Services	62
Industrial Systems Technology	89	Industrial Technology	90
Industrial Technology	90	Physical Fitness & Wellness	80
Information Assurance & Security	39	Software Applications Specialist	57
Information Technology Specialist	40	Welding	91
Insurance & Financial Management	47		
Legal Office Specialist	53		
Medical Administrative Assistant	55		
Medical Lab Technician	69		
Nursing-Associate Degree (ADN)	70		
Physical Therapist Assistant	76		
Radiologic Technology	78		
Sports Management	50		
Tool & Die Technology	88		
DIPLOMA (CAREER & TECHNICAL)			
Accounting	35		
Administrative Office Associate	51		
Agriculture Technology	28		
Automotive Service Technology	84		
Building Trades	86		
Early Childhood Education	61		
General Machinist	88		
Heating & Air Conditioning Technology	87		
Industrial Technology	90		
Legal Office Associate	53		
Management	48		
Medical Administrative Assistant	55		
Medical Assistant	68		

# Career Programs

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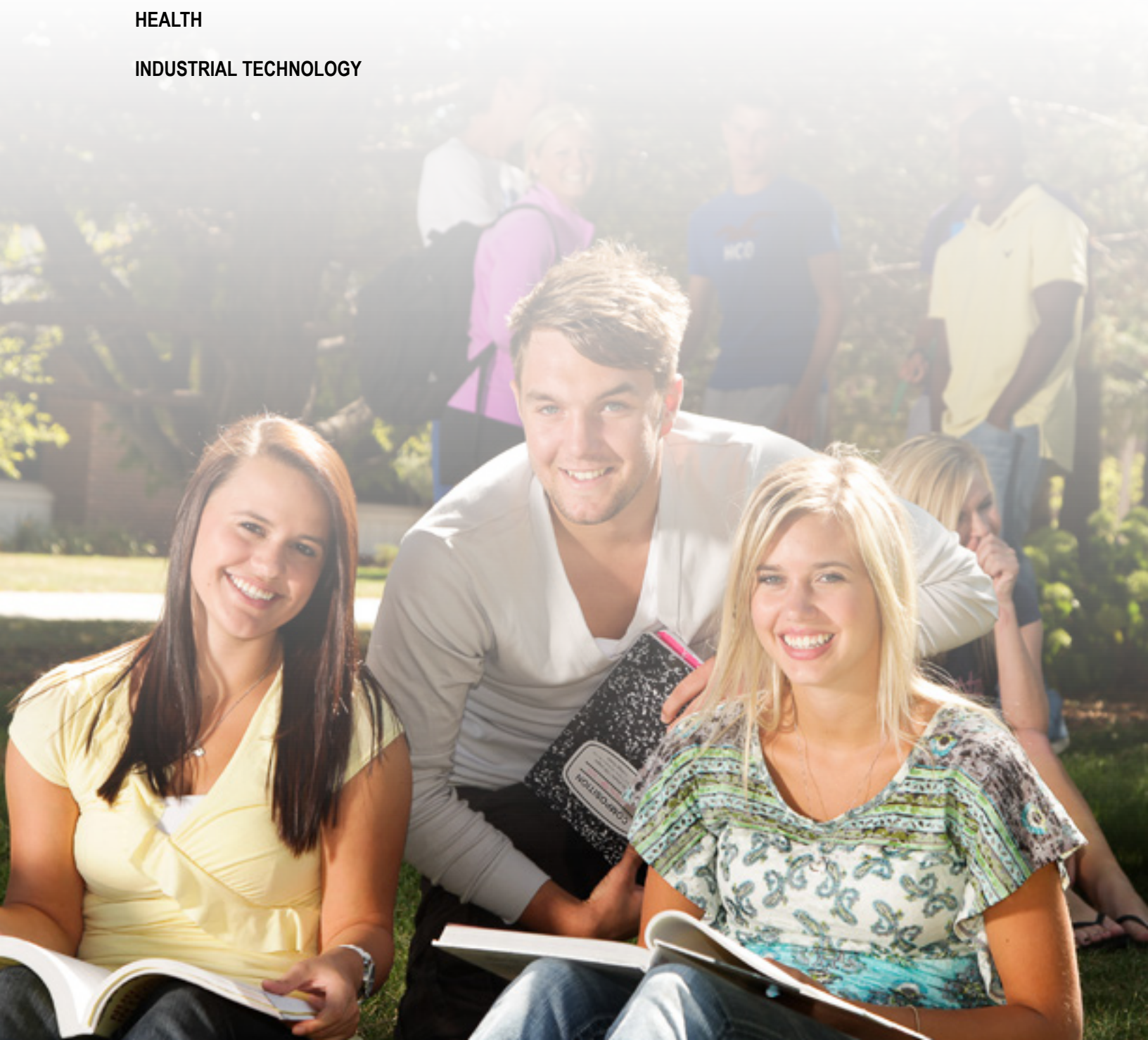
**AGRICULTURAL TECHNOLOGY**

**BUSINESS**

**FAMILY AND HUMAN SERVICES**

**HEALTH**

**INDUSTRIAL TECHNOLOGY**



# Agricultural Technology



Agriculture	28 - 31
Biology	98
Environmental Sciences	98
Forestry	98
Horticulture	98
Veterinary Medicine	98





The NIACC Agriculture Division offers students the unique opportunity to receive hands-on learning both on- and off-campus as well as classroom instruction. With NIACC's commitment to providing a live working farm, students are able to take classroom instruction and apply it directly in daily farming operations. Students are involved in all aspects of both grain and livestock production and benefit from the ability to work directly with major partners within the agriculture community. These relationships often lead to internships and eventually full-time employment.

Our agriculture instructors are highly qualified, credentialed, and experienced in both the theory and practical applications of modern agriculture. Class sizes are relatively small which provides optimal learning opportunities, instructors are available to assist students outside of the classroom, and curriculum is reviewed frequently to ensure our students are receiving the most relevant and current information.

The Agriculture Division offers multiple degrees to provide the necessary skill-sets students need to achieve their desired career. Several agriculture-specific scholarships are available for NIACC students. Excellent transfer relationships and opportunities exist with four-year institutions such as Iowa State University and Northwest Missouri State University. In addition to transfer opportunities, students may pursue an Associate degree in Agriculture Finance and Management, Agriculture Operations and Management, and Agriculture Sales and Service. The design of the curriculum offers a core set of courses that enable the student to make choices on career direction as well as the ability to achieve multiple degrees with little extra expense. The student to instructor ratio is 25:1 in core courses and is generally lower in elective courses. Students have the opportunity to apply for employment as a student work study working on the NIACC farm lab. The Agriculture Division has a 100% job placement rate.



## Agriculture Technology - Diploma



The Agriculture Technology Diploma program is designed to provide students with the skills, aptitudes, and knowledge necessary to enter fields related to general agriculture. The program may be completed in two semesters by following the suggested curriculum, or it may be spread over three or more semesters.

**Upon successful completion of the Agricultural Technology curriculum with a grade point average of 2.00 (C) or higher, the student is awarded a Diploma.** This recognition is granted to a person who has completed 33 semester hours of credit at NIACC.

The curriculum is presented in a format that includes classroom work, laboratory instruction and practice. Situational projects in the area of livestock, crop, and business enterprise management are included in the program. The program offers students desiring more advanced education the option of applying completed course work toward an Associate in Applied Science Degree.

### Career Opportunities

- Self-employed Farm or Business Management
- General Livestock or Crop Production
- Custom Livestock Feeding or Crop Production
- Animal Herdsman or Crop Technician
- Niche Market Production
- Agriculture-Related Sales

### Required Courses/Suggested Schedule

(For students planning to complete the program in one academic year.)

#### First Year

##### First Term

AGA-154	Fundamentals of Soil Science .....	3 s.h.
AGB-133	Introduction to Ag Business .....	3 s.h.
AGS-109	Animal Science I .....	3 s.h.
AGS-110	Animal Science I Lab .....	1 s.h.
BCA-215	Computer Business Applications .....	3 s.h.
ENG-105	Composition I .....	3 s.h.
		16 s.h.

##### Second Term

ACC-111	Introduction to Accounting.....	3 s.h.
AGA-114	Principles of Agronomy .....	3 s.h.
AGS-209	Animal Science II .....	3 s.h.
AGS-210	Animal Science II Lab .....	1 s.h.
	Recommended Elective(s) .....	6 s.h.
		16 s.h.

**Total Program Hours**

**32 s.h.**

### Recommended Elective Courses--Must complete 6 s.h. from the following:

AGA-855	Site Specific Crop Management* .....	2 s.h.
AGA-860	Soils and Crop Management** .....	2 s.h.
AGB-330	Farm Business Management .....	3 s.h.
AGB-338	Salesmanship & Advertising .....	2 s.h.
AGB-437	Commodity Marketing .....	3 s.h.
AGC-190	Skills and Safety in Agriculture .....	1 s.h.
AGC-315	Leadership in Agriculture .....	3 s.h.
AGC-420	Issues in Agriculture .....	3 s.h.
AGM-120	Basic Agricultural Mechanics .....	2 s.h.
AGP-331	Precision Agriculture .....	2 s.h.
AGS-317	Animal Nutrition .....	2 s.h.
AGS-401	Swine Production .....	3 s.h.
AGS-554	Beef Production .....	3 s.h.
AGS-811	Animal Technologies .....	1 s.h.
BIO-196	Introduction to Bio-Technology .....	4 s.h.
MAT-801	Applied Math A*** .....	1 s.h.
MAT-802	Applied Math B**** .....	1 s.h.
MAT-803	Applied Math C***** .....	1 s.h.
MAT-804	Applied Math D+ .....	1 s.h.
SDV-210	Cooperative Education Internship .....	3 s.h.
WEL-335	Ag & Industry Welding .....	2 s.h.

\*Prerequisite: AGA-154 Fundamentals of Soil Science, or its equivalent.

\*\*Prerequisite: AGA-154 Fundamentals of Soil Science and/or permission of instructor.

\*\*\*Prerequisite: COMPASS Pre-Algebra score of at least 49, or ACT math score of at least 16, or MAT-063 Pre-Algebra with a grade of C or higher, or Accuplacer Arithmetic score of at least 59, or Accuplacer Elementary Algebra score of at least 50, or Accuplacer College Math score of at least 21.

\*\*\*\*Prerequisite: COMPASS Pre-Algebra score of at least 49, or ACT math score of at least 16, or MAT-063 Pre-Algebra with a grade of C or higher, or Accuplacer Arithmetic score of at least 59, or Accuplacer Elementary Algebra score of at least 50, or Accuplacer College Math score of at least 21.

\*\*\*\*\*Prerequisite: MAT-801 Applied Math A and MAT-802 Applied Math B with a grade of C or higher, or Accuplacer Arithmetic score of at least 59, or Accuplacer Elementary Algebra score of at least 50, or Accuplacer College Math score of at least 21.

+ Prerequisite: MAT-801 Applied Math A and MAT-802 Applied Math B with a grade of C or higher.



## Agricultural Operations Management - Degree

The Operations Management curriculum is designed to prepare students to farm, be farm managers, or work in a production field. It provides a sound academic foundation with emphasis on farm management, economics, business management, information management, precision agriculture, agronomy, animal science, human relations, and general education. Two eight-week internship experiences are required. **Upon successful completion of the Agricultural Operations Management curriculum with a grade point average of 2.00 (C) or higher, the student is awarded an Associate in Applied Science Degree.**

**NIACC's Ag Advantage:** *Champions of Agriculture--Providing high quality, vigorous education opportunities to students.*

- \* Innovative Curriculum
- \* Industry Partnerships
- \* Rewarding Internships
- \* Hands-On Labs
- \* Highly Regarded by Transfer Institutions
- \* Technology Emphasis
- \* Award-Winning Faculty
- \* Electronic Classrooms
- \* Satisfied Graduates

**Transfer Opportunities:** All classes required in our curriculum can be transferred to Iowa State University and/or Northwest Missouri State University. Graduates can transfer to ISU as a junior and work toward a bachelor's degree in the College of Agriculture. Staff can advise you as to the best academic path for transfer.



**NIACC Farm Lab:** The NIACC Farm Lab consists of 260 no-till acres, 110 acres of pasture, livestock facilities for the swine and beef breeding herds, and provides Ag students with "hands-on" learning experiences in the areas of crop protection and management, precision farming technology, crop and livestock management, show pig and club calf production, and business planning and decision making.

### Career Opportunities

**Internships:** Students in Operations Management complete two paid, eight-week internships. During your internships you will apply your academic skills in an actual work environment. The industry contacts made often lead to full-time employment following graduation.

**Employment Opportunities:** Jobs for Ag Operations Management graduates include self employed in farming, farm management, GPS/GIS service, production assistants, livestock production, herdspeople, crop production, crop input application, and sales.

**Earning Potential:** Entry-level salaries for recent NIACC agriculture technology graduates ranged between \$20,000 and \$50,000 annually.

## Required Courses/Suggested Schedule

### First Year

#### First Term

AGA-154	Fundamentals of Soil Science .....	3 s.h.
AGB-133	Introduction to Ag Business .....	3 s.h.
AGS-109	Animal Science I .....	3 s.h.
AGS-110	Animal Science I Lab .....	1 s.h.
BCA-215	Computer Business Applications .....	3 s.h.
ENG-105	Composition I .....	3 s.h.
		<b>16 s.h.</b>

#### Second Term

ACC-111	Introduction to Accounting .....	3 s.h.
AGA-114	Principles of Agronomy .....	3 s.h.
AGS-209	Animal Science II .....	3 s.h.
AGS-210	Animal Science II Lab .....	1 s.h.
BIO-196	Introduction to Bio-Technology .....	4 s.h.
MAT-801	Applied Math A* .....	1 s.h.
MAT-802	Applied Math B** .....	1 s.h.
MAT-803	Applied Math C*** .....	1 s.h.
		<b>17 s.h.</b>

#### Third Term

AGA-852	Principles of Crop Production .....	3 s.h.
AGP-331	Precision Agriculture .....	2 s.h.
BUS-130	Introduction to Entrepreneurship .....	3 s.h.
		<b>8 s.h.</b>

### Second Year

#### Fourth Term

AGB-437	Commodity Marketing .....	3 s.h.
AGB-810	Agriculture Internship .....	4 s.h.
AGS-401	Swine Production .....	3 s.h.
	Approved Ag Elective(s).....	5 s.h.
		15 s.h.

#### Fifth Term

AGB-330	Farm Business Management .....	3 s.h.
AGB-810	Agriculture Internship .....	4 s.h.
AGM-120	Basic Agricultural Mechanics .....	2 s.h.
AGS-554	Beef Production .....	3 s.h.
BUS-161	Human Relations .....	3 s.h.
		<b>15 s.h.</b>

#### Total Program Hours

**71 s.h.**

\*Prerequisite: COMPASS Pre-Algebra score of at least 49, or ACT math score of at least 16, or MAT-063 Pre-Algebra with a grade of C or higher, or Accuplacer Arithmetic score of at least 59, or Accuplacer Elementary Algebra score of at least 50, or Accuplacer College Math score of at least 21.

\*\*Prerequisite: COMPASS Pre-Algebra score of at least 49, or ACT math score of at least 16, or MAT-063 Pre-Algebra with a grade of C or higher, or Accuplacer Arithmetic score of at least 59, or Accuplacer Elementary Algebra score of at least 50, or Accuplacer College Math score of at least 21.

\*\*\*Prerequisite: MAT-801 Applied Math A and MAT-802 Applied Math B with a grade of C or higher, or Accuplacer Arithmetic score of at least 59, or Accuplacer Elementary Algebra score of at least 50, or Accuplacer College Math score of at least 21.

### Recommended Agriculture Electives

AGA-855	Site Specific Crop Management* .....	2 s.h.
AGA-860	Soils and Crop Management** .....	2 s.h.
AGB-338	Salesmanship and Advertising .....	2 s.h.
AGC-190	Skills and Safety in Agriculture .....	1 s.h.
AGC-315	Leadership in Agriculture .....	3 s.h.
AGC-420	Issues in Agriculture .....	3 s.h.
AGS-317	Animal Nutrition .....	2 s.h.
AGS-811	Animal Technologies .....	1 s.h.
WEL-335	Ag & Industry Welding .....	2 s.h.

\*Prerequisite: AGA-154 Fundamentals of Soil Science, or its equivalent.

\*\*Prerequisite: AGA-154 Fundamentals of Soil Science and/or permission of instructor.

## Agricultural Sales and Service - Degree

The Sales and Service curriculum is designed to prepare students to work in the agricultural supply and service industry. It provides a sound academic foundation with emphasis on sales/merchandising, economics, business management, information management, precision agriculture, agronomy, animal science, human relations, and general education. Two eight-week internship experiences are required. **Upon successful completion of the Agricultural Sales and Service curriculum with a grade point average of 2.00 (C) or higher, the student is awarded an Associate in Applied Science Degree.**

**NIACC's Ag Advantage:** *Champions of Agriculture--Providing high quality, vigorous education opportunities to students.*

- |  |                         |
|--|-------------------------|
| * Innovative Curriculum                    | * Technology Emphasis   |
| * Industry Partnerships                    | * Award-Winning Faculty |
| * Rewarding Internships                    | * Electronic Classrooms |
| * Hands-On Labs                            | * Satisfied Graduates   |
| * Highly Regarded by Transfer Institutions |                         |

**Transfer Opportunities:** All classes required in our curriculum can be transferred to Iowa State University and/or Northwest Missouri State University. Graduates can transfer to ISU as a junior and work toward a bachelor's degree in the College of Agriculture. Staff can advise you as to the best academic path for transfer.

**NIACC Farm Lab:** The NIACC Farm Lab consists of 260 no-till acres, 110 acres of pasture, livestock facilities for the swine and beef breeding herds, and provides Ag students with "hands-on" learning experiences in the areas of crop protection and management, precision farming technology, crop and livestock management, show pig and club calf production.

### Required Courses/Suggested Schedule

#### First Year

##### First Term

AGA-154 Fundamentals of Soil Science.....	3 s.h.
AGB-133 Introduction to Ag Business.....	3 s.h.
AGS-109 Animal Science I.....	3 s.h.
AGS-110 Animal Science I Lab.....	1 s.h.
BCA-215 Computer Business Applications.....	3 s.h.
ENG-105 Composition I.....	3 s.h.
	16 s.h.

##### Second Term

ACC-111 Introduction to Accounting.....	3 s.h.
AGA-114 Principles of Agronomy.....	3 s.h.
AGS-209 Animal Science II.....	3 s.h.
AGS-210 Animal Science II Lab.....	1 s.h.
BIO-196 Introduction to Bio-Technology.....	4 s.h.
MAT-801 Applied Math A*.....	1 s.h.
MAT-802 Applied Math B**.....	1 s.h.
MAT-803 Applied Math C***.....	1 s.h.
	17 s.h.

##### Third Term

AGA-852 Principles of Crop Production.....	3 s.h.
AGP-331 Precision Agriculture.....	2 s.h.
BUS-130 Introduction to Entrepreneurship.....	3 s.h.
	8 s.h.

#### Second Year

##### Fourth Term

AGA-860 Soils and Crop Management****.....	2 s.h.
AGB-437 Commodity Marketing.....	3 s.h.
AGB-810 Agriculture Internship.....	4 s.h.
Approved Ag Elective(s).....	5 s.h.
	14 s.h.

##### Fifth Term

AGA-855 Site Specific Crop Management*****.....	2 s.h.
AGB-330 Farm Business Management.....	3 s.h.
AGB-338 Salesmanship and Advertising.....	2 s.h.
AGB-810 Agriculture Internship.....	4 s.h.
BUS-161 Human Relations.....	3 s.h.
Approved Ag Elective(s).....	2 s.h.
	16 s.h.

#### Total Program Hours

71 s.h.

\*Prerequisite: COMPASS Pre-Algebra score of at least 49, or ACT math score of at least 16, or MAT-063 Pre-Algebra with a grade of C or higher, or Accuplacer Arithmetic score of at least 59, or Accuplacer Elementary Algebra score of at least 50, or Accuplacer College Math score of at least 21.  
 \*\*Prerequisite: COMPASS Pre-Algebra score of at least 49, or ACT math score of at least 16, or MAT-063 Pre-Algebra with a grade of C or higher, or Accuplacer Arithmetic score of at least 59, or Accuplacer Elementary Algebra score of at least 50, or Accuplacer College Math score of at least 21.  
 \*\*\*Prerequisite: MAT-801 Applied Math A and MAT-802 Applied Math B with a grade of C or higher, or Accuplacer Arithmetic score of at least 59, or Accuplacer Elementary Algebra score of at least 50, or Accuplacer College Math score of at least 21.

\*\*\*\*Prerequisite: AGA-154 Fundamentals of Soil Science and/or permission of instructor.

\*\*\*\*\*Prerequisite: AGA-154 Fundamentals of Soil Science, or its equivalent.

#### Recommended Agriculture Electives

AGC-190 Skills and Safety in Agriculture.....	1 s.h.
AGC-315 Leadership in Agriculture.....	3 s.h.
AGC-420 Issues in Agriculture.....	3 s.h.
AGM-120 Basic Agricultural Mechanics.....	2 s.h.
AGS-317 Animal Nutrition.....	2 s.h.
AGS-401 Swine Production.....	3 s.h.
AGS-554 Beef Production.....	3 s.h.
AGS-811 Animal Technologies.....	1 s.h.
WEL-335 Ag & Industry Welding.....	2 s.h.

### Career Opportunities

**Internships:** Students in Sales and Service complete two paid, eight-week internships. During your internships you will apply your academic skills in an actual work environment. The industry contacts made often lead to full-time employment following graduation.

**Employment Opportunities:** Jobs for Agriculture Sales and Service graduates include salespersons, counter sales, GPS/GIS service, production assistants, department managers, marketing, insurance, conservation and agency services, and business assistants and managers.

**Earning Potential:** Entry-level salaries for recent NIACC agriculture technology graduates ranged between \$20,000 and \$50,000 annually.

## Agricultural Marketing and Finance - Degree

The Marketing and Finance curriculum is designed to prepare students to work in the agricultural service industry. It provides a sound academic foundation with emphasis on business management, economics, information management, sales and marketing, precision agriculture, farm production, human relations, communication, and general education. An eight-week internship experience is required. **Upon successful completion of the Agricultural Marketing and Finance curriculum with a grade point average of 2.00 (C) or higher, the student is awarded an Associate in Applied Science Degree.**

**NIACC's Ag Advantage:** *Champions of Agriculture--Providing high quality, vigorous education opportunities to students.*

- |  |                         |
|--|-------------------------|
| * Innovative Curriculum                    | * Technology Emphasis   |
| * Industry Partnerships                    | * Award-Winning Faculty |
| * Rewarding Internships                    | * Electronic Classrooms |
| * Hands-On Labs                            | * Satisfied Graduates   |
| * Highly Regarded by Transfer Institutions |                         |

**Transfer Opportunities:** All classes required in our curriculum can be transferred to Iowa State University and/or Northwest Missouri State University. Graduates can transfer to ISU as a junior and work toward a bachelor's degree in the College of Agriculture. Staff can advise you as to the best academic path for transfer.

**NIACC Farm Lab:** The NIACC Farm Lab consists of 260 no-till acres, 110 acres of pasture, livestock facilities for the swine and beef breeding herds, and provides Ag students with "hands-on" learning experiences in the areas of crop protection and management, precision farming technology, crop and livestock management, show pig and club calf production, and business planning and decision making.



### Career Opportunities

**Internships:** Students in Marketing and Finance complete one paid, eight-week internship. During your internship you will apply your academic skills in an actual work environment. The industry contacts made often lead to full-time employment following graduation.

**Employment Opportunities:** Jobs for Agricultural Marketing and Finance graduates include salespersons, accountants, GPS/GIS service, commodity marketing, department managers, production marketing, insurance, conservation, and government agency services, and business assistants and managers.

**Earning Potential:** Entry-level salaries for recent NIACC agriculture technology graduates ranged between \$20,000 and \$50,000 annually.

### Required Courses/Suggested Schedule

#### First Year

##### First Term

ACC-111 Introduction to Accounting.....	3 s.h.
AGA-154 Fundamentals of Soil Science.....	3 s.h.
AGS-109 Animal Science I.....	3 s.h.
AGS-110 Animal Science I Lab.....	1 s.h.
ENG-105 Composition I.....	3 s.h.
FIN-100 Introduction to Finance*.....	3 s.h.
	16 s.h.

##### Second Term

ACC-121 Principles of Accounting I.....	3 s.h.
AGA-114 Principles of Agronomy.....	3 s.h.
BCA-215 Computer Business Applications.....	3 s.h.
ECN-120 Principles of Macroeconomics.....	3 s.h.
ENG-106 Composition II**.....	3 s.h.
	15 s.h.

##### Third Term

AGA-852 Principles of Crop Production.....	3 s.h.
AGP-331 Precision Agriculture.....	2 s.h.
Speech Elective.....	3 s.h.
	8 s.h.

#### Second Year

##### Fourth Term

ACC-122 Principles of Accounting II***.....	3 s.h.
AGB-437 Commodity Marketing.....	3 s.h.
BUS-185 Business Law I.....	3 s.h.
ECN-130 Principles of Microeconomics****.....	3 s.h.
Math Elective.....	3-4 s.h.
Approved Ag Elective(s).....	2 s.h.
	17-18 s.h.

##### Fifth Term

AGB-330 Farm Business Management.....	3 s.h.
AGB-338 Salesmanship and Advertising.....	2 s.h.
AGB-810 Agriculture Internship.....	4 s.h.
Approved Ag Elective(s).....	8-9 s.h.
	17-18 s.h.
Total Program Hours.....	73-75 s.h.

\*Prerequisite: ACC-111 Introduction to Accounting or ACC-121, Principles of Accounting I.

\*\*Prerequisite: ENG-105 Composition I with a grade of C or higher.

\*\*\*Prerequisite: ACC-121 Principles of Accounting I or equivalent.

\*\*\*\*Prerequisite: ECN-120 Principles of Macroeconomics.

#### Recommended Agriculture Electives

AGA-855 Site Specific Crop Management*.....	2 s.h.
AGA-860 Soils and Crop Management**.....	2 s.h.
AGB-133 Introduction to Ag Business.....	3 s.h.
AGB-338 Salesmanship and Advertising.....	2 s.h.
AGC-190 Skills and Safety in Agriculture.....	1 s.h.
AGC-315 Leadership in Agriculture.....	3 s.h.
AGC-420 Issues in Agriculture.....	3 s.h.
AGS-317 Animal Nutrition.....	2 s.h.
AGS-401 Swine Production.....	3 s.h.
AGS-554 Beef Production.....	3 s.h.
AGS-811 Animal Technologies.....	1 s.h.
BUS-130 Introduction to Entrepreneurship.....	3 s.h.
BUS-161 Human Relations.....	3 s.h.
MKT-110 Principles of Marketing.....	3 s.h.
WEL-335 Ag & Industry Welding.....	2 s.h.

\*Prerequisite: AGA-154 Fundamentals of Soil Science, or its equivalent.

\*\*Prerequisite: AGA-154 Fundamentals of Soil Science and/or permission of instructor.

For a list of all Natural Science and Mathematics electives, see page 97.



# Business



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## Arts, A/V Technology & Communications

Graphic Design	44-45
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PATHWAYS TO COLLEGE & CAREER READINESS

## Business Management & Administration

Accounting	34-36, 102
Administrative Office	51, 52
Business Administration	43
Business Management	48
Entrepreneurship & Small Business Management	41
Management	48
Management Information Systems	102
Software Applications Specialist	57
Sport Management	50



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PATHWAYS TO COLLEGE & CAREER READINESS

## Finance

Accounting	34-36, 102
Insurance & Financial Management	47
Finance	102



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PATHWAYS TO COLLEGE & CAREER READINESS

## Health Science

Medical Administrative Assistant	55, 56
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PATHWAYS TO COLLEGE & CAREER READINESS

## Hospitality & Tourism

Hospitality Management	46
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PATHWAYS TO COLLEGE & CAREER READINESS

## Information Technology


Business Technology Specialization	37
Computer Science	102
Information Assurance & Security	39
Information Technology	40



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PATHWAYS TO COLLEGE & CAREER READINESS

## Law, Public Safety, Corrections & Security

Legal Office Associate	53, 54
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PATHWAYS TO COLLEGE & CAREER READINESS

## Marketing

Marketing & Sales	49
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The Business Division offers a wide variety of options including certificates, diplomas, and degrees that provide students an opportunity to choose a career that best matches their skill-set. Design of the curriculum offers a core set of courses that gives students the flexibility to make choices on career direction without the need to start over, as well as the ability to advance from a diploma into a degree seamlessly. With correct planning, many students graduate with multiple degrees with little or no added cost.

NIACC instructors are highly qualified and credentialed, and provide learning instruction in multiple formats to meet the diverse needs of today's learner. Students have the flexibility to choose between face-to-face courses, online courses, and hybrid courses that combine both face-to-face and online learning. Class sizes are relatively small, ensuring optimal learning opportunities and one-on-one assistance. The Business Division constantly works to keep programs current and relevant so students are prepared with the skills they need for the workforce.

Because partnerships exist with local businesses and high schools, students benefit from internship opportunities by gaining hands-on experience while receiving college credit. The majority of internships are paid experiences. Students also have the ability to receive college credit in high school through our Career Link program.

There are 16 business-specific scholarship opportunities available to business students and 3 business-oriented student organizations—Cyber Defense, Collegiate Entrepreneur Organization, and Investing Club. Our Information Technology cluster is affiliated with CISCO, CCNA, COMPTIA, Microsoft, Linux, Palo Alto Firewall, and EMC2.





## Accounting - Degree

Opportunities await graduates of NIACC's Accounting Associate in Applied Science Degree. This program is designed to prepare students for an exciting career in the accounting/bookkeeping job market—a field offering students many dynamic and challenging career opportunities. This program may be completed in four semesters by following the suggested curriculum, or it can be spread over five or more semesters to meet the scheduling needs of the student. The NIACC Business Division is available to assist students with job placement options. For specific transfer options, students should contact the NIACC Business Division or a NIACC counselor.

**Upon successful completion of the Accounting curriculum with a grade point average of 2.00 (C) or higher, the student is awarded an Associate in Applied Science Degree.** Students who have completed the Accounting Diploma program may apply semester hours earned from that program toward an Associate in Applied Science Degree. Students who plan to pursue a four-year degree and need to meet general education requirements of transfer institutions should strive for an Associate in Arts Degree. Several of the first-year requirements are the same for both the A.A.S. and the A.A. Degree.



### Career Opportunities

Employment opportunities may be found in a wide variety of businesses:

- Agricultural Industries
- Banks and Financial Institutions
- Educational Institutions
- Federal, State, and Local Government Agencies
- Hospitals and Health Care Providers
- Insurance Companies

Occupational titles include:

- Accounting Clerk
- Accounts Receivable/Payable Manager
- Bookkeeper
- Credit Analyst
- Credit Counselor
- Contract Administrator
- Financial Planner
- Payroll Manager
- Tax Preparer

### Required Courses/Suggested Schedule

#### First Year

##### First Term

ACC-111	Introduction to Accounting.....	3 s.h.
BCA-215	Computer Business Applications .....	3 s.h.
BUS-102	Introduction to Business.....	3 s.h.
	Business Elective(s).....	6 s.h.
		15 s.h.

##### Second Term

ACC-121	Principles of Accounting I.....	3 s.h.
ACC-311	Computer Accounting* .....	3 s.h.
BCA-152	Comprehensive Spreadsheets** .....	3 s.h.
BUS-162	Workplace Professionalism+.....	3 s.h.
BUS-121	Business Communications.....	3 s.h.
	OR BUS-130 Introduction to Entrepreneurship (3 s.h.)	
	OR BUS-161 Human Relations (3 s.h.)	
	OR General Education elective (3 s.h.)	
		15 s.h.

#### Second Year

##### Third Term

ACC-122	Principles of Accounting II*** .....	3 s.h.
ACC-161	Payroll Accounting**** .....	3 s.h.
ENG-105	Composition I .....	3 s.h.
	Business Elective(s).....	3 s.h.
	Natural Science/Mathematics Elective(s) .....	3 s.h.
		15 s.h.

##### Fourth Term

ACC-135	Personal Income Tax.....	3 s.h.
BUS-185	Business Law I .....	3 s.h.
ENG-106	Composition II***** .....	3 s.h.
	Business Elective(s).....	6 s.h.
		15 s.h.

**Total Program Hours 60 s.h.**

\*Prerequisite: ACC-111 Introduction to Accounting.

\*\*Prerequisite: BCA-101 Introduction to Computers and Information Systems or BCA-215 Computer Business Applications.

\*\*\*Prerequisite: ACC-121 Principles of Accounting I or equivalent.

\*\*\*\*Prerequisite: ACC-111 Introduction to Accounting or ACC-121 Principles of Accounting I with a grade of C or higher.

\*\*\*\*\*Prerequisite: ENG-105 Composition I.

+If you anticipate achieving a two-year degree, enroll in a Business Elective your first year and BUS-162 Workplace Professionalism your second year, preferably the Fourth Term.

For a list of Business Electives, see page 98.

For a list of General Education Electives, see pages 96-98.

For a list of all Natural Science and Mathematics electives, see page 97.

## Accounting - Diploma

The Accounting Diploma program is designed to provide students with the skills and knowledge necessary to enter the field of bookkeeping and accounting in an entry-level position. The program is very technically focused to provide the student with essential job-related accounting and computer skills. The program may be completed in two semesters by following the suggested curriculum, or it may be spread over three or more semesters to meet the scheduling needs of the students.

**Upon successful completion of the Accounting curriculum with a grade point average of 2.00 (C) or higher, the student is awarded a Diploma.** This recognition is granted to a person who has completed at least thirty (30) semester hours of credit.

The curriculum is presented in a format that includes classroom work, laboratory instruction and practice, and computerized accounting. Several accounting simulation projects, including manual and computerized, are completed to give the students experience in keeping a complete set of books. Many hours of computer experience in accounting, keyboarding, and word processing prepare students for full-time employment or for more advanced education in the accounting field. The program also offers students desiring more advanced education the option of applying completed course work toward an Associate in Applied Science Degree or an Associate in General Studies Degree. Program graduates may also continue work toward an Associate in Arts Degree.



### **Business Internships**

It's as easy as 1, 2, 3!

1. Talk to the Business Internship Coordinator or your Counselor to decide when in your college career you should participate in an internship.
2. Enroll in and pass Workplace Professionalism (BUS-162).
  - Workplace Professionalism is a 3 s.h. course that is a prerequisite to Business Internships ~ it can be taken at any time prior to a Business Internship.
3. Upon passing Workplace Professionalism, the student is eligible for a Business Internship (BUS-225).
  - Students may register for a Business Internship only when they have located, secured and have had the internship site approved with the Business Internship Coordinator.
  - Business Internship credit ranges from 1 s.h. to 5 s.h. ~ this must be determined prior to registering for the course.

All students are highly encouraged to participate in a Business Internship before graduating.

### **Required Courses/Suggested Schedule**

(For students planning to complete the program in one academic year)

#### **First Term**

ACC-111	Introduction to Accounting.....	3 s.h.
BCA-215	Computer Business Applications .....	3 s.h.
BUS-102	Introduction to Business.....	3 s.h.
	Business Elective(s).....	6 s.h.
		15 s.h.

#### **Second Term**

ACC-121	Principles of Accounting I.....	3 s.h.
ACC-311	Computer Accounting* .....	3 s.h.
BCA-152	Comprehensive Spreadsheets**.....	3 s.h.
BUS-162	Workplace Professionalism.....	3 s.h.
	Business Elective(s).....	3 s.h.
		15 s.h.

**Total Program Hours** **30 s.h.**

\*Prerequisite: ACC-111 Introduction to Accounting.

\*\*Prerequisite: BCA-101 Introduction to Computers and Information Systems or BCA-215 Computer Business Applications.

For a list of Business Electives, see pages 98.

### **Career Opportunities**

Employment opportunities may be found in a variety of businesses:

- Agricultural Industries
- Banks and Financial Institutions
- Educational Institutions
- Federal, State, and Local Government Agencies
- Manufacturing Companies
- Wholesale and Retail Firms

Occupational titles include:

- Accounting Clerk
- Accounts Payable Clerk
- Accounts Receivable Clerk
- Bank Teller
- Billing Clerk
- Bookkeeper
- Collections Clerk
- Data Entry
- General Office Clerk
- Inventory Clerk
- Payroll Clerk

## Accounting - Certificate



Are you looking to sharpen your accounting skills? The Accounting Certificate program offerings provide you with a great opportunity to enhance your present skills or add new skills to your resume. You will spend time between the classroom and the computer lab working as a team with instructors dedicated to making you job ready or helping to prepare you to continue your education in an accounting-related program.

**Upon successful completion of the Accounting curriculum below with a grade point average of 2.00 (C) or higher, the student is awarded a Certificate.** For students desiring to continue their education, they are eligible to go on to complete an Accounting Diploma or an Associate in Applied Science Degree.

### Required Courses

ACC-111	Introduction to Accounting.....	3 s.h.
ACC-121	Principles of Accounting I.....	3 s.h.
ACC-122	Principles of Accounting II* .....	3 s.h.
ACC-161	Payroll Accounting**.....	3 s.h.
ACC-311	Computer Accounting***.....	3 s.h.

**Total Program Hours**

**15 s.h.**

\*Prerequisite: ACC-121 Principles of Accounting I or equivalent.

\*\*Prerequisites: ACC-111 Introduction to Accounting, or ACC-121 Principles of Accounting I with a grade of C or higher.

\*\*\*Prerequisite: ACC-111 Introduction to Accounting or ACC-121 Principles of Accounting I with a grade of C or higher.

### Business Internships

It's as easy as 1, 2, 3!

1. Talk to the Business Internship Coordinator or your Counselor to decide when in your college career you should participate in an internship.
2. Enroll in and pass Workplace Professionalism (BUS-162).
  - Workplace Professionalism is a 3 s.h. course that is a prerequisite to Business Internships ~ it can be taken at any time prior to a Business Internship.
3. Upon passing Workplace Professionalism, the student is eligible for a Business Internship (BUS-225).
  - Students may register for a Business Internship only when they have located, secured and have had the internship site approved with the Business Internship Coordinator.
  - Business Internship credit ranges from 1 s.h. to 5 s.h. ~ this must be determined prior to registering for the course.

All students are highly encouraged to participate in a Business Internship before graduating.

### Career Opportunities

Students have the option of obtaining employment using their accounting skills. Some job opportunities are listed below:

- Accounts Payable or Accounts Receivable Clerk
- Bookkeeper
- Computer Accounting Clerk
- Help Desk
- Payroll Clerk

## Business Technology Specialization - Degree

NIACC's Business Technology Specialization Degree is designed for students who are interested in developing a solid foundation in business and have a keen interest in computers. Students will prepare themselves for the continually changing marketplace by learning both "job getting" and "job keeping" skills. This program provides students with a real "competitive advantage" when pursuing employment.

**Upon successful completion of the Business Technology curriculum with a grade point average of 2.00 (C) or higher, the student is awarded an Associate in Applied Science Degree.** Students who know they wish to pursue a four-year degree and want to meet general education requirements of transfer institutions should pursue the A.A. degree. This will necessitate a slightly different curriculum.

### Required Courses/Suggested Schedule

#### First Year

##### First Term

BCA-101	Introduction to Computers and Information Systems...	3 s.h.
BUS-102	Introduction to Business.....	3 s.h.
NET-113	IT Essentials I.....	4 s.h.
NET-200	Introduction to Networking .....	3 s.h.
	Business Electives .....	3 s.h.
		16 s.h.

##### Second Term

BUS-122	Emerging Business Practices and Technologies .....	3 s.h.
NET-133	IT Essentials II* .....	4 s.h.
NET-304	Windows Workstation Operating Systems.....	4 s.h.
	Business Electives .....	3 s.h.
		14 s.h.

#### Second Year

##### Third Term

CIS-125	Introduction to Programming Logic with Language .....	3 s.h.
ENG-105	Composition I .....	3 s.h.
NET-613	Information Data Assurance* .....	3 s.h.
	Information Technology Elective(s) .....	3 s.h.
BUS-121	Business Communications.....	3 s.h.
	OR BUS-130 Introduction to Entrepreneurship (3 s.h.)	
	OR BUS-161 Human Relations (3 s.h.)	
	OR General Education elective (3 s.h.)	
		15 s.h.

##### Fourth Term

BUS-162	Workplace Professionalism.....	3 s.h.
CIS-332	Database and SQL.....	3 s.h.
ENG-106	Composition II** .....	3 s.h.
	Business Elective(s).....	3 s.h.
	Natural Science/Mathematics Elective(s) .....	3 s.h.
		15 s.h.

Total Program Hours 60 s.h.

\*Prerequisite: NET-113 IT Essentials I, or permission of instructor.

\*\*Prerequisite: ENG-105 Composition I.

For a list of all Business Electives, see page 98.

For a list of all Natural Science and Mathematics electives, see page 97.

### Recommended Information Technology Electives:

CFR-100	Computer Forensics I* .....	3 s.h.
CFR-110	Ethics and the Information Age .....	3 s.h.
CFR-150	Computer Forensics II** .....	3 s.h.
NET-136	Operating Systems II* .....	3 s.h.
NET-225	Routing and Switching Essentials*** .....	4 s.h.
NET-226	Scaling Networks**** .....	4 s.h.
NET-227	Connecting Networks***** .....	4 s.h.
NET-261	Virtualization/Cloud Operations***** .....	3 s.h.
NET-314	Windows Server+ .....	4 s.h.
NET-324	Windows Network Management++ .....	4 s.h.
NET-609	Network Security**** .....	3 s.h.
NET-782	Computer Users Support* .....	3 s.h.

\*Prerequisite: NET-113 IT Essentials I, or permission of instructor.

\*\*Prerequisite: CFR-100 Computer Forensics I, or permission of instructor.

\*\*\*Prerequisite: NET-200 Introduction to Networking

\*\*\*\*Prerequisite: NET-225 Routing and Switching Essentials.

\*\*\*\*\*Prerequisite: NET-226 Scaling Networks

\*\*\*\*\*Prerequisites: CFR-100 Computer Forensics I, NET-113 IT Essentials I, NET-304 Windows Workstation Operating Systems, NET-324 Windows Network Management, or permission of instructor.

+Prerequisite: NET-324 Windows Network Management, or permission of instructor.

++Prerequisite: NET-304 Windows Workstation Operating Systems.

NOTE: Electives may be from all Information Technology courses in the catalog in any combination if prerequisites are met or instructor permission is obtained, AND minimum degree requirements are met.

### Business Internships

It's as easy as 1, 2, 3!

1. Talk to the Business Internship Coordinator or your Counselor to decide when in your college career you should participate in an internship.
2. Enroll in and pass Workplace Professionalism (BUS-162).
  - Workplace Professionalism is a 3 s.h. course that is a prerequisite to Business Internships ~ it can be taken at any time prior to a Business Internship.
3. Upon passing Workplace Professionalism, the student is eligible for a Business Internship (BUS-225).
  - Students may register for a Business Internship only when they have located, secured and have had the internship site approved with the Business Internship Coordinator.
  - Business Internship credit ranges from 1 s.h. to 5 s.h. ~ this must be determined prior to registering for the course.

All students are highly encouraged to participate in a Business Internship before graduating.

### Career Opportunities

Support staff in Accounting, Help Desk, Information Systems Technology, Management Information Systems, Personal Computer Hardware and/or Software, and Web Design.

For specific information, contact the NIACC Business Division.

### Foundations of Technology - Certificate

NIACC offers a flexible technology certificate that provides you with hands-on experience in your area of interest. The Foundations of Technology Certificate is designed to give you foundational skills to help you get ahead in your job or help you get started in a new career path.

**Upon successful completion of the Foundations of Technology curriculum (17 semester hours) with a grade point average of 2.00 (C) or higher, the student is awarded a Certificate.**

CFR-110	Ethics and the Information Age.....	3 s.h.
NET-113	IT Essentials I.....	4 s.h.
NET-200	Introduction to Networking.....	3 s.h.
NET-304	Windows Workstation Operating Systems.....	4 s.h.
NET-613	Information Data Assurance* .....	3 s.h.

<b>Total Hours</b>	<b>17 s.h.</b>
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\*Prerequisite: NET-113 IT Essentials I, NET-304 Windows Workstation Operating System, or permission of instructor.

Not all courses are offered every semester; to stay on track, students are advised to follow the suggested schedule.

Check the college catalog for course corequisites and/or prerequisites or check with a counselor.

Course substitutions may be made with permission of the Business Division Chair.





## Information Assurance and Security - Degree

The Information Assurance and Security Degree program prepares the student to understand networking components with specialization in securing and protecting the network while being able to prepare and conduct investigations based on intrusions or access by other than authorized individuals, systems, viruses, malware and spyware. This professional demonstrates the skills required to protect a network, improve and maintain network security and conduct investigations if a threat or intrusion has been identified.

This program provides the student with an opportunity to pursue the certifications listed below:

- CISCO Certified Network Associate (CCNA)
- CCNA Security Certification
- COMPTIA Security+
- COMPTIA A+ Hardware Certification
- COMPTIA Network+
- Microsoft Certified Professional for Windows 7
- Microsoft Certified Technology Specialist
- Linux+
- Security Certified Network Professional (SCO-471)

**Upon successful completion of the Information Assurance and Security curriculum (at least 60 semester hours) with a grade point average of 2.00 (C) or higher, the student is awarded an Associate in Applied Science Degree.**

### Business Internships

It's as easy as 1, 2, 3!

1. Talk to the Business Internship Coordinator or your Counselor to decide when in your college career you should participate in an internship.
2. Enroll in and pass Workplace Professionalism (BUS-162).
  - Workplace Professionalism is a 3 s.h. course that is a prerequisite to Business Internships ~ it can be taken at any time prior to a Business Internship.
3. Upon passing Workplace Professionalism, the student is eligible for a Business Internship (BUS-225).
  - Students may register for a Business Internship only when they have located, secured and have had the internship site approved with the Business Internship Coordinator.
  - Business Internship credit ranges from 1 s.h. to 5 s.h. ~ this must be determined prior to registering for the course.

All students are highly encouraged to participate in a Business Internship before graduating.

### Career Opportunities

Students have the option of obtaining employment using their computer skills or transferring to a four-year institution and receiving a baccalaureate degree. Some job opportunities are listed below:

- Manage an entire network in a small- to medium-size business
- Work in IT department with networking responsibilities
- Manage an entire IT department for a small business
- Develop your own consulting business
- Computer Support and Security Specialist
- LAN or WAN Administrator
- Network Technician

### Required Courses/Suggested Schedule

#### First Year

##### First Term (Fall Semester)

CFR-110	Ethics and the Information Age.....	3 s.h.
CIS-125	Introduction to Programming Logic with Language .....	3 s.h.
ENG-105	Composition I.....	3 s.h.
NET-113	IT Essentials I.....	4 s.h.
NET-200	Introduction to Networking .....	3 s.h.
		16 s.h.

##### Second Term (Spring Semester)

CFR-100	Computer Forensics I * .....	3 s.h.
CIS-332	Database and SQL.....	3 s.h.
NET-136	Operating Systems II* .....	3 s.h.
NET-225	Routing and Switching Essentials** .....	4 s.h.
NET-304	Windows Workstation Operating Systems.....	4 s.h.
		17 s.h.

##### Third Term (Summer)

BUS-162	Workplace Professionalism.....	3 s.h.
ENG-106	Composition II *** .....	3 s.h.
MAT-110	Math for Liberal Arts**** .....	3 s.h.
		9 s.h.

#### Second Year

##### Fourth Term (Fall Semester)

NET-226	Scaling Networks ***** .....	4 s.h.
NET-324	Windows Network Management+ .....	4 s.h.
NET-613	Information Data Assurance ++ .....	3 s.h.
BUS-121	Business Communications.....	3 s.h.
	OR BUS-130 Introduction to Entrepreneurship (3 s.h.)	
	OR BUS-161 Human Relations (3 s.h.)	
	OR General Education elective (3 s.h.)	
		14 s.h.

##### Fifth Term (Spring Semester)

CFR-150	Computer Forensics II +++ .....	3 s.h.
NET-227	Connecting Networks ++++ .....	4 s.h.
NET-261	Virtualization/Cloud Operations +++++ .....	3 s.h.
NET-292	Information Technology Capstone ++++++ .....	5 s.h.
NET-609	Network Security **** .....	3 s.h.
		18 s.h.

#### Total Program Hours

**74 s.h.**

\*Prerequisite: NET-113 IT Essentials or permission of instructor.

\*\*Prerequisite: NET-200 Introduction to Networking.

\*\*\*Prerequisite: ENG-105 Composition I with a grade of C or higher.

\*\*\*\*Prerequisite: MAT-089 Survey of Math with a grade of C or higher, Accuplacer Elementary Algebra score of 110 or higher, or Accuplacer College Math score of 45 or higher, or COMPASS Algebra score of at least 56, or ACT Math score of at least 21.

\*\*\*\*\*Prerequisite: NET-225 Routing and Switching Essentials.

+Prerequisite: NET-304 Windows Workstation Operating Systems

++Prerequisite: NET-113, IT Essentials I, NET-304 Windows Workstation Operating System, or permission of instructor.

+++Prerequisite: CFR-100 Computer Forensics I, or permission of instructor.

++++Prerequisite: NET-226 Scaling Networks.

+++++Prerequisite: CFR-100 Computer Forensics I, NET-113 IT Essentials I, NET-304 Windows Workstation Operating Systems, NET-324 Windows Network Management, or permission of instructor.

+++++Prerequisites: CFR-110 Ethics and the Information Age, CIS-125 Introduction to Programming Logic with Language, CIS-332 Database & SQL, NET-200 Introduction to Networking, NET-227 Connecting Networks, and NET-613 Information Data Assurance; and NET-133 IT Essentials II, NET-314 Windows Server, and NET-782 Computer Users Support OR CFR-150 Computer Forensics II, NET-324 Windows Network Management, and NET-609 Network Security.



## Information Technology Specialist - Degree

The Information Technology Specialist Degree program prepares the student to understand networking components, personal computer repair, troubleshooting, and management of workstations and server systems. The professional demonstrates the skills required to develop, establish, set up, maintain, and repair any issue that may arise while users are conducting work-related concepts, including basic protection theory on viruses, malware, and spyware that may enter a computer system during daily usage.

This program provides the student with an opportunity to pursue the certifications listed below:

- CISCO Certified Network Associate (CCNA)
- COMPTIA Security+
- COMPTIA A+ Hardware Certification
- COMPTIA Network+
- Microsoft Certified Professional for Windows 7
- Microsoft Certified Technology Specialist
- Microsoft Information Technology Professional (Windows Server)
- Linux+

Upon successful completion of the Information Technology Specialist curriculum (at least 60 semester hours) with a grade point average of 2.00 (C) or higher, the student is awarded an Associate in Applied Science Degree.

### Career Opportunities

Students have the option of obtaining employment using their computer skills or transferring to a four-year institution and receiving a baccalaureate degree. Some job opportunities are listed below:

- Hardware Support for a small- to medium-size business
- Help Desk Support
- Technical Writers
- IT Sales and/or Training
- PC Technician Repair

### Business Internships

It's as easy as 1, 2, 3!

1. Talk to the Business Internship Coordinator or your Counselor to decide when in your college career you should participate in an internship.
2. Enroll in and pass Workplace Professionalism (BUS-162).
  - Workplace Professionalism is a 3 s.h. course that is a prerequisite to Business Internships ~ it can be taken at any time prior to a Business Internship.
3. Upon passing Workplace Professionalism, the student is eligible for a Business Internship (BUS-225).
  - Students may register for a Business Internship only when they have located, secured and have had the internship site approved with the Business Internship Coordinator.
  - Business Internship credit ranges from 1 s.h. to 5 s.h. ~ this must be determined prior to registering for the course.

All students are highly encouraged to participate in a Business Internship before graduating.

### Required Courses/Suggested Schedule

#### First Year

##### First Term (Fall Semester)

CFR-110	Ethics and the Information Age .....	3 s.h.
CIS-125	Introduction to Programming Logic with Language .....	3 s.h.
ENG-105	Composition I .....	3 s.h.
NET-113	IT Essentials I .....	4 s.h.
NET-200	Introduction to Networking .....	3 s.h.
		16 s.h.

##### Second Term (Spring Semester)

CIS-332	Database and SQL .....	3 s.h.
NET-133	IT Essentials II ** .....	4 s.h.
NET-225	Routing and Switching Essentials .....	4 s.h.
NET-304	Windows Workstation Operating Systems .....	4 s.h.
		15 s.h.

##### Third Term (Summer)

BUS-162	Workplace Professionalism .....	3 s.h.
ENG-106	Composition II *** .....	3 s.h.
MAT-110	Math for Liberal Arts **** .....	3 s.h.
		9 s.h.

#### Second Year

##### Fourth Term (Fall Semester)

NET-226	Scaling Networks ***** .....	4 s.h.
NET-314	Windows Server + .....	4 s.h.
NET-324	Windows Network Management ++ .....	4 s.h.
NET-613	Information Data Assurance +++ .....	3 s.h.
BUS-121	Business Communications .....	3 s.h.
	OR BUS-130 Introduction to Entrepreneurship (3 s.h.)	
	OR BUS-161 Human Relations (3 s.h.)	
	OR General Education elective (3 s.h.)	
		18 s.h.

##### Fifth Term (Spring Semester)

NET-136	Operating Systems II * .....	3 s.h.
NET-227	Connecting Networks ++++ .....	4 s.h.
NET-292	Information Technology Capstone +++++ .....	5 s.h.
NET-782	Computer Users Support * .....	3 s.h.
		15 s.h.

#### Total Program Hours

73 s.h.

\*Prerequisite: NET-113 IT Essentials I or permission of instructor.

\*\*Prerequisite: NET-200 Introduction to Networking.

\*\*\*Prerequisite: ENG-105 Composition I with a grade of C or higher.

\*\*\*\*Prerequisite: Prerequisite: MAT-089 Survey of Math with a grade of C or higher, Accuplacer Elementary Algebra score of 110 or higher, or Accuplacer College Math score of 45 or higher, or COMPASS Algebra score of at least 56, or ACT Math score of at least 21.

\*\*\*\*\*Prerequisite: NET-225 Routing and Switching Essentials.

+Prerequisite: NET-324 Windows Network Management, or permission of instructor.

++Prerequisite: NET-304 Windows Workstation Operating Systems.

+++Prerequisite: NET-113 IT Essentials I, NET-304 Windows Workstation Operating System, or permission of instructor.

++++Prerequisite: NET-226 Scaling Networks.

+++++ Prerequisites: CFR-110 Ethics and the Information Age, CIS-125 Introduction to Programming Logic with Language, CIS-332 Database & SQL, NET-200 Introduction to Networking, NET-227 Connecting Networks, and NET-613 Information Data Assurance; and NET-133 IT Essentials II, NET-314 Windows Server, and NET-782 Computer Users Support OR CFR-150 Computer Forensics II, NET-324 Windows Network Management, and NET-609 Network Security.





## Entrepreneurship and Small Business Management - Degree

Want to make a million dollars, be the next Bill Gates, or be your own boss? The Entrepreneurship and Small Business Management program provides students with an understanding of the many facets of entrepreneurship. Students will learn the process of identifying a business opportunity and developing an organization to establish a new venture. The curriculum will provide students with the proper tools to evaluate the feasibility of a new venture and to identify the available resources for assisting an entrepreneur during the start-up phase of the business.

### Career Opportunities:

- By taking entrepreneurial courses, you will become a motivated and valued employee, captain, leader, owner, or boss that understands how to take a problem and turn it into an opportunity.
- Learn the ABC's of starting and managing your own business.
- Understand the difference between a good idea and a real business opportunity.
- Knowing the basics of starting a company creates both value and experience that will be used throughout your career, despite the area of interest.

Upon successful completion of the Entrepreneurship and Small Business Management curriculum with a grade point average of 2.00 (C) or higher, the student is awarded an Associate in Applied Science Degree. With a few additional courses, a student can also earn an Associate in Arts Degree; assistance from a NIACC counselor is advised to ensure proper course curricula.



### Required Courses/Suggested Schedule

#### First Year

##### First Term

BCA-215	Computer Business Applications .....	3 s.h.
BUS-102	Introduction to Business.....	3 s.h.
BUS-130	Introduction to Entrepreneurship.....	3 s.h.
BUS-162	Workplace Professionalism+.....	3 s.h.
MGT-101	Principles of Management* .....	3 s.h.
		15 s.h.

##### Second Term

ACC-111	Introduction to Accounting.....	3 s.h.
BUS-122	Emerging Business Practices and Technologies .....	3 s.h.
BUS-152	Creating a Company .....	3 s.h.
MGT-170	Human Resource Management .....	3 s.h.
MKT-110	Principles of Marketing.....	3 s.h.
		15 s.h.

#### Second Year

##### Third Term

BUS-185	Business Law I.....	3 s.h.
ENG-105	Composition I.....	3 s.h.
FIN-100	Introduction to Finance .....	3 s.h.
	Business Elective(s).....	6 s.h.
		15 s.h.

##### Fourth Term

BCA-152	Comprehensive Spreadsheets** .....	3 s.h.
BUS-269	Insurance and Risk Management .....	3 s.h.
ENG-106	Composition II*** .....	3 s.h.
	Business Elective(s).....	3 s.h.
	Natural Science/Mathematics Elective(s) .....	3 s.h.
		15 s.h.

**Total Program Hours** **60 s.h.**

+If you anticipate achieving a two-year degree, enroll in a Business Elective your first year and BUS-162 Workplace Professionalism your second year, preferably the Fourth Term.

\*Prerequisite: BUS-102 Introduction to Business is recommended.

\*\*Prerequisite: BCA-101 Introduction to Computers and Information Systems or BCA-215 Computer Business Applications.

\*\*\*Prerequisite: ENG-105 Composition I.

For a list of all Business Electives, see page 98.

For a list of all Natural Science and Mathematics electives, see page 97.



## The Pappajohn Entrepreneurial - Certificate

The John Pappajohn Entrepreneurial Certificate is designed for the aspiring student entrepreneur and is ideal for any student who someday would like to own and operate a business of his or her own.

### Career Opportunities:

- This specially designed Certificate program allows students in any academic program to learn the essential elements of creating and managing their own entrepreneurial venture.
- Students will focus on the core business disciplines that will assist them in any new business venture.
- Learn how to create a road map that will allow you to attract start-up funding, market your idea, and grow your entrepreneurial venture.
- The Entrepreneurial Certificate program will teach you the basics of business ownership, and these skills will help you find employment.

### Strengths:

Students will be able to explore a new business idea, conduct market research, prepare marketing and financial plans, and learn basic skills on how to own, operate, and manage the business.

**Upon successful completion of the Pappajohn Entrepreneurial curriculum (at least 18 semester hours) with a grade point average of 2.00 (C) or higher, the student is awarded a Certificate.**

### Required Courses/Suggested Schedule

ACC-111	Introduction to Accounting.....	3 s.h.
	OR ACC-121 Principles of Accounting I (3 s.h.)	
BUS-102	Introduction to Business.....	3 s.h.
BUS-122	Emerging Business Practices and Technologies .....	3 s.h.
BUS-130	Introduction to Entrepreneurship.....	3 s.h.
BUS-152	Creating a Company .....	3 s.h.
MKT-110	Principles of Marketing.....	3 s.h.

**Total Program Hours..... 18 s.h.**

### Business Internships

It's as easy as 1, 2, 3!

1. Talk to the Business Internship Coordinator or your Counselor to decide when in your college career you should participate in an internship.
2. Enroll in and pass Workplace Professionalism (BUS-162).
  - Workplace Professionalism is a 3 s.h. course that is a prerequisite to Business Internships ~ it can be taken at any time prior to a Business Internship.
3. Upon passing Workplace Professionalism, the student is eligible for a Business Internship (BUS-225).
  - Students may register for a Business Internship only when they have located, secured and have had the internship site approved with the Business Internship Coordinator.
  - Business Internship credit ranges from 1 s.h. to 5 s.h. ~ this must be determined prior to registering for the course.

All students are highly encouraged to participate in a Business Internship before graduating.

## Business Administration - Degree

The Business Administration Degree program provides the student with a broad base of knowledge to assume a wide variety of professional business positions in our ever-changing business environment.

### Career Opportunities:

Some of the occupational areas in which job opportunities may be found are:

- Sales
- General Business (office, shipping and receiving, quality control)
- Management
- Positions within industrial, wholesale or retail firms

For specific information, contact the NIACC Business Division.

### Employment Outlook:

Whether a business is not-for-profit, governmental, or an international corporation, it needs people with skills in business administration. All organizations offer careers that rely heavily on effective business management techniques, making business administration an excellent foundation.

### Strengths:

NIACC's Business Administration program is a dual-purpose program designed to give the student the option of obtaining employment upon graduation or transferring to a four-year institution.

**Upon successful completion of the Business Administration curriculum with a grade point average of 2.00 (C) or higher, the student is awarded an Associate in Applied Science Degree.** Students who know they wish to pursue a four-year degree and want to meet general education requirements of transfer institutions, should pursue the A.A. Degree. This will necessitate a slightly different curriculum.

### Required Courses/Suggested Schedule

#### First Year

##### First Term

ACC-111	Introduction to Accounting.....	3 s.h.
BCA-215	Computer Business Applications .....	3 s.h.
	OR BCA-101 Introduction to Computers and Information Systems (3 s.h.)	
BUS-102	Introduction to Business.....	3 s.h.
MGT-101	Principles of Management* .....	3 s.h.
BUS-121	Business Communications.....	3 s.h.
	OR BUS-130 Introduction to Entrepreneurship (3 s.h.)	
	OR BUS-161 Human Relations (3 s.h.)	
	OR General Education elective (3 s.h.)	
		15 s.h.

##### Second Term

ACC-121	Principles of Accounting I.....	3 s.h.
BCA-152	Comprehensive Spreadsheets** .....	3 s.h.
BUS-162	Workplace Professionalism+ .....	3 s.h.
MGT-170	Human Resource Management.....	3 s.h.
MKT-110	Principles of Marketing.....	3 s.h.
		15 s.h.

#### Second Year

##### Third Term

BUS-185	Business Law I.....	3 s.h.
ENG-105	Composition I.....	3 s.h.
FIN-100	Introduction to Finance .....	3 s.h.
	Business Elective(s).....	3 s.h.
	Natural Science/Mathematics Elective(s) .....	3 s.h.
		15 s.h.

##### Fourth Term

BUS-186	Business Law II*** .....	3 s.h.
BUS-269	Insurance and Risk Management .....	3 s.h.
ENG-106	Composition II**** .....	3 s.h.
	Business Elective(s).....	6 s.h.
		15 s.h.

#### Total Program Hours

**60 s.h.**

\*Prerequisite: BUS-102 Introduction to Business is recommended.

\*\*Prerequisite: BCA-101 Introduction to Computers and Information Systems or BCA-215 Computer Business Applications.

\*\*\*Prerequisite: BUS-185 Business Law I.

\*\*\*\*Prerequisite: ENG-105 Composition I.

+If you anticipate achieving a two-year degree, enroll in a Business Elective your first year and BUS-162 Workplace Professionalism your second year, preferably the Fourth Term.

For a list of all Business Electives, see page 98.

For a list of all Natural Science and Mathematics electives, see page 97.

## Foundations in Business - Certificate

The Foundations in Business Certificate is designed to expose students to core business courses.

These courses may apply to most certificates, diplomas, and degrees in the Business Division. Many of these courses are offered every semester in multiple formats.

**Upon successful completion of the Foundations in Business curriculum with a grade point average of 2.00 (C) or higher, the student is awarded a Certificate.**

### Required Courses

ACC-111	Introduction to Accounting.....	3 s.h.
	OR ACC-311 Computer Accounting (3 s.h.)	
	OR BCA-215 Computer business Application (3 s.h.)	
BUS-102	Introduction to Business.....	3 s.h.
	OR BUS-130 Intro to Entrepreneurship (3 s.h.)	
BUS-162	Workplace Professionalism .....	3 s.h.

#### Total Program Hours.....

**9 s.h.**

\*Prerequisite: ACC-111 Introduction to Accounting.



## Graphic Design - Degree

The Graphic Design Degree program is devised to provide students with essential skills and knowledge to enter the exciting graphic arts field. Designers must possess a strong sense of creativity, aesthetics, color and detail, as well as a sense of balance, proportion, and professional design. Their creations are often the main media used to successfully market products and services and strongly influence buying decisions in our ever-changing business environment.

**Upon successful completion of the Graphic Design curriculum with a grade point average of 2.00 (C) or higher, the student is awarded an Associate in Applied Science (AAS) Degree.**

Students wishing to achieve a four-year degree will need to meet general education requirements of transfer institutions and pursue the A.A. Degree. This will necessitate a slightly different curriculum so refer to your program advisor for course selection.

### Career Opportunities

Successful graduates may find employment opportunities in the following occupational areas:

- Advertising Layout
- Graphic Design
- Newspapers
- Printing Industry
- Publishing Companies
- Screen-Printing
- Sign companies



### Required Courses/Suggested Schedule

#### First Year

##### First Term (Fall Semester)

ART-115 Graphic Design .....	3 s.h.
ART-120 Two Dimensional Design .....	3 s.h.
ART-133 Drawing .....	3 s.h.
BUS-102 Introduction to Business .....	3 s.h.
ENG-105 Composition I .....	3 s.h.
	15 s.h.

##### Second Term (Spring Semester)

ART-116 Graphic Design II* .....	3 s.h.
ART-127 Digital Illustration .....	3 s.h.
ART-187 Creative Photography .....	3 s.h.
BUS-122 Emerging Business Practices & Technologies .....	3 s.h.
Approved Electives.....	3 s.h.
	15 s.h.

#### Second Year

##### Third Term (Fall Semester)

ACC-111 Introduction to Accounting.....	3 s.h.
BCA-155 Introduction to Web Design .....	3 s.h.
BUS-162 Workplace Professionalism .....	3 s.h.
MKT-110 Principles of Marketing.....	3 s.h.
ENG-106 Composition II .....	3 s.h.
	15 s.h.

##### Fourth Term (Spring Semester)

BUS-130 Introduction to Entrepreneurship .....	3 s.h.
BUS-161 Human Relations .....	3 s.h.
BUS-225C Business Internships*.....	3 s.h.
Natural Science/Math Elective .....	3 s.h.
Approved Electives.....	3 s.h.
	15 s.h.

**Total Program Hours**

**60 s.h.**

#### Approved Electives:

ACC-121 Principles of Accounting I .....	3 s.h.
ACC-122 Principles of Accounting II*.....	3 s.h.
ART-134 Drawing II*.....	3 s.h.
ART-203 Art History I.....	3 s.h.
ART-204 Art History II.....	3 s.h.
BCA-101 Introduction to Computers .....	3 s.h.
BCA-152 Comprehensive Spreadsheets* .....	3 s.h.
BCA-215 Computer Business Applications .....	3 s.h.
BUS-152 Creating a Company.....	3 s.h.
BUS-225C Business Internships (a repeatable course).....	3 s.h.
MKT-150 Principles of Advertising .....	3 s.h.

+ If you anticipate achieving a two-year degree, enroll in a Business Elective your first year and Workplace Professionalism your second year, preferably Fourth Term.

Not all courses are offered every semester; to stay on track, students are advised to follow suggested schedule.

\* Students should review the course prerequisites(s) before enrollment to insure program completion within the financial aid guideline time frame. For a listing of all business courses, please see the college catalog or check with a counselor.

## Graphic Design - Certificates

The five Graphic Design Certificates are designed for students to be introduced, enhanced and /or add further graphic design expertise to their skill sets. The Certificate provides flexibility for students to choose and develop their skills for specific graphic arts industry opportunities.

**Upon successful completion of the Introductory Graphic Design, Intermediate Graphic Design, Advanced Graphic Design, Graphic Design-Web/Social Media, or Entrepreneurial Graphic Design curriculum with a grade point average of 2.00 (C) or higher, the student is awarded a Certificate.** Students also have the option to enter the two-year Graphic Design Associate in Applied Science Degree program or transfer to a four-year institution which will necessitate a slightly different curriculum.

Not all courses are offered every semester; to stay on track, students are advised to follow suggested schedule.

\*Students should review the course prerequisite(s) before enrollment to insure program completion within the financial aid guideline time frame.

Check the college catalog for course corequisites and/or prerequisites or check with a counselor.

### Required Courses

#### Introductory Graphic Design Certificate

ART-115 Graphic Design I.....	3 s.h.
ART-120 Two Dimensional Design .....	3 s.h.
ART-133 Drawing .....	3 s.h.
ENG-105 Composition I .....	3 s.h.
<b>Total Program Hours</b>	<b>12 s.h.</b>

#### Intermediate Graphic Design Certificate

ART-115 Graphic Design I.....	3 s.h.
ART-116 Graphic Design II.....	3 s.h.
ART-120 Two Dimensional Design .....	3 s.h.
ART-133 Drawing .....	3 s.h.
ART-187 Creative Photography .....	3 s.h.
ENG-105 Composition I .....	3 s.h.
<b>Total Program Hours</b>	<b>18 s.h.</b>

#### Advanced Graphic Design Certificate

ART-115 Graphic Design I.....	3 s.h.
ART-116 Graphic Design II.....	3 s.h.
ART-120 Two Dimensional Design .....	3 s.h.
ART-127 Digital Illustration.....	3 s.h.
ART-133 Drawing .....	3 s.h.
ART-187 Creative Photography .....	3 s.h.
ENG-105 Composition I .....	3 s.h.
<b>Total Program Hours</b>	<b>21 s.h.</b>

#### Entrepreneurial Graphic Design Certificate

ART-115 Graphic Design I.....	3 s.h.
ART-116 Graphic Design II.....	3 s.h.
ART-127 Digital Illustration.....	3 s.h.
BCA-155 Introduction to Web Design .....	3 s.h.
BUS-122 Emerging Bus Practices & Tech .....	3 s.h.
BUS-130 Introduction to Entrepreneurship .....	3 s.h.
ENG-105 Composition I .....	3 s.h.
<b>Total Program Hours</b>	<b>21 s.h.</b>

#### Graphic Design-Web/Social Media Certificate

ART-115 Graphic Design I.....	3 s.h.
ART-116 Graphic Design II.....	3 s.h.
ART-127 Digital Illustration.....	3 s.h.
BCA-155 Introduction to Web Design .....	3 s.h.
BUS-122 Emerging Bus Practices & Technologies.....	3 s.h.
ENG-105 Composition I .....	3 s.h.
<b>Total Program Hours</b>	<b>18 s.h.</b>

## Hospitality Management - Degree

Launch your business career in the exciting field of hospitality management. There are numerous opportunities for advancement in the diverse and dynamic hospitality industry, especially for those with this degree. If you are upbeat and energetic, have leadership abilities, and enjoy assisting others, the global hospitality industry is worth seriously considering. This program provides a basic foundation and is designed to give students the option of articulation of a four-year institution or employment upon graduation.

### Employment Outlook:

Bureau of Labor Statistics (BLS) data shows the field of food management, particularly in institutions such as schools, hospitals, nursing homes, restaurants, hotels, and prisons, to be in the top ten job growth areas by 2012. For specific information, contact the NIACC Business Division.

**Upon successful completion of the first year of the Management curriculum with a grade point average of 2.00 (C) or higher, the student is awarded a Diploma.**

**Upon successful completion of the second year Hospitality Management curriculum with a grade point average of 2.00 (C) or higher, the student is awarded an Associate in Applied Science Degree.**

Students wishing to pursue a four-year degree and want to meet general education requirements of transfer institutions should pursue the A.A. degree. This will necessitate a slightly different curriculum.

### Required Courses/Suggested Schedule

#### First Year

##### First Term

BCA-215	Computer Business Applications .....	3 s.h.
	OR BCA-101 Introduction to Computers and Information Systems (3 s.h.) .....	
BUS-102	Introduction to Business.....	3 s.h.
MGT-101	Principles of Management* .....	3 s.h.
	Business Elective(s).....	3 s.h.
BUS-121	Business Communications.....	3 s.h.
	OR BUS-130 Introduction to Entrepreneurship (3 s.h.) .....	
	OR BUS-161 Human Relations (3 s.h.) .....	
	OR General Education elective (3 s.h.) .....	
		15 s.h.

##### Second Term

ACC-111	Introduction to Accounting.....	3 s.h.
BCA-152	Comprehensive Spreadsheets**.....	3 s.h.
BUS-162	Workplace Professionalism+.....	3 s.h.
MGT-170	Human Resource Management.....	3 s.h.
MKT-110	Principles of Marketing.....	3 s.h.
		15 s.h.

#### Second Year

##### Third Term

BUS-185	Business Law I.....	3 s.h.
ENG-105	Composition I.....	3 s.h.
	Concentration Courses .....	9 s.h.
		15 s.h.

##### Fourth Term

ENG-106	Composition II*** .....	3 s.h.
	Concentration Courses .....	9 s.h.
	Natural Science/Mathematics Elective(s) .....	3 s.h.
		15 s.h.

**Total Program Hours**

**60 s.h.**

\*Prerequisite: BUS-102 Introduction to Business is recommended.

\*\*Prerequisite: BCA-101 Introduction to Computers and Information Systems or BCA-215 Computer Business Applications.

\*\*\*Prerequisite: ENG-105 Composition I.

+If you anticipate achieving a two-year degree, enroll in a Business Elective your first year and BUS-162 Workplace Professionalism your second year, preferably the Fourth Term.

### Recommended Hospitality Management Concentration Courses:

BUS-225	Business Internships* .....	1-5 s.h.
HCM-103	ServSafe Food Safety .....	1 s.h.
HCM-234	Introduction to Hospitality Management.....	3 s.h.
HCM-239	Customer Service.....	2 s.h.
HCM-250	Purchasing .....	2 s.h.
HCM-283	Controlling Food Service Costs .....	2 s.h.
HCM-304	Principles of Food and Beverage Management.....	2 s.h.
HCM-325	Human Resources Management and Supervision .....	2 s.h.
HCM-607	Hospitality and Restaurant Management** .....	2 s.h.
HCM-612	Hospitality and Restaurant Marketing.....	2 s.h.

\*Prerequisites: (1) Students must enroll in and pass BUS-107, Business Careers; (2) Students must have completed and filed an Application for Employment with their Internship Coordinator; and (3) Students must have their proposed experience approved by the Internship Coordinator before they may register and begin.

\*\*Prerequisite: HCM-234 Introduction to Hospitality Management.

### Recommended Business Electives:

BUS-122	Emerging Business Practices and Technologies .....	3 s.h.
BUS-130	Introduction to Entrepreneurship.....	3 s.h.
BUS-152	Creating a Company .....	3 s.h.
BUS-161	Human Relations.....	3 s.h.
BUS-269	Insurance and Risk Management .....	3 s.h.
FIN-100	Introduction to Finance* .....	3 s.h.
MKT-140	Principles of Selling.....	3 s.h.
MKT-150	Principles of Advertising.....	3 s.h.

\*Prerequisite: ACC-111 Introduction to Accounting or ACC-121 Principles of Accounting I.

For a list of all Business Electives, see pages 94-95.

For a list of all Natural Science and Mathematics electives, see page 93.

## Fundamentals of Hospitality Management - Certificate

The Fundamentals of Hospitality Management Certificate is designed to provide students an opportunity to obtain the necessary core courses to achieve a NIACC Certificate and to use toward national certification. Students may select the certificate curriculum or choose the two-year Hospitality Management Degree option.

**Upon successful completion of the Fundamentals of Hospitality Management curriculum (12 semester hours) with a grade point average of 2.00 (C) or higher, the student is awarded a Certificate.**

### Required Courses/Suggested Schedule

HCM-103	ServSafe Food Safety .....	1 s.h.
HCM-234	Introduction to Hospitality Management.....	3 s.h.
HCM-239	Customer Service.....	2 s.h.
HCM-283	Controlling Food Service Costs .....	2 s.h.
HCM-325	Human Resources Management and Supervision .....	2 s.h.
HCM-607	Hospitality and Restaurant Management.....	2 s.h.

**Total Program Hours**

**12 s.h.**

### Career Opportunities:

The hospitality industry is enormous and provides an array of rewarding management positions including:

- Casino Management
- Cruise Line Management
- Event Planning
- Lodging Management
- Resort Club Management
- Restaurant Management
- Theme Park Management

## Insurance and Financial Management - Degree

Drive a car? Rent or own a home? Manage a Fortune 500 company? Chances are you answered yes to at least one of those questions. Insurance and Financial Management is everywhere and savvy students can use this training to their career advantage. An Insurance and Financial Management Degree will provide students with the fundamental knowledge, skills and tools necessary to move into their career or advance in their educational program. Improve your own personal balance sheet with an A.A.S. Degree in NIACC's Insurance and Financial Management program.

### Career Opportunities:

Successful graduates can find job opportunities in the following occupational areas:

- Management
- Customer Service
- Sales
- Commercial Bankers/Lenders
- Financial Analysts
- Investment Bankers
- Private Wealth Managers

For specific information, contact the NIACC Business Division.

**Upon successful completion of the first year of the Management curriculum with a grade point average of 2.00 (C) or higher, the student is awarded a Diploma.**

**Upon successful completion of the second year Insurance and Financial Management curriculum with a grade point average of 2.00 (C) or higher, the student is awarded an Associate in Applied Science Degree.** Students who know they wish to pursue a four-year degree and want to meet general education requirements of transfer institutions should pursue the A.A. Degree. This will necessitate a slightly different curriculum.

### Business Internships

It's as easy as 1, 2, 3!

1. Talk to the Business Internship Coordinator or your Counselor to decide when in your college career you should participate in an internship.
2. Enroll in and pass Workplace Professionalism (BUS-162).
  - Workplace Professionalism is a 3 s.h. course that is a prerequisite to Business Internships ~ it can be taken at any time prior to a Business Internship.
3. Upon passing Workplace Professionalism, the student is eligible for a Business Internship (BUS-225).
  - Students may register for a Business Internship only when they have located, secured and have had the internship site approved with the Business Internship Coordinator.
  - Business Internship credit ranges from 1 s.h. to 5 s.h. ~ this must be determined prior to registering for the course.

All students are highly encouraged to participate in a Business Internship before graduating.

### Required Courses/Suggested Schedule

#### First Year

##### First Term

BCA-215	Computer Business Applications .....	3 s.h.
	OR BCA-101 Introduction to Computers and Information Systems (3 s.h.)	
BUS-102	Introduction to Business.....	3 s.h.
MGT-101	Principles of Management* .....	3 s.h.
	Business Elective(s).....	3 s.h.
BUS-121	Business Communications.....	3 s.h.
	OR BUS-130 Introduction to Entrepreneurship (3 s.h.)	
	OR BUS-161 Human Relations (3 s.h.)	
	OR General Education elective (3 s.h.)	

15 s.h.

#### Second Term

ACC-111	Introduction to Accounting.....	3 s.h.
BCA-152	Comprehensive Spreadsheets** .....	3 s.h.
BUS-162	Workplace Professionalism+ .....	3 s.h.
MGT-170	Human Resource Management .....	3 s.h.
MKT-110	Principles of Marketing.....	3 s.h.
		15 s.h.

#### Second Year

##### Third Term

BUS-185	Business Law I.....	3 s.h.
ENG-105	Composition I.....	3 s.h.
	Concentration Courses .....	9 s.h.
		15 s.h.

##### Fourth Term

ENG-106	Composition II*** .....	3 s.h.
	Concentration Courses .....	9 s.h.
	Natural Science/Mathematics Elective(s) .....	3 s.h.
		15 s.h.

**Total Program Hours 60 s.h.**

\*Prerequisite: BUS-102 Introduction to Business is recommended.

\*\*Prerequisite: BCA-101 Introduction to Computers and Information Systems or BCA-215 Computer Business Applications.

\*\*\*Prerequisite: ENG-105 Composition I.\

+If you anticipate achieving a two-year degree, enroll in a Business Elective your first year and BUS-162 Workplace Professionalism your second year, preferably the Fourth Term.

### **Recommended Insurance and Financial Management Concentration Courses:**

ACC-121	Principles of Accounting I.....	3 s.h.
ACC-122	Principles of Accounting II* .....	3 s.h.
BUS-186	Business Law II** .....	3 s.h.
BUS-225	Business Internships*** .....	1-5 s.h.
ECN-115	Personal Finance .....	3 s.h.
FIN-100	Introduction to Finance .....	3 s.h.

\*Prerequisite: ACC-121 Principles of Accounting I or equivalent.

\*\*Prerequisite: BUS-185 Business Law I recommended.

\*\*\*Prerequisites: (1) Students must enroll in and pass BUS-107, Business Careers; (2) Students must have completed and filed an Application for Employment with their Internship Coordinator; and (3) Students must have their proposed experience approved by the Internship Coordinator before they may register and begin.

\*\*\*\*Prerequisite: ACC-111 Introduction to Accounting or ACC-121 Principles of Accounting I.

### **Recommended Business Electives:**

BUS-122	Emerging Business Practices and Technologies .....	3 s.h.
BUS-130	Introduction to Entrepreneurship.....	3 s.h.
BUS-152	Creating a Company .....	3 s.h.
BUS-161	Human Relations.....	3 s.h.
BUS-269	Insurance and Risk Management .....	3 s.h.
MKT-140	Principles of Selling.....	3 s.h.
MKT-150	Principles of Advertising.....	3 s.h.

For a list of all Business Electives, see page 98.

For a list of all Natural Science and Mathematics electives, see page 97.



## Management - Diploma

The Management Diploma program will help prepare students to successfully meet the challenges and opportunities encountered in today's dynamic business environment. Students will develop a foundation of business knowledge including management, business law, office technologies, accounting and risk management. Students will develop competence in the business functions of planning, organizing, directing and controlling.

### Career Opportunities:

Graduates possess skills that will help them begin a career in many business settings, from large industrial companies to small service-oriented franchises. Self-employed business owners will also profit from this program.

**Upon successful completion of the Management curriculum with a grade point average of 2.00 (C) or higher, the student is awarded a Diploma.**

Students interested in pursuing a two-year Degree in one of our specialized Management programs (Hospitality Management, Insurance and Financial Management, or Sport Management) should follow the prescribed curriculum for each program as presented in this catalog.



### Required Courses/Suggested Schedule

#### First Term

BCA-215	Computer Business Applications .....	3 s.h.
	OR BCA-101 Introduction to Computers and Information Systems (3 s.h.)	
BUS-102	Introduction to Business.....	3 s.h.
MGT-101	Principles of Management* .....	3 s.h.
	Business Elective(s).....	6 s.h.
		15 s.h.

#### Second Term

ACC-111	Introduction to Accounting.....	3 s.h.
BCA-152	Comprehensive Spreadsheets** .....	3 s.h.
BUS-162	Workplace Professionalism .....	3 s.h.
MGT-170	Human Resources Management .....	3 s.h.
MKT-110	Principles of Marketing.....	3 s.h.
		15 s.h.

#### Total Program Hours

**30 s.h.**

\*Prerequisite: BUS-102 Introduction to Business is recommended.

\*\*Prerequisite: BCA-101 Introduction to Computers and Information Systems or BCA-215 Computer Business Applications.

For a list of all Business Electives, see page 98.

### Business Internships

It's as easy as 1, 2, 3!

1. Talk to the Business Internship Coordinator or your Counselor to decide when in your college career you should participate in an internship.
2. Enroll in and pass Workplace Professionalism (BUS-162).
  - Workplace Professionalism is a 3 s.h. course that is a prerequisite to Business Internships ~ it can be taken at any time prior to a Business Internship.
3. Upon passing Workplace Professionalism, the student is eligible for a Business Internship (BUS-225).
  - Students may register for a Business Internship only when they have located, secured and have had the internship site approved with the Business Internship Coordinator.
  - Business Internship credit ranges from 1 s.h. to 5 s.h. ~ this must be determined prior to registering for the course.

All students are highly encouraged to participate in a Business Internship before graduating.

## Marketing and Sales - Diploma

The Marketing and Sales Diploma helps students explore several important areas of an organization, including marketing, promotion and sales. To successfully communicate an idea, to serve the needs of your customers more effectively, and to be competitive in the marketplace, learning effective selling skills is essential for everyone. From the CEO to the Administrative Assistant, everyone in every company is selling every hour of every day whether they are aware of this fact or not!



### Career Opportunities:

Successful graduates can find job opportunities in the following occupational areas:

- Sales Representative
- Department Manager
- Store Manager
- Promotion/Advertising
- Merchandise Buying/Planning
- Sales
- Human Resources Management

### Strengths:

Marketing is an attitude, philosophy, and perspective that stresses customer relationships to provide satisfaction. Marketing plays an important role in society, is important to business, and offers outstanding career opportunities.

**Upon successful completion of the Marketing and Sales curriculum with a grade point average of 2.00 (C) or higher, the student is awarded a Diploma.**

### Required Courses/Suggested Schedule

#### First Term

ACC-111	Introduction to Accounting.....	3 s.h.
BCA-215	Computer Business Applications .....	3 s.h.
BUS-102	Introduction to Business.....	3 s.h.
MGT-101	Principles of Management*.....	3 s.h.
MKT-140	Principles of Selling.....	3 s.h.
		15 s.h.

#### Second Term

BCA-152	Comprehensive Spreadsheets**.....	3 s.h.
BUS-122	Emerging Business Practices and Technologies .....	3 s.h.
BUS-162	Workplace Professionalism .....	3 s.h.
MKT-110	Principles of Marketing.....	3 s.h.
MKT-150	Principles of Advertising.....	3 s.h.
		15 s.h.

#### Total Program Hours

**30 s.h.**

\*Prerequisite: BUS-102 Introduction to Business is recommended.

\*\*Prerequisite: BCA-101 Introduction to Computers and Information Systems or BCA-215 Computer Business Applications.

For a list of all Business Electives, see page 98.

### Business Internships

It's as easy as 1, 2, 3!

1. Talk to the Business Internship Coordinator or your Counselor to decide when in your college career you should participate in an internship.
2. Enroll in and pass Workplace Professionalism (BUS-162).
  - Workplace Professionalism is a 3 s.h. course that is a prerequisite to Business Internships ~ it can be taken at any time prior to a Business Internship.
3. Upon passing Workplace Professionalism, the student is eligible for a Business Internship (BUS-225).
  - Students may register for a Business Internship only when they have located, secured and have had the internship site approved with the Business Internship Coordinator.
  - Business Internship credit ranges from 1 s.h. to 5 s.h. ~ this must be determined prior to registering for the course.

All students are highly encouraged to participate in a Business Internship before graduating.

## Sport Management - Degree

Did you know that "sports" is a \$200 billion dollar industry in the U.S. alone? Those dollars spell opportunity for students with a love of sports and ability to organize and manage. In the exciting Sport Management program, which combines a solid business foundation with experiential learning, you'll be able to start your career running.

### Career Opportunities:

Career opportunities include, but are not limited to:

- Athletic Director
- Municipal Parks and Recreational Sport Leadership
- Sport Management
- Sport Marketing
- Sport Facility Management
- Sport Event Management
- Tourism Director
- Community/Voluntary Agency Sport Programming

**Upon successful completion of the first year of the Management curriculum with a grade point average of 2.00 (C) or higher, the student is awarded a Diploma.**

**Upon successful completion of the Sport Management curriculum with a grade point average of 2.00 (C) or higher, the student is awarded an Associate in Applied Science Degree.** Students who know they wish to pursue a four-year degree and want to meet general education requirements of transfer institutions should pursue the A.A. Degree. This will necessitate a slightly different curriculum.

### Business Internships

1. Talk to the Business Internship Coordinator or your Counselor to decide when in your college career you should participate in an internship.
2. Enroll in and pass Workplace Professionalism (BUS-162).
  - Workplace Professionalism is a 3 s.h. course that is a prerequisite to Business Internships ~ it can be taken at any time prior to a Business Internship.
3. Upon passing Workplace Professionalism, the student is eligible for a Business Internship (BUS-225).
  - Students may register for a Business Internship only when they have located, secured and have had the internship site approved with the Business Internship Coordinator.
  - Business Internship credit ranges from 1 s.h. to 5 s.h. ~ this must be determined prior to registering for the course.

All students are highly encouraged to participate in a Business Internship before graduating.

### Required Courses/Suggested Schedule

#### First Year

##### First Term

BCA-215	Computer Business Applications .....	3 s.h.
	OR BCA-101 Introduction to Computers and Information Systems (3 s.h.)	
BUS-102	Introduction to Business.....	3 s.h.
MGT-101	Principles of Management* .....	3 s.h.
	Business Elective(s) .....	3 s.h.
BUS-121	Business Communications.....	3 s.h.
	OR BUS-130 Introduction to Entrepreneurship (3 s.h.)	
	OR BUS-161 Human Relations (3 s.h.)	
	OR General Education elective (3 s.h.)	

15 s.h.

#### Second Term

ACC-111	Introduction to Accounting.....	3 s.h.
BCA-152	Comprehensive Spreadsheets** .....	3 s.h.
BUS-162	Workplace Professionalism+.....	3 s.h.
MGT-170	Human Resource Management .....	3 s.h.
MKT-110	Principles of Marketing.....	3 s.h.
		15 s.h.

#### Second Year

##### Third Term

BUS-185	Business Law I .....	3 s.h.
ENG-105	Composition I .....	3 s.h.
	Concentration Courses .....	9 s.h.
		15 s.h.

##### Fourth Term

ENG-106	Composition II*** .....	3 s.h.
	Concentration Courses .....	9 s.h.
	Natural Science/Mathematics Elective(s) .....	3 s.h.
		15 s.h.

#### Total Program Hours

60 s.h.

\*Prerequisite: BUS-102 Introduction to Business is recommended.

\*\*Prerequisite: BCA-101 Introduction to Computers and Information Systems or BCA-215 Computer Business Applications.

\*\*\*Prerequisite: ENG-105 Composition I. with a grade of C or higher.

+If you anticipate achieving a two-year degree, enroll in a Business Elective your first year and BUS-162 Workplace Professionalism your second year, preferably the Fourth Term.

### Recommended Sport Management Concentration Courses:

BUS-225	Business Internships*.....	1-5 s.h.
MGT-220	Introduction to Sport Management.....	3 s.h.
MGT-221	Current Issues in Sport .....	3 s.h.
PEH-144	Human Movement Science .....	3 s.h.
PEH-191	Sports Nutrition .....	3 s.h.
PEH-221	Introduction to Leisure Services.....	3 s.h.
PET-110	Introduction to Athletic Training.....	2 s.h.

\*Prerequisites: (1) Students must enroll in and pass BUS-107, Business Careers; (2) Students must have completed and filed an Application for Employment with their Internship Coordinator; and (3) Students must have their proposed experience approved by the Internship Coordinator before they may register and begin.

### Recommended Business Electives:

BUS-122	Emerging Business Practices and Technologies .....	3 s.h.
BUS-130	Introduction to Entrepreneurship.....	3 s.h.
BUS-152	Creating a Company .....	3 s.h.
BUS-161	Human Relations.....	3 s.h.
BUS-269	Insurance and Risk Management .....	3 s.h.
FIN-100	Introduction to Finance .....	3 s.h.
MKT-140	Principles of Selling.....	3 s.h.
MKT-150	Principles of Advertising.....	3 s.h.

\*Prerequisite: ACC-111 Introduction to Accounting or ACC-121 Principles of Accounting I.

For a list of all Business Electives, see page 98.

For a list of all Natural Science and Mathematics electives, see page 97.



## Administrative Office Associate - Diploma

The Administrative Office Associate Diploma program is designed to prepare students for employment with financial institutions, retail establishments, manufacturers, private organizations, and Civil Service.

The graduate's duties include keyboarding, filing, record keeping, operating office machines, transcribing, using a computer for word processing, spreadsheet, electronic presentation, and database projects, handling telephone services, and taking care of general office administration.

NIACC's classrooms are equipped with the latest in computers, office machines, and equipment. They are also staffed by qualified instructors in the business field.

**Upon successful completion of the Administrative Office Associate curriculum (at least 30 semester hours) with a grade point average of 2.00 (C) or higher, the student is awarded a Diploma.**

### Career Opportunities

Successful graduates can find job opportunities in the following occupational areas:

- Administrative Assistant
- Secretary
- Records Manager
- Receptionist
- Machine Transcriber
- Information Processing Operator

### Business Internships

It's as easy as 1, 2, 3!

1. Talk to the Business Internship Coordinator or your Counselor to decide when in your college career you should participate in an internship.
2. Enroll in and pass Workplace Professionalism (BUS-162).
  - Workplace Professionalism is a 3 s.h. course that is a prerequisite to Business Internships ~ it can be taken at any time prior to a Business Internship.
3. Upon passing Workplace Professionalism, the student is eligible for a Business Internship (BUS-225).
  - Students may register for a Business Internship only when they have located, secured and have had the internship site approved with the Business Internship Coordinator.
  - Business Internship credit ranges from 1 s.h. to 5 s.h. ~ this must be determined prior to registering for the course.

All students are highly encouraged to participate in a Business Internship before graduating.



### Required Courses/Suggested Schedule

#### First Year

##### First Term

ADM-123	Document Formatting*	3 s.h.
ADM-131	Office Calculators.....	1 s.h.
BCA-129	Basic Word Processing.....	2 s.h.
BCA-215	Computer Business Applications .....	3 s.h.
BUS-121	Business Communications.....	3 s.h.
	Business Elective(s).....	3 s.h.
		15 s.h.

##### Second Term

ACC-111	Introduction to Accounting.....	3 s.h.
	OR ACC-121 Principles of Accounting I (3 s.h.)	
ADM-162	Office Procedures**.....	3 s.h.
BCA-152	Comprehensive Spreadsheets***.....	3 s.h.
BUS-162	Workplace Professionalism.....	3 s.h.
	Business Elective(s).....	3 s.h.
		15 s.h.

#### Total Program Hours

**30 s.h.**

\*Prerequisite: Keyboarding skill of 30 wpm with 3 errors or less is recommended.

\*\*Prerequisite: BCA-129 Basic Word Processing and BUS-121 Business Communications.

\*\*\*Prerequisite: BCA-101 Introduction to Computers and Information Systems or BCA-215 Computer Business Applications.

NOTE: *Business Internships (BUS-225) is a **strongly recommended** Business elective. For more information, please contact Laura Wood at 1-888-466-4222, Ext. 4355.*

For a list of all Business Electives, see page 98.



## Administrative Office Specialist - Degree

The Administrative Office Specialist Degree program is designed to prepare students for employment with financial institutions, retail establishments, manufacturers, private organizations, and Civil Service.

The graduate's duties include transcribing dictation; keyboarding correspondence, reports, and records; filing; handling telephone services; making appointments and receiving visitors; ordering supplies; making travel arrangements; taking care of general office administration; and using computers for word processing, spreadsheet, electronic presentation, and database projects.



NIACC's classrooms are equipped with the latest in computers, office machines, and equipment. They are also staffed by qualified instructors in the business field.

**Upon successful completion of the Administrative Office Specialist curriculum (at least 60 semester hours) with a grade point average of 2.00 (C) or higher, the student is awarded an Associate in Applied Science Degree.**

### Business Internships

It's as easy as 1, 2, 3!

1. Talk to the Business Internship Coordinator or your Counselor to decide when in your college career you should participate in an internship.
2. Enroll in and pass Workplace Professionalism (BUS-162).
  - Workplace Professionalism is a 3 s.h. course that is a prerequisite to Business Internships ~ it can be taken at any time prior to a Business Internship.
3. Upon passing Workplace Professionalism, the student is eligible for a Business Internship (BUS-225).
  - Students may register for a Business Internship only when they have located, secured and have had the internship site approved with the Business Internship Coordinator.
  - Business Internship credit ranges from 1 s.h. to 5 s.h. ~ this must be determined prior to registering for the course.

All students are highly encouraged to participate in a Business Internship before graduating.

### Required Courses/Suggested Schedule

#### First Year

##### First Term

ADM-123	Document Formatting*	3 s.h.
ADM-131	Office Calculators.....	1 s.h.
BCA-129	Basic Word Processing.....	2 s.h.
BCA-215	Computer Business Applications .....	3 s.h.
BUS-121	Business Communications.....	3 s.h.
	Business Elective(s).....	3 s.h.
		15 s.h.

##### Second Term

ACC-111	Introduction to Accounting.....	3 s.h.
	OR ACC-121 Principles of Accounting I (3 s.h.)	
ADM-162	Office Procedures** .....	3 s.h.
BCA-152	Comprehensive Spreadsheets*** .....	3 s.h.
BUS-162	Workplace Professionalism+.....	3 s.h.
	Business Elective(s).....	3 s.h.
		15 s.h.

#### Second Year

##### Third Term

ENG-105	Composition I .....	3 s.h.
	Natural Science/Mathematics Elective(s) .....	3 s.h.
	Business Elective(s).....	9 s.h.
		15 s.h.

##### Fourth Term

BCA-136	Advanced Word Processing**** .....	3 s.h.
ENG-106	Composition II***** .....	3 s.h.
	Business Elective(s).....	9 s.h.
		15 s.h.

#### Total Program Hours

60 s.h.

\*Prerequisite: Keyboarding skill of 30 wpm with 3 errors or less is recommended.

\*\*Prerequisites: BCA-129 Basic Word Processing and BUS-121 Business Communications..

\*\*\*Prerequisites: BCA-101 Introduction to Computers and Information Systems or BCA-215 Computer Business Applications.

\*\*\*\*Prerequisites: BCA-129 Basic Word Processing and BCA-215 Computer Business Applications.

\*\*\*\*\*Prerequisite: ENG-105 Composition I.

+If you anticipate achieving a two-year degree, enroll in a Business Elective your first year and Workplace Professionalism your second year, preferably the Fourth Term.

NOTE: *Business Internships (BUS-225) is a **strongly recommended** Business elective. For more information, please contact Laura Wood at 1-888-466-4222, Ext. 4355.*

For a list of all Business Electives, see page 98.

For a list of all Natural Science and Mathematics electives, see page 97.

### Career Opportunities

Successful graduates can find job opportunities in the following occupational areas:

- Administrative Assistant
- Executive Secretary
- Receptionist
- Office Manager
- Records Manager
- Information Processing Supervisor

For specific information contact the NIACC Business Division.

## Legal Office Associate - Diploma



The Legal Office Associate Diploma program is designed to prepare students for employment with law offices, insurance companies, financial institutions, courts and police departments, as well as in legal departments of business firms and government offices.

The graduate's duties include transcribing dictation; preparing letters, memos, court and client documents; filing; handling telephone services; making appointments and receiving clients; ordering supplies; making travel arrangements; taking care of general office administration; and using a computer for word processing, spreadsheet, electronic presentation, and database projects.

NIACC's classrooms are equipped with the latest in computers, office machines, and equipment. They are also staffed by qualified instructors in the business and legal fields.

**Upon successful completion of the Legal Office Associate curriculum (at least 30 semester hours) with a grade point average of 2.00 (C) or higher, the student is awarded a Diploma.**

### Business Internships

It's as easy as 1, 2, 3!

1. Talk to the Business Internship Coordinator or your Counselor to decide when in your college career you should participate in an internship.
2. Enroll in and pass Workplace Professionalism (BUS-162).
  - Workplace Professionalism is a 3 s.h. course that is a prerequisite to Business Internships ~ it can be taken at any time prior to a Business Internship.
3. Upon passing Workplace Professionalism, the student is eligible for a Business Internship (BUS-225).
  - Students may register for a Business Internship only when they have located, secured and have had the internship site approved with the Business Internship Coordinator.
  - Business Internship credit ranges from 1 s.h. to 5 s.h. ~ this must be determined prior to registering for the course.

All students are highly encouraged to participate in a Business Internship before graduating.

## Required Courses/Suggested Schedule

### First Year

#### First Term

ADM-123	Document Formatting*	3 s.h.
ADM-131	Office Calculators.....	1 s.h.
BCA-129	Basic Word Processing.....	2 s.h.
BCA-215	Computer Business Applications .....	3 s.h.
BUS-121	Business Communications.....	3 s.h.
	Business Elective(s).....	3 s.h.
		15 s.h.

#### Second Term

ACC-111	Introduction to Accounting.....	3 s.h.
	OR ACC-121 Principles of Accounting I (3 s.h.)	
ADM-162	Office Procedures**.....	3 s.h.
ADM-185	Legal Terminology and Transcription .....	2 s.h.
BUS-162	Workplace Professionalism.....	3 s.h.
BUS-185	Business Law I.....	3 s.h.
	Business Elective(s).....	1 s.h.
		15 s.h.

### Total Program Hours

**30 s.h.**

\*Prerequisite: Keyboarding skill of 30 wpm with 3 errors or less is recommended.

\*\*Prerequisites: BCA-129 Basic Word Processing and BUS-121 Business Communications.

NOTE: *Business Internships (BUS-225) is a **strongly recommended** Business elective. For more information, please contact Laura Wood at 1-888-466-4222, Ext. 4355.*

For a list of all Business Electives, see page 98.

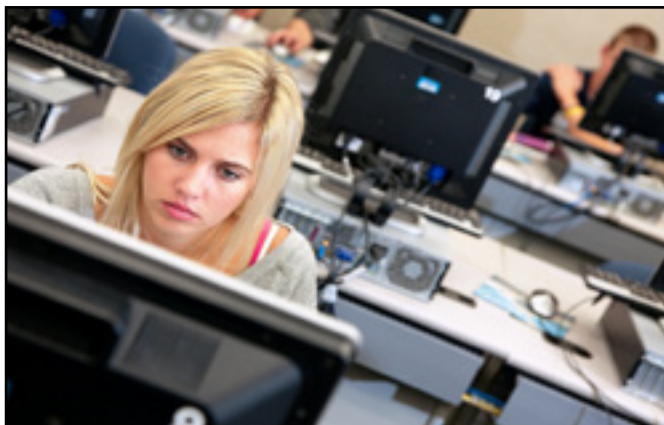
## Career Opportunities

Successful graduates can find job opportunities in the following occupational areas:

- Legal Office Assistant
- Legal Secretary
- Legal Transcriber
- Legal Records Manager
- Legal Information Processing Operator
- Receptionist
- Appointment Clerk

For specific information contact the NIACC Business Division.

## Legal Office Specialist - Degree



The Legal Office Specialist Degree program is designed to prepare students for employment in law offices, insurance companies, financial institutions, courts and police departments, as well as in legal departments of business firms and government offices.

The graduate's duties include transcribing dictation; preparing letters, memos, court and client documents; filing; handling telephone services; making appointments and receiving clients; ordering supplies, making travel arrangements; taking care of general office administration; and using a computer for word processing, spreadsheet, electronic presentation, and database projects.

NIACC's classrooms are equipped with the latest in computers, office machines, and equipment. They are also staffed by qualified instructors in the business and legal fields.

**Upon successful completion of the Legal Office Specialist curriculum (at least 60 semester hours) with a grade point average of 2.00 (C) or higher, the student is awarded an Associate in Applied Science Degree.**

### Career Opportunities

Successful graduates can find opportunities in the following occupational areas:

- Legal Office Assistant
- Legal Secretary
- Legal Transcriber
- Legal Information Processing
- Receptionist
- Legal Records Manager
- Appointment Clerk

For specific information contact the NIACC Business Division.

### Business Internships

It's as easy as 1, 2, 3!

1. Talk to the Business Internship Coordinator or your Counselor to decide when in your college career you should participate in an internship.
2. Enroll in and pass Workplace Professionalism (BUS-162).
  - Workplace Professionalism is a 3 s.h. course that is a prerequisite to Business Internships ~ it can be taken at any time prior to a Business Internship.
3. Upon passing Workplace Professionalism, the student is eligible for a Business Internship (BUS-225).
  - Students may register for a Business Internship only when they have located, secured and have had the internship site approved with the Business Internship Coordinator.
  - Business Internship credit ranges from 1 s.h. to 5 s.h. ~ this must be determined prior to registering for the course.

All students are highly encouraged to participate in a Business Internship before graduating.

## Required Courses/Suggested Schedule

### First Year

#### First Term

ADM-123	Document Formatting*	3 s.h.
ADM-131	Office Calculators.....	1 s.h.
BCA-129	Basic Word Processing.....	2 s.h.
BCA-215	Computer Business Applications .....	3 s.h.
BUS-121	Business Communications.....	3 s.h.
	Business Elective(s).....	3 s.h.
		15 s.h.

#### Second Term

ACC-111	Introduction to Accounting.....	3 s.h.
	OR ACC-121 Principles of Accounting I (3 s.h.)	
ADM-162	Office Procedures**.....	3 s.h.
ADM-185	Legal Terminology and Transcription .....	2 s.h.
BUS-162	Workplace Professionalism+.....	3 s.h.
BUS-185	Business Law I.....	3 s.h.
	Business Elective(s).....	1 s.h.
		15 s.h.

### Second Year

#### Third Term

ENG-105	Composition I.....	3 s.h.
	Business Elective(s).....	9 s.h.
	Natural Science/Mathematics Elective(s) .....	3 s.h.
		15 s.h.

#### Fourth Term

BCA-136	Advanced Word Processing***.....	3 s.h.
BCA-152	Comprehensive Spreadsheets**** .....	3 s.h.
ENG-106	Composition II**** .....	3 s.h.
	Business Elective(s).....	6 s.h.
		15 s.h.

**Total Program Hours**

**60 s.h.**

\*Prerequisite: Keyboarding skill of 30 wpm with 3 errors or less is recommended.

\*\*Prerequisites: BCA-129 Basic Word Processing and BUS-121 Business Communications.

\*\*\*Prerequisites: BCA-129 Basic Word Processing and BCA-215 Computer Business Applications.

\*\*\*\*Prerequisites: BCA-101 Introduction to Computers and Information Systems or BCA-215 Computer Business Applications.

\*\*\*\*\*Prerequisites: ENG-105 Composition I.

+If you anticipate achieving a two-year degree, enroll in a Business Elective your first year and Workplace Professionalism your second year, preferably the Fourth Term.

NOTE: *Business Internships (BUS-225) is a **strongly recommended** Business elective. For more information, please contact Laura Wood at 1-888-466-4222, Ext. 4355.*

For a list of all Business Electives, see page 98.

For a list of all Natural Science and Mathematics electives, see page 97.

## Medical Administrative Assistant - Diploma

The Medical Administrative Assistant Diploma program is designed to prepare students for employment in physicians' offices, hospitals, clinics, public health departments, Civil Service, medical laboratories, pharmaceutical houses, insurance companies, business and industrial firms with large medical departments, and foundations devoted to medical research.

The graduate's duties include transcription, preparing correspondence and medical records, filing, mailing, ordering supplies, handling telephone services, making appointments and receiving visitors, taking care of general office administration, and using a computer for word processing, spreadsheet, electronic presentation, and database projects.

NIACC's classrooms are equipped with the latest in computers, office machines, and equipment. They are also staffed by qualified instructors in the business and medical fields.

**Upon successful completion of the Medical Administrative Assistant Diploma curriculum (at least 32 semester hours) with a grade point average of 2.00 (C) or higher, the student is awarded a Diploma.**

### Required Courses/Suggested Schedule

#### First Year

##### First Term

BCA-129	Basic Word Processing.....	2 s.h.
BUS-121	Business Communications.....	3 s.h.
HIT-125	Essentials of Health Records.....	2 s.h.
HSC-120	Medical Terminology I.....	3 s.h.
HSC-144	Basic Pharmacology.....	2 s.h.
HSC-150	Body Structure and Function.....	4 s.h.
	Or BIO-206 Anatomy and Physiology*	
	AND BIO-207 Anatomy and Physiology II**.....	(8 s.h.)
		16-20 s.h.

##### Second Term

ADM-131	Office Calculators.....	1 s.h.
ADM-215	Medical Office Procedures***.....	3 s.h.
BUS-162	Workplace Professionalism.....	3 s.h.
HIT-210	Basic Medical Insurance & Coding ****.....	2 s.h.
HSC-121	Medical Terminology II*****.....	3 s.h.
HSC-155	Laboratory Tests.....	2 s.h.
HIT-420	Legal Aspects of Health Information.....	2 s.h.
		16 s.h.

#### Total Program Hours

**32-36 s.h.**

\*Prerequisite: Must have successfully completed, with a grade of C or higher, one of the following: BIO-102 Introductory Biology; BIO-186 Microbiology; BIO-202 Biology I; HSC-150 Body Structure and Function; high school AP Biology; high school Anatomy and Physiology; or an ACT Composite score of at least 21.

\*\*Prerequisite: BIO-206 Anatomy and Physiology I, with a grade of C or higher; or permission of instructor.

\*\*\*Prerequisites: BCA-129 Basic Word Processing, BUS-121 Business Communications, and HIT-125 Essentials of Health Records or MAP-353 Clinical Procedures I.

\*\*\*\*Corequisite: HSC-120 Medical Terminology I or permission of instructor.

\*\*\*\*\*Prerequisite: None, however, HSC-120 Medical Terminology I is highly desirable.

### Career Opportunities

Successful graduates can find job opportunities in the following occupational areas:

- Medical Office Assistant
- Medical Secretary
- Medical Records Manager
- Medical Information Processing Operator
- Receptionist
- Appointment Clerk

For specific information contact the NIACC Business Division.

### Business Internships

It's as easy as 1, 2, 3!

1. Talk to the Business Internship Coordinator or your Counselor to decide when in your college career you should participate in an internship.
2. Enroll in and pass Workplace Professionalism (BUS-162).
  - Workplace Professionalism is a 3 s.h. course that is a prerequisite to Business Internships ~ it can be taken at any time prior to a Business Internship.
3. Upon passing Workplace Professionalism, the student is eligible for a Business Internship (BUS-225).
  - Students may register for a Business Internship only when they have located, secured and have had the internship site approved with the Business Internship Coordinator.
  - Business Internship credit ranges from 1 s.h. to 5 s.h. ~ this must be determined prior to registering for the course.

All students are highly encouraged to participate in a Business Internship before graduating.



## Medical Administrative Assistant - Degree

The Medical Administrative Assistant Degree program is designed to prepare students for employment in physicians' offices, hospitals, clinics, public health departments, Civil Service, medical laboratories, pharmaceutical houses, insurance companies, business and industrial firms with large medical departments, and foundations devoted to medical research.

The graduate's duties include transcribing dictation, preparing correspondence and medical records, filing, mailing, ordering supplies, handling telephone services, making appointments and receiving visitors, taking care of general office administration, and using a computer for word processing, spreadsheet, electronic presentation, and database projects.

NIACC's classrooms are equipped with the latest in computers, office machines, and equipment. They are also staffed by qualified instructors in the business and medical fields.

**Upon successful completion of the Medical Administrative Assistant Degree curriculum (at least 63 semester hours) with a grade point average of 2.00 (C) or higher, the student is awarded an Associate in Applied Science Degree.**

### Business Internships

It's as easy as 1, 2, 3!

1. Talk to the Business Internship Coordinator or your Counselor to decide when in your college career you should participate in an internship.
2. Enroll in and pass Workplace Professionalism (BUS-162).
  - Workplace Professionalism is a 3 s.h. course that is a prerequisite to Business Internships ~ it can be taken at any time prior to a Business Internship.
3. Upon passing Workplace Professionalism, the student is eligible for a Business Internship (BUS-225).
  - Students may register for a Business Internship only when they have located, secured and have had the internship site approved with the Business Internship Coordinator.
  - Business Internship credit ranges from 1 s.h. to 5 s.h. ~ this must be determined prior to registering for the course.

All students are highly encouraged to participate in a Business Internship before graduating.

### Career Opportunities

Successful graduates can find job opportunities in the following occupational areas:

- Medical Office Assistant
- Medical Secretary
- Medical Records Manager
- Medical Information Processing Operator
- Receptionist
- Appointment Clerk

For specific information contact the NIACC Business Division.

## Required Courses/Suggested Schedule

### First Year

#### First Term

BCA-129	Basic Word Processing .....	2 s.h.
BUS-121	Business Communications .....	3 s.h.
HIT-125	Essentials of Health Records .....	2 s.h.
HSC-120	Medical Terminology I .....	3 s.h.
HSC-144	Basic Pharmacology .....	2 s.h.
HSC-150	Body Structure and Function .....	4 s.h.
	Or BIO-206 Anatomy and Physiology*	
	AND BIO-207 Anatomy and Physiology II** .....	(8 s.h.)
		16-20 s.h.

#### Second Term

ADM-131	Office Calculators .....	1 s.h.
ADM-215	Medical Office Procedures*** .....	3 s.h.
BUS-162	Workplace Professionalism .....	3 s.h.
HIT-210	Basic Medical Insurance & Coding **** .....	2 s.h.
HSC-121	Medical Terminology II***** .....	3 s.h.
HSC-155	Laboratory Tests .....	2 s.h.
HIT-420	Legal Aspects of Health Information .....	2 s.h.
		16 s.h.

### Second Year

#### Third Term

ADM-123	Document Formatting+ .....	3 s.h.
BCA-215	Computer Business Applications .....	3 s.h.
BIO-152	Health and Nutrition .....	3 s.h.
ENG-105	Composition I .....	3 s.h.
HIT-242	Coding I (ICD-10)++ .....	3 s.h.
		15 s.h.

#### Fourth Term

BCA-136	Advanced Word Processing+++ .....	3 s.h.
BUS-161	Human Relations .....	3 s.h.
	OR PSY-102 Human and Work Relations .....	(3 s.h.)
ENG-106	Composition II++++ .....	3 s.h.
HIT-247	Coding II (CPR)++++ .....	3 s.h.
	Business Elective(s) .....	4 s.h.
	OR BUS-225 Business Internships .....	
	OR MAP-622 Medical Assistant Practicum .....	(6 s.h.)
		16-18 s.h.

### Total Program Hours

**63-69 s.h. minimum**

\*Prerequisite: Must have successfully completed, with a grade of C or higher, one of the following: BIO-102 Introductory Biology; BIO-186 Microbiology; BIO-202 Biology I; HSC-150 Body Structure and Function; high school AP Biology; high school Anatomy and Physiology; or an ACT Composite score of at least 21.

\*\* Prerequisite: BIO-206 Anatomy and Physiology I, with a grade of C or higher; or permission of instructor.

\*\*\*Prerequisites: BCA-129 Basic Word Processing and BUS-121 Business Communications.

\*\*\*\*Corequisite: HSC-120 Medical Terminology I or permission of instructor

\*\*\*\*\*Prerequisite: None, however, HSC-120 Medical Terminology I is highly desirable.

+Prerequisite: Keyboarding skill of 30 wpm (words a minute) with 3 or fewer errors on a 3-minute timed writing is recommended.

++Prerequisite: None, however, HIT-210 Basic Medical Insurance and Coding, or experience in medical coding is highly desirable.

+++Prerequisites: BCA-129 Basic Word Processing and BUS-215 Computer Business Applications.

++++Prerequisite: ENG-105 Composition I, with a grade of C or higher.

+++++Prerequisite: HSC-120 Medical Terminology I; HSC-150 Body Structure and Function; and HIT-242 Coding I (ICD-10) or experience in Medical Coding.

#If you anticipate achieving a two-year degree, enroll in a Business Elective your first year and Workplace Professionalism your second year, preferably the Fourth Term.

For a list of Business Electives, see page 98.

## Software Applications Specialist - Certificate

The Software Applications Specialist Certificate is designed to expose students to Microsoft software.

These courses are business electives and may apply to diplomas or degrees. Many of these courses are offered on an arranged basis or online.

**Upon successful completion of the Software Applications Specialist curriculum (at least 15 semester hours) with a grade point average of 2.00 (C) or higher, the student is awarded a Certificate.**

### Required Courses/Suggested Schedule

ADM-123	Document Formatting*	3 s.h.
BCA-129	Basic Word Processing	2 s.h.
BCA-136	Advanced Word Processing**	3 s.h.
BCA-152	Comprehensive Spreadsheets***	3 s.h.
BCA-215	Computer Business Applications	3 s.h.
BUS-162	Workplace Professionalism	3 s.h.

**Total Program Hours**

**17 s.h.**

\*Prerequisite: Keyboarding skill of 30 wpm with 3 errors or less is recommended.

\*\*Prerequisites: BCA-129 Basic Word Processing and BCA-215 Computer Business Applications.

\*\*\*Prerequisites: BCA-101 Introduction to Computers and Information Systems or BCA-215 Computer Business Applications.



### Career Opportunities

Successful graduates can find job opportunities in the following areas:

- Software Specialist
- Help Desk Support

For more specific information contact the NIACC Business Division.

# Family & Human Services



Early Childhood Education 61



Human Services 62



Criminal Justice 60

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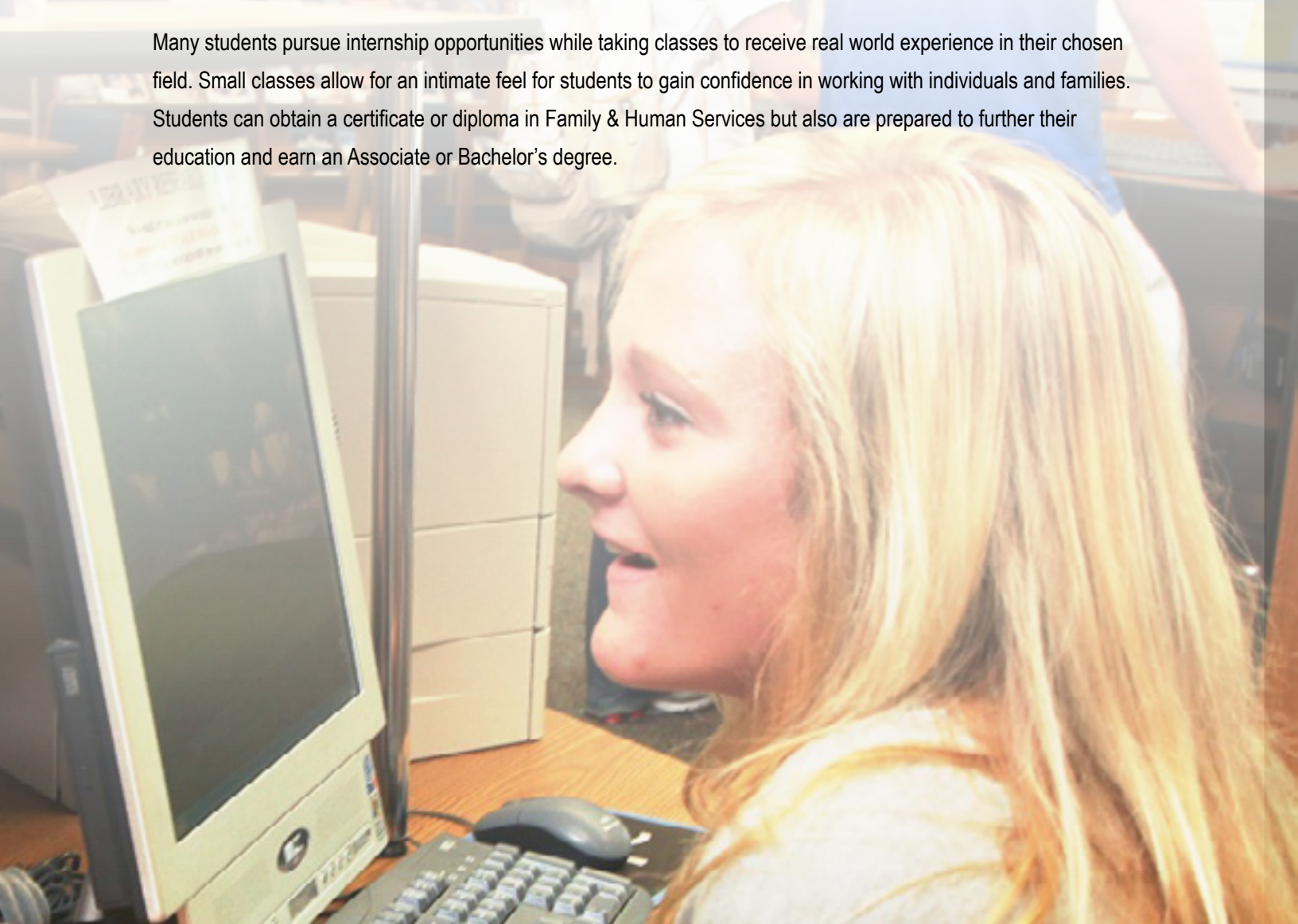


Early Childhood Education and Human Services fields involve working to enhance the quality of life of individuals, families and communities.

Early childhood education relates to teaching young children (formally or informally) up through age eight, while infant/toddler education, a subset of early childhood education, denotes the education of children from birth to age two. In recent years, early childhood education has become a prevalent public policy issue as municipal, state, and federal lawmakers consider funding for preschool and pre-kindergarten. The NIACC Early Childhood Education curriculum prepares students for a rewarding career nurturing the growth and development of children.

Human services is an interdisciplinary and applied social science discipline that involves the study of social technologies, service technologies, and social innovations that are designed to help individuals, families, and the communities they live in. Students in human services gain the knowledge they need to work at all levels of society to promote the autonomy of individuals or groups, make informal or formal human services system more efficient and effective, and advocate for positive social change.

Many students pursue internship opportunities while taking classes to receive real world experience in their chosen field. Small classes allow for an intimate feel for students to gain confidence in working with individuals and families. Students can obtain a certificate or diploma in Family & Human Services but also are prepared to further their education and earn an Associate or Bachelor's degree.





## Criminal Justice - Degree

The criminal justice curriculum is designed to provide students with a foundation in the knowledge, skills, and abilities necessary for employment in the criminal justice field. Students may pursue either the Associate of Arts-transfer degree or the Associate of Applied Science degree with Certificate. Students who earn the Associate of Applied Science or Certificate of Criminal Justice are prepared for applying for entry-level employment in policing, courts, and corrections, along with entry-level positions in private security.

Program graduates may obtain immediate employment with public or private agencies concerned with public safety, crime prevention, security, or the apprehension and rehabilitation of criminals. A person convicted of a crime may have limited job opportunities in some criminal justice careers.

Many program graduates choose to continue their education in the area of Criminal Justice by transferring to a four-year academic institution or university. NIACC's articulation agreements facilitate the transfer of NIACC credits to many institutions. A person considering employment with a public agency should check to determine the necessity of successfully passing psychological examinations as well as meeting standards related to physical fitness and eyesight capabilities, as a prerequisite to such employment. The College assume no responsibility for paying such examinations.

**Upon successful completion of the Criminal Justice curriculum with a grade point average of 2.00 (C) or higher, the student is awarded an Associate in Applied Science Degree.**

### Required Courses/Suggested Schedule

#### First Year

##### First Term

ENG-105	Composition I .....	3 s.h.
	Mathematics elective .....	3 s.h.
SOC-110	Introduction to Sociology.....	3 s.h.
CRJ-100	Intro to Criminal Justice .....	3 s.h.
CRJ-111	Police and Society .....	3 s.h.
		15 s.h.

##### Second Term

ENG-106	Composition II .....	3 s.h.
POL-111	American National Govt. ....	3 s.h.
	OR POL-112 American State/Local Govt. (3 s.h.)	
CRJ-120	Intro to Corrections .....	3 s.h.
CRJ-130	Criminal Law .....	3 s.h.
BIO-152	Health & Nutrition.....	3 s.h.
		15 s.h.

#### Second Year

##### Third Term

PSY-111	Intro to Psychology .....	3 s.h.
CRJ-230	Evidence .....	3 s.h.
CRJ-295	Contemporary Issues in Criminal Justice .....	3 s.h.
CRJ-201	Juvenile Delinquency .....	3 s.h.
PHI-105	Introduction to Ethics .....	3 s.h.
		15 s.h.

##### Fourth Term

SPC-112	Public Speaking .....	3 s.h.
CRJ-107	Survey of Criminal Justice Agencies.....	3 s.h.
CRJ-208	Introduction to Private Security .....	3 s.h.
	Electives.....	6 s.h.
		15 s.h.

**Total Program Hours**

**60 s.h.**

### Recommended electives

BCA-215	Computer Business Applications .....	3 s.h.
BUS-161	Human Relations .....	3 s.h.
BUS-162	Workplace Professionalism .....	3 s.h.
CRJ-949A-C	Special Topics in Criminal Justice.....	1-3 s.h.
ECN-120	Macroeconomics .....	3 s.h.
HIS-254	American Indian History .....	3 s.h.
PEH-140	First Aid.....	1 s.h.
SDV-210	Cooperative Internship.....	1-5 s.h.
SOC-120	Marriage & Family .....	3 s.h.

### Suggested Math Course

MAT-156	Intro to Statistics .....	3 s.h.
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## Criminal Justice - Certificate

The Criminal Justice certificate provides students with a basic introduction to the criminal justice system. The certificate can supplement/support a career or degree in criminal justice or be obtained in preparation for entry-level positions in criminal justice-related fields such as court clerks, paralegals (in addition to their paralegal training), and administrative assistants for law firms, police departments, and more. Students with a degree or career in an unrelated field can also obtain the certificate in order to broaden their field of expertise. For those undecided on their future career path, the certificate provides an overview of the criminal justice system and can help the student determine whether they want to begin their career right away or continue on to earn an Associate in Applied Science degree or a Bachelor's degree in a specialized field at another institution.

**Upon successful completion of the Criminal Justice certificate curriculum with a grade point average of 2.00 (C) or higher, the student is awarded a Certificate**

### Required Courses

CRJ-100	Intro to Criminal Justice .....	3 s.h.
CRJ-107	Survey of Criminal Justice Agencies.....	3 s.h.
CRJ-111	Police and Society .....	3 s.h.
CRJ-120	Introduction to Corrections.....	3 s.h.
CRJ-130	Criminal Law .....	3 s.h.
CRJ-295	Contemporary Issues in Criminal Justice .....	3 s.h.

**Total Program Hours**

**18 s.h.**

### Career Opportunities

Successful graduates can find job opportunities in the following occupational areas:

- Police Departments
- Sheriff's Offices
- Corrections
- Highway Patrols
- Private Investigation Services
- Industrial Security
- Loss Prevention

## Early Childhood Education - Diploma

The Early Childhood Education Diploma program is designed to provide an introduction to the physical, social, emotional, and intellectual development of children from birth through age 8. This program helps prepare students for a rewarding career nurturing the growth and development of young children. Students learn about child development, the child care field, and appropriate practices while working with children. In addition, this program addresses the competencies and functional areas necessary for students to begin the assessment and testing process for the Child Development Associate National Credential administered by the Council for Early Childhood Professional Recognition.

Students can enter employment in an early childhood area upon completion of the program. Additionally, students have the option to continue their education and earn an associate and/or bachelor degree.

**Upon successful completion of the Early Childhood Education curriculum (at least 30 semester hours) with an average grade point of 2.00 (C) or higher, the student is awarded a Diploma.**

### Career Opportunities

Successful graduates can find job opportunities in the following occupational areas:

- Child Care Centers
- Preschools
- In-home Day Care Centers



### Required Courses

#### First Year

##### First Term

ECE-103	Introduction to Early Childhood Education.....	3 s.h.
ECE-131	Home and School Relationships in Early Childhood .....	3 s.h.
ECE-133	Child Health, Safety, and Nutrition.....	3 s.h.
	Electives.....	6 s.h.
		15 s.h.

##### Second Term

ECE-159	Early Childhood Curriculum II .....	3 s.h.
	OR ECE-221 Infant/Toddler Care and Education (3 s.h.)	
ECE-170	Child Growth and Development.....	3 s.h.
ECE-243	Early Childhood Guidance .....	3 s.h.
	Electives.....	6 s.h.
		15 s.h.

**Total Program Hours**

**30 s.h. minimum**

### Approved Electives

*Must complete at least 12 s.h. from the following:*

ART-102	Art for Elementary Education.....	3 s.h.
BIO-123	Inquiry Into Life Science.....	4 s.h.
EDU-216	Introduction to Teaching.....	3 s.h.
EDU-219	Field Experience and Seminar.....	1 s.h.
EDU-235	Children's Literature .....	3 s.h.
EDU-246	Including Diverse Learners .....	3 s.h.
MAT-153	Math for Elementary Teachers I.....	4 s.h.
MAT-154	Math for Elementary Teachers II.....	4 s.h.
PSY-223	Child and Adolescent Psychology.....	3 s.h.
PSY-281	Educational Psychology.....	3 s.h.

## Human Services - Certificate

Students interested in careers in human services or social work can elect to take several core courses toward their Associate of Arts Degree that prepare them for working with people in a variety of areas. Skills emphasized in these courses include interviewing, development of needs assessment, accessing community resources, and counseling. The Human Services courses prepare students for entry-level jobs or for transfer to a four-year degree program. Areas of employment include public and private state agencies, treatment centers for a variety of issues, group homes, and supported living and work programs for consumers with disabilities. The Human Services Club provides opportunities for students to explore the field by interacting with people working in the profession.

Upon successful completion of the Human Services curriculum with a grade point average of 2.00 (C) or higher, the student is awarded a Certificate.

### Human Services Certificate Courses:

BCA-215	Computer Business Applications .....	3 s.h.
HSV-152	Introduction to Counseling .....	3 s.h.
HSV-153	Professional Ethics.....	3 s.h.
PSY-223	Child and Adolescent Psychology.....	3 s.h.
SDV-210	Cooperative Education Internship.....	1 s.h.
	OR PSY-211 Psychology of Adjustment (3 s.h.)	
	OR PSY-241 Abnormal Psychology (3 s.h.)	
	OR PSY-251 Social Psychology (3 s.h.)	
	OR SOC-881 Social Responsibility and Community Service (2 s.h.)	
	OR SOC-949A Special Topics in Social Science (1 s.h.)	
SOC-150	Introduction to Human Services.....	3 s.h.
SOC-215	Prime for Life: Substance Abuse .....	1 s.h.

**Total Program Hours**

**17-19 s.h.**



### Career Opportunities

- Social Work Associate
- Case Aide
- Parent-skill Worker
- Family Support Advocate
- Residential Treatment Associate
- Long-term Care Facility Associate
- Early Childhood Assistant
- Youth Counselor



# Health



Advanced Emergency Medical Technician	66
Emergency Medical Responder	66
Emergency Medical Technician	66
Medical Assistant	68
Medical Laboratory Technician	69
Nurse Aide (CNA)	67
Nursing-Associate Degree (RN)	70
Nursing-Practical Nursing (LPN)	74
Physical Fitness & Wellness	80
Physical Therapist Assistant	76
Radiologic Technology	78



Coaching	81
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Healthcare programs offer a wide variety of employment opportunities. Healthcare curriculums, although independent in structure, often provide for educational mobility through common course requirements. Students entering the Medical Assistant program may note similar coursework in the Medical Administrative Assistant program. Common support courses can also be noted between the Practical Nursing program and the Medical Assistant program, allowing students the ability to apply coursework in multiple areas. Career mobility is also facilitated in the LPN to ADN option for licensed practical nurses who desire to pursue the registered nurse licensure. In addition, the Associate Degree nurse is also provided educational mobility options with other RN to BSN progression program.

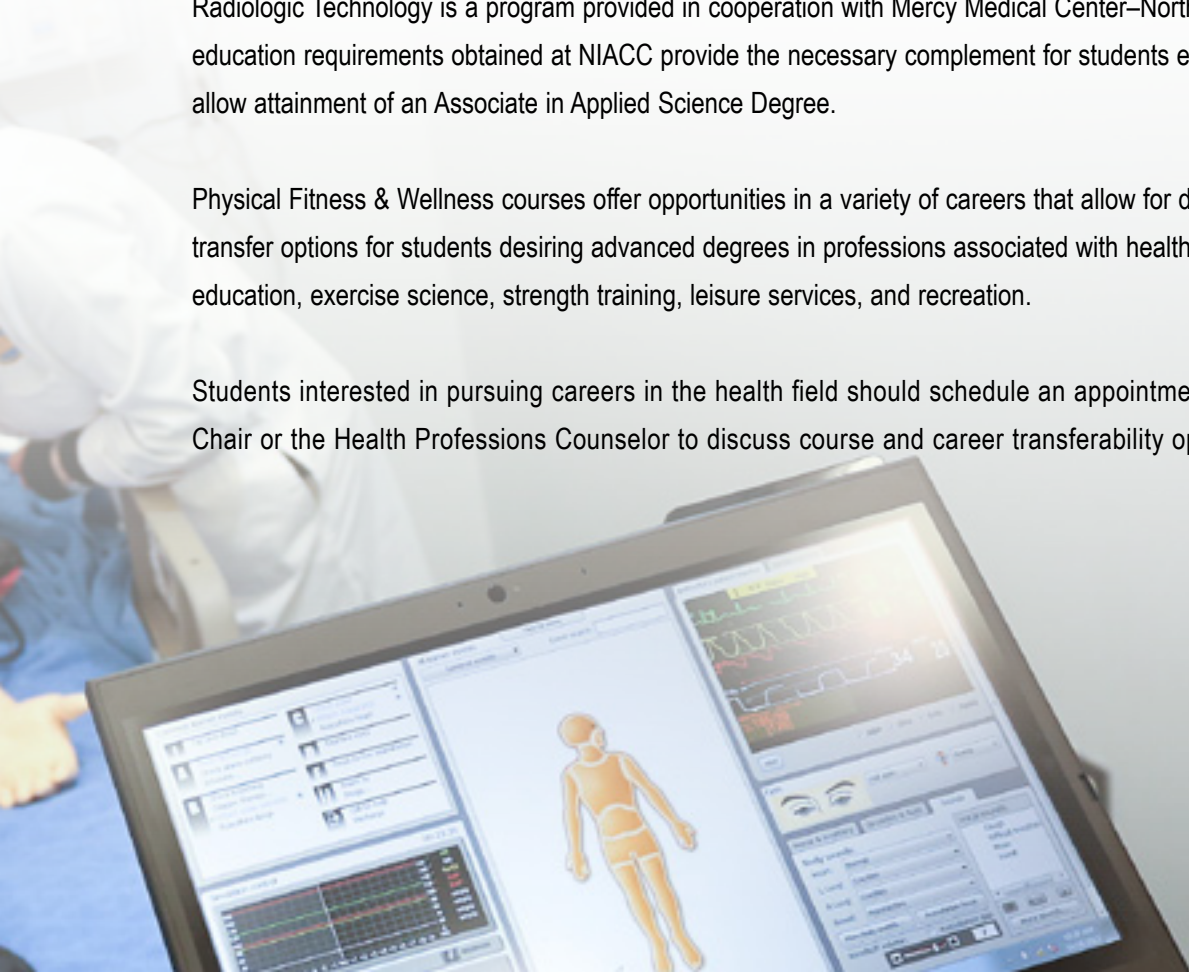
Although the Physical Therapist Assistant program and the Medical Laboratory Technician program (a partnership program requiring transfer to Hawkeye Community College) program provide specialized curriculums that will not allow for direct transfer into advanced degree programs, the program course work provides foundational knowledge and skills compatible with the pursuit of related degrees.

Emergency Medical Services and Long Term Care offer various programs with credit and non-credit options. Course offerings provide educational opportunities to assist individuals in attaining and maintaining licensure or certification status required in designated areas of health care.

Radiologic Technology is a program provided in cooperation with Mercy Medical Center–North Iowa. General education requirements obtained at NIACC provide the necessary complement for students enrolled at MMC-NI to allow attainment of an Associate in Applied Science Degree.

Physical Fitness & Wellness courses offer opportunities in a variety of careers that allow for direct employment or transfer options for students desiring advanced degrees in professions associated with health, wellness, physical education, exercise science, strength training, leisure services, and recreation.

Students interested in pursuing careers in the health field should schedule an appointment with the Division Chair or the Health Professions Counselor to discuss course and career transferability options.



## Emergency Medical Services

### Emergency Medical Responder - Certificate

The Emergency Medical Responder course is the entry-level course in the Emergency Medical Services (EMS) program. 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. The course is 45 hours in length and utilizes a combination of classroom lectures and skill practice. Upon successful completion of the course, students will be eligible to test for EMR certification.

#### Entrance Requirements for EMR:

1. Must be at least 17 years of age at the time of enrollment.
2. Must be able to speak, write, and read English proficiently.
3. Must be physically and emotionally capable of performing all functions and skills of an EMR and possess maturity of judgment and sound moral character.
4. Must provide documentation of current certification in BLS for Healthcare Providers.

#### Required Course

EMS-114 Emergency Medical Responder.....2 s.h.

**Upon successful completion of the Emergency Medical Responder curriculum with a grade point average of 2.00 (C) or higher and a minimum overall cumulative college grade point average of 2.00 (C), the student is awarded a Certificate.**

### Emergency Medical Technician - Certificate

This course provides the student with the necessary knowledge and skills to perform emergency care and transport. Course modules include preparatory, function and development of the human body, pharmacology, airway management, patient assessment, medical emergencies, shock, trauma, special patient populations, and EMS operations. This 130-hour course provides the student with the necessary knowledge and skills to perform emergency care and transport. An additional 18 hours of hospital-based clinical and 12 hours of ambulance ride time are required. Upon successful completion of the course, students will be eligible to test for EMS certification.

#### Entrance Requirements for EMT:

1. Must be at least 17 years of age at the time of enrollment.
2. Must be able to speak, write and read English proficiently.
3. Must be physically and emotionally capable of performing all functions and skills of an EMT, and possess maturity of judgment and sound moral character.
4. Must provide documentation of current certification in American Heart Association BLS for Healthcare Providers.

Note: A criminal background check and adult/dependent abuse checks will be required. Drug testing may also be required by individual agencies. Results of these checks will be used by contracted clinical facilities to determine clinical eligibility. Costs for background checks will be included in tuition costs. All other costs will be the responsibility of the student.

#### Required Course

EMS-201 Emergency Medical Technician.....7 s.h.

**Upon successful completion of the Emergency Medical Technician curriculum with a grade point average of 2.00 (C) or higher and a minimum overall cumulative college grade point average of 2.00 (C), the student is awarded a Certificate.**

### Advanced Emergency Medical Technician - Certificate

The Advanced Emergency Medical Technician (AEMT) course expands on the knowledge and skills of an EMT. This 113-hour course consists of didactic and hands-on skill sessions. The course includes in-depth discussion and application of skills based on anatomy and physiology, disease processes, intravenous therapy, and pharmacology. Advanced-level skills such as IV therapy and medication administration will be incorporated into the course. An additional 52 hours of hospital-based clinical and 48 hours of ambulance ride time are required. Upon successful completion of the course, students will be eligible to test for AEMT certification.

#### Entrance Requirements for Advanced EMT:

1. Must be at least 17 years of age at the time of enrollment.
2. Must be able to speak, write, and read English proficiently.
3. Must be physically and emotionally capable of performing all functions and skills of an AEMT, and possess maturity of judgment and sound moral character.
4. Must provide documentation of current certification in American Heart Association BLS for Healthcare Providers.
5. Must provide current State of Iowa EMT certification. A physical examination, immunization record, and completed background check are required prior to beginning the hospital clinical rotations or ambulance ride time portions of the course.

Note: A criminal background check and adult/dependent abuse checks will be required. Drug testing may also be required by individual agencies. Results of these checks will be used by contracted clinical facilities to determine clinical eligibility. Costs for background checks will be included in tuition costs. All other costs will be the responsibility of the student.

#### Required Course

EMS-237 Advanced Emergency Medical Technician.....8 s.h.

**Upon successful completion of the Advanced Emergency Medical Technician curriculum with a grade point average of 2.00 (C) or higher and a minimum overall cumulative college grade point average of 2.00 (C), the student is awarded a Certificate.**

## Long Term Care

### Nurse Aide (CNA)

North Iowa Area Community College offers training programs for those interested in becoming Certified Nursing Assistants. Courses are offered several times a year in a variety of locations and are taught by Registered Nurses. The 75 Hour course is designed to provide the knowledge and skills needed to care for patients/residents in a variety of long-term care facilities and in preparation of the Iowa Direct Care Worker registry exams. The first 45 hours of the course are held in a classroom/lab and the remaining 30 hours of clinical will be in a nursing home. You will give patient care under the supervision of your instructor. At the end of this course, you must take the Direct Care Worker registry written and skills exam to be eligible for employment in long-term care. Successful completion of these exams is required by State Legislation in order to work in a long-term care facility.

The Nurse Aide courses are offered for college credit and are prerequisites to the nursing program.

#### Entrance Requirements for Nurse Aide:

1. Must be 16 years or older.
2. High school diploma or GED.
3. Strength and endurance to meet the requirements in performing skills such as lifting and moving residents.
4. Health history and current immunization records are **required** prior to beginning clinical. The immunization requirements include TB test, Hepatitis B vaccine, or signing a waiver for the hepatitis vaccine.

Criminal background checks and adult/dependent and child abuse checks are required by law. Results of those checks will be used to determine clinical eligibility (a student may be denied clinical access and be unable to complete the course). Costs for background checks will be included in tuition costs.

For further information, contact the health professions counselor at 1-888-466-4222, Ext. 4207 or 641-422-4207.

#### Required Courses

HSC-171 Nurse Aide Theory .....	2 s.h.
HSC-174 Nurse Aide Clinical .....	1 s.h.

### Medication Aide

The Medication Aide course (HSC-179) prepares people to safely administer non-parenteral medications in nursing facilities and related areas. The emphasis is on safe administration of medications. It qualifies the aide to administer medications in long-term care, residential care, nursing, skilled, adult day care, and assisted living facilities. Successful completion of the State Medication Aide exam is required to pass the course.

#### Prerequisites:

1. MUST BE EMPLOYED IN:
  - A certified nursing facility -- minimum of 6 months employment by facility sponsor, must be on the Iowa Direct Care Workers Registry, and must provide documentation from administrator of facility in which he/she is employed; OR
  - A residential or related type of licensed facility -- minimum of 6 months employment by facility sponsor, must provide evidence of successful completion of residential attendant course, and must provide recommendation from administrator of facility in which he/she is employed; OR
  - An assisted living program -- minimum of 6 months employment by facility sponsor, must provide recommendation from administrator of facility in which he/she is employed, and have completed 75-hour Nurse Aide course or Residential Attendant course.
2. Have aptitude for reading, writing, and mathematics.

#### Required Course

HSC-179 Medication Aide .....	3 s.h.
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### Supervising in Healthcare Facilities

HSC-290 Supervising in Healthcare meets the requirements under the Nurse Practice Act for the LPN employed in a supervisory position in long-term care. Iowa Administrative Code 655 6.5(1)b.(2) permits the licensed practical nurse working under the supervision of the registered nurse, to supervise in a nursing facility. The licensed practical nurse who is employed to supervise must complete a course specifically designed for the supervisory role of the LPN in long-term care within six months of employment.

This course is designed to provide the knowledge and skills needed to successfully manage resident care and personnel in the health care facility. The course participant will examine selected management problems, discuss related basic theory and principles, and apply these to solving management problems. Health care facilities as organizations, management tasks and skills, leadership qualities, and appreciation of the individual needs of residents and staff members will be discussed throughout the course. 100% attendance is required; students must attend the first and last class. This is a hybrid class which includes 15 hours of on-line study in addition to the face to face classroom time. This course has been approved for 3 college credit hours; CEU's will not be awarded.

#### Prerequisites:

Current RN or LPN

#### Required Course

HSC-290 Supervising in Healthcare .....	3 s.h.
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## Medical Assistant - Diploma

The Medical Assistant program is designed to prepare men and women to function as members of the health care delivery team and perform administrative and clinical procedures. This most often occurs in ambulatory settings such as medical offices and clinics.

NIACC's classrooms include the latest in computers, office, and laboratory equipment. The NIACC Medical Assistant Diploma program is accredited by the Commission on Accreditation of Allied Health Education Programs ([www.caahep.org](http://www.caahep.org)), 25400 US Highway 19 North, Suite 158, Clearwater, FL 33756 (phone: (727) 210-2350), upon the recommendation of the Medical Assisting Education Review Board (MAERB) of the American Association of Medical Assistants Endowment (AAMAE).

### Entrance Requirements

Students are encouraged to meet with the counselor prior to program enrollment to arrange for assessment in keyboarding, reading, writing, and math to determine if additional course work is required to promote success. A minimum requirement of 35 wpm keyboarding is required to enter the program. A preadmission test will be administered to assist in eligibility to the program. Basic Life Support (BLS) certification is required upon acceptance to the program. A physical examination providing evidence of current immunization and sound physical and mental health is also required prior to Clinical Procedures I. Criminal background checks and adult/dependent abuse checks will be required. Drug testing may also be required by individual agencies. Results of these checks will be used by contracted clinical facilities to determine clinical eligibility. Costs for requirements will be the responsibility of the student.

Students must attain a grade point average of 2.00 (C) in program courses to proceed to the practicum. (A minimum grade of C- is allowed in Medical Office Procedures, Clinical Procedures I and II, Body Structure and Function (or Anatomy and Physiology I and II), and a minimum grade of C is required in Medical Terminology I and II.)\* All first term courses must be successfully completed as stated above prior to entering into the second term. In addition, students must meet all course requirements prior to beginning the practicum. The student may be required to travel a distance for the practicum. Practicums are randomly assigned to the student and available sites are dependent on the permission of the specific agency. No remuneration is provided during the practicum experience.

Further information regarding progression in the program and specific program

policies is provided to the MA student in the individual program handbook. Students are provided this handbook during the first MA class day. Students are referred to this handbook throughout the program.

**Upon successful completion of the Medical Assistant curriculum with a grade point average of 2.00 (C) or higher and a minimum overall cumulative college grade point average of 2.00 (C), the student is awarded a Diploma.** In addition, the student is eligible for the national certification examination to become a CMA-AAMA (Certified Medical Assistant).

Beginning with the January 2001 administration of the Certification Examination, a student with a felony record may not be eligible for Certification Examination unless the AAMA Certifying Board grants a waiver based on one or more of the mitigating circumstances listed in the Disciplinary Standards. The student can verify certification eligibility prior to entering the program by contacting the AAMA Certifying Board at the following address: AAMA (American Association of Medical Assistants), 20 North Wacker Drive, Ste. 1575, Chicago, IL 60606-2903.

### Required Courses Schedule

#### First Term

BCA-129	Basic Word Processing.....	2 s.h.
BUS-121	Business Communications.....	3 s.h.
HSC-120	Medical Terminology I.....	3 s.h.
HSC-150	Body Structure and Function*.....	4 s.h.
	OR BIO-206, Anatomy and Physiology I* (4 s.h.) and BIO-207, Anatomy and Physiology II* (4 s.h.)	
MAP-353	Clinical Procedures I.....	4 s.h.
		16-20 s.h.

#### Second Term

ADM-131	Office Calculators.....	1 s.h.
ADM-215	Medical Office Procedures**.....	3 s.h.
BUS-162	Workplace Professionalism.....	3 s.h.
HIT-210	Basic Medical Insurance and Coding.....	2 s.h.
HSC-121	Medical Terminology II.....	3 s.h.
MAP-359	Clinical Procedures II.....	6 s.h.
		18 s.h.

#### Summer Term

MAP-622	Medical Assistant Practicum.....	6 s.h.
		6 s.h.

**Total Program Hours 40-44 s.h.**

\*Body Structure & Function OR Anatomy & Physiology I and II must be completed within five years of beginning the clinical procedures I and II

\*\*Prerequisites: BCA-129 Basic Word Processing, BUS-121 Business Communications, and HIT-125 Essentials of Health Records or MAP-353 Clinical Procedures I.

**Courses may be taken over a two-year period with Clinical Procedures I and II taken in the final year. Students may re-enter Clinical Procedures I and II a maximum of one time. Students may repeat the Practicum one time only.**

NIACC's Medical Assistant Program is accredited by the Commission on Accreditation of Allied Health Education Programs ([www.caahep.org](http://www.caahep.org)) upon the recommendation of Medical Assisting Education Review Board (MAERB).

Commission on Accreditation of Allied Health Education Programs  
25400 US Highway 19 North, Suite 158  
Clearwater, FL 33756  
727-210-2350  
[www.caahep.org](http://www.caahep.org)

### Career Opportunities

Medical Assistant is one of the nation's fastest growing careers through 2018, according to the United States Bureau of Labor Statistics. This can be attributed to a predicted surge in the number of physicians' offices and outpatient care facilities. Technological advancements and the growing number of elderly Americans who need medical treatment are also factors for the increased demand for medical assistants.

Administrative duties include scheduling and receiving patients, preparing and maintaining medical records, performing basic secretarial skills and medical transcription, handling telephone calls, writing correspondence, serving as liaison between the physician and other individuals, and managing practice finances.

Clinical duties include asepsis and infection control, taking patient histories and vital signs, performing first aid and CPR, preparing patients for procedures, assisting the physician with examinations and treatments, collecting and processing specimens, performing selected diagnostic tests, and preparing and administering medications as directed by the physician.

Medical Assistants work in offices for:

- Doctors
- Clinics

Medical Assistants work with:

- Medical equipment such as x-ray and EKG machines
- Lab samples and equipment
- Telephones, computers, and other office equipment
- Patient medical records
- Insurance forms and other papers



## Medical Laboratory Technician - Degree (Academic Affiliate with Hawkeye Community College)

The Medical Laboratory Technician program prepares men and women to work under the supervision of the medical laboratory scientist, pathologist, or other qualified physician in a medical laboratory. A technician performs tests that aid in the diagnosis and treatment of disease.

Specific tasks which the Medical Laboratory Technician might perform include collection of blood and other specimens, preparation and examination of stained slides of blood cells or bacteria, microscopic examination of urine, blood, and other body fluids, grouping and typing of blood, and the analysis of body fluids for chemical components.

The first two semesters of the program may be taken at NIACC and the completion of the program is taken at Hawkeye Community College, Waterloo, Iowa. The final semesters of the program are provided in the clinical setting, which may occur in a location of the student's choice. This placement, however, is dependent on a space available basis in the agency of choice. **Upon successful completion of the Medical Laboratory Technician curriculum, the student is awarded an Associate in Applied Science Degree by Hawkeye Community College and is then prepared to work in hospital laboratories, clinics, physicians' offices, public health agencies, research institutions, and the Armed Forces.** The program is accredited by the National Accrediting Agency for Clinical Laboratory Sciences.

Graduates of the Medical Laboratory Technician program are eligible for the national certification examination.

Medical Laboratory Technicians may continue their education at the college level and become Medical Laboratory Scientists.

### Entrance Requirements

Students must make formal application for the Medical Laboratory Technician (MLT) program to Hawkeye Community College. Students may prepare for the program and complete two semesters of the MLT program while attending NIACC.

Applicants must be high school graduates or the equivalent to be eligible for admission to the MLT program. Applicants must then satisfy at least one of the following routes of requirements for entry into the program.

**Route 1:** Score at least the following standard score on each COMPASS assessment (43 on Algebra, 82 on Reading, and 65 on Writing) or receive a standard score of 19 on each of the ACT subtests of Math, Reading, and English. Students must also have completed one year of high school algebra, chemistry, and biology.

**Route 2:** Successfully complete the following NIACC courses with a 2.00 GPA.

BIO-102 Introductory Biology AND  
BIO-103 Introductory Biological Lab  
ENG-015 Elements of Writing  
MAT-063 Elementary Algebra  
RDG-125 College Reading Strategies

**Route 3:** Successfully complete 4 out of the following 6 courses at HCC or NIACC with a minimum grade point average of 2.75.

HSC-120 (NIACC) Medical Terminology I  
MAT-110 (NIACC) Math for Liberal Arts  
MLT-101 (NIACC) Intro to Lab Science  
MLT-110 (HCC) Fundamental Lab Techniques  
MLT-120 (NIACC) Urinalysis  
MLT-130 (HCC) Hematology

### Career Opportunities

Medical Laboratory Technicians work for:

- Hospitals and medical laboratories
- Offices and clinics of physicians
- Blood banks
- Health maintenance organizations
- Public health agencies
- Pharmaceutical firms
- Research and testing laboratories
- The Federal Government

The required related courses may be taken prior to enrolling or during the time the student is enrolled in the program. However, it is recommended that the curriculum be followed once the student is enrolled.

Students who withdraw from the program will be readmitted on a space-available basis. Preference will be given to those students who have been academically successful.

### Required Courses/Suggested Schedule

#### First Year

##### First Term - NIACC

BIO-206	Anatomy and Physiology I .....	4 s.h.
CHM-151	College Chemistry I .....	4 s.h.
ENG-105	Composition I .....	3 s.h.
MLT-101	Intro to Lab Science** .....	2 s.h.
SOC-110	Introduction to Sociology .....	3 s.h.
	OR PSY-111 Introduction to Psychology (3 s.h.) .....	16 s.h.

##### Second Term - NIACC

BIO-186	Microbiology .....	4 s.h.
BIO-207	Anatomy and Physiology II .....	4 s.h.
HSC-120	Medical Terminology I .....	3 s.h.
MLT-120	Urinalysis I** .....	3 s.h.
SPC-112	Public Speaking .....	3 s.h.
		17 s.h.

##### Summer Session - Hawkeye

MLT-110	Fundamental Lab Techniques** .....	3 s.h.
MLT-130	Hematology .....	3 s.h.
MLT-250	Clinical Microbiology .....	4 s.h.
		10 s.h.

#### Second Year

##### First Term - Hawkeye

MLT-230	Advanced Hematology** .....	3 s.h.
MLT-233	Hemostasis and Thrombosis .....	2 s.h.
MLT-240	Clinical Chemistry I .....	7 s.h.
MLT-252	Parasitology** .....	1 s.h.
MLT-260	Immunohematology .....	4 s.h.
MLT-270	Immunology and Serology .....	2 s.h.
		19 s.h.

##### Second and Summer Terms - Area II Clinical Sites\*

##### (24-week term, clinical internship)

MLT-283	Clinical Practicum: Urinalysis .....	1 s.h.
MLT-284	Clinical Practicum: Immunohematology .....	2 s.h.
MLT-285	Clinical Practicum: Chemistry .....	4 s.h.
MLT-286	Clinical Practicum: Immunology and Serology II .....	1 s.h.
MLT-287	Clinical Practicum: Hematology .....	4 s.h.
MLT-288	Clinical Practicum: Microbiology .....	4 s.h.
MLT-291	Lab Survey and Review .....	1 s.h.
		17 s.h.

#### Total Program Hours

**79 s.h.**

\*As identified in the curriculum, this program is offered over a two-year period of time. The first two semesters are taken at NIACC. The next summer session and fall semester are taken at Hawkeye Community College in Waterloo, Iowa. The final semester is a 24-week clinical internship. NIACC and Hawkeye will attempt to secure clinical experiences in the NIACC area (not guaranteed).

\*\*Courses may be taken prior to acceptance into the MLT program at Hawkeye Community College.



## Nursing - Associate Degree (RN)

Associate Degree Nursing is designed to prepare men and women for general staff registered nursing positions which involve direct care of patients. There are two routes of entry into the program: one for beginning students and one for Licensed Practical Nurses. Individuals considering enrollment or currently enrolled in the nursing program should be aware that prior felony convictions may prohibit eligibility for licensure upon completion of the program.

### Entrance Requirements

The applicant must complete the application process through the health professions counselor located in the Student Development Office. The ADN program offers two starts: Summer and Fall Terms (refer to the course schedule).

All applicants must complete a high school diploma or equivalency program. The date of formal application to the program will be the date the applicant submits a complete application to the ADN program. Final acceptance to the program will be when the applicant has successfully completed all of the prerequisites for the ADN program. The date of application will be factored in if two or more applicants compete for vacancy. Completed applications are reviewed starting in December for the next academic year.

### Prerequisites

- An ACT composite score of 20.

The following required course must be completed with a grade of C or higher.

- PSY-111 Introduction to Psychology (3 s.h.)

A minimum overall 2.0 NIACC GPA is required to enter the program and must be maintained throughout the program.

### Nurse Aide Training:

Submit proof of completion of the 75-hour State of Iowa approved Certified Nurse Aide Program or equivalent. Submit proof of successful completion of Nurse Aide written and skills tests for placement on the Direct Care Worker Registry. A transcript indicating the applicant passed both tests, or a Registry card will serve as verification.

### High School Course Requirements:

**The following required courses must be completed with a grade of C or better.**

#### Mathematics:

- One full-year course (2 semesters) of high school Algebra II / college preparatory algebra or statistics

#### Science:

- Biology: two semesters of high school/college preparatory biology
- Chemistry: two semesters of high school/college preparatory chemistry

### High School Recommendations/Computer Technology:

Four to six semesters of high school English and four to six semesters of Social Studies are strongly recommended. Since the NCLEX-RN licensing exam is a computerized test, two semesters of high school computer classes or one semester of a computer application class are also strongly recommended.

An application to the ADN program, high school transcript, high school equivalency scores (if applicable), all college transcripts, and results of the ACT must be in the applicant's folder before the admissions committee takes action on acceptance into the Associate Degree Nursing program. Upon acceptance, a physical examination providing evidence of current immunization and sound physical and mental health is required.

The prescribed course requirements scheduled for the freshman year must be taken in the sequence and time lines indicated. However, the support courses (noted with an \* in the curriculum) may be taken prior to enrolling or during the time the student is in the nursing program. Note: If support courses are being taken in the sequence with a nursing course, both the support courses and the nursing course must be successfully completed to continue in the program.

Students must attain a C grade in all nursing courses and prescribed courses. An overall 2.00 GPA in the prescribed curriculum and a minimum overall cumulative college grade point average of 2.00 is required for graduation from the ADN program.

Students who withdraw from the program must make formal application for reentry and upon acceptance will be considered on a space-available basis. Readmission criteria is addressed in the ADN Student Handbook. Reentry requirements include current physicals/immunization records, current Basic Life Support CPR Certification (formerly Healthcare Provider CPR Certification) offered by the American Heart Association, and current evidence of TB testing within the academic year. Options will be discussed on an individual basis for students unsuccessful at any level of the program.

Any transfer student applying for admission, who has been enrolled in a nursing curriculum other than NIACC, will be required to meet with the Program Leader, Practical and Associate Degree Nursing, to discuss placement in the curriculum. Course syllabi and clinical site information from the transferring institution will be required for review. The student will also be requested to provide written authorization allowing contact with instructors from the transfer institution regarding class and clinical performance. A letter of reference regarding theory, clinical, and overall student conduct will be required from the chair of health programs at the transfer institution. Information acquired from these contacts will be considered in acceptance and proper placement into a NIACC nursing curriculum.

**Upon successful completion of the Associate Degree Nursing curriculum and assigned comprehensive review activities, the student is awarded an Associate in Applied Science Degree and is eligible for the NCLEX-RN exam.** After passing this examination, the graduate receives

## Nursing - Associate Degree (RN) (Continued)

registered nurse status. The program is approved by the Iowa Board of Nursing and accredited by the Accreditation Commission for Education in Nursing (ACEN) (formerly the National League for Nursing Accrediting Commission, Inc.), 3343 Peachtree Road N.E., Suite 850, Atlanta, GA 30326, (404-975-5000), <http://www.acenursing.org/>

Further information regarding progression in the program and specific program policies is provided to the ADN student in the individual program handbook distributed during the first ADN class. Students are referred to this handbook throughout the program. A copy of the ADN Student Handbook is available on request from the Health Division and is posted on the ADN program website at <http://www.niacc.edu/nursing-adn-handbook/>.

Students should be aware that they will travel a distance for various clinical experience and that some clinical experiences will be scheduled during evening/night hours and weekends. Online access for web-enhanced course assignments is required. Computer labs on campus are available during designated hours.

Drug testing may be required by individual agencies. Criminal background checks and adult/dependent abuse checks will be required for all incoming students and students reentering the program. Results of the background and abuse checks will be reviewed by the State Department of Human Services to determine eligibility for clinical enrollment in the program, but does not guarantee licensure upon program completion. Costs for requirements will be the responsibility of the student.

For graduates wishing to obtain a baccalaureate degree in nursing, the ADN program provides a foundation for completion of BSN programs in Iowa. The University of Iowa College of Nursing offers the RN to BSN Progression Program in the North Iowa area. Through this program RNs may complete all course work for their BSN locally and online. <http://www.nursing.uiowa.edu/academic-programs/rn-bsn>

NIACC also has a formalized articulation agreement to complete a baccalaureate degree in Nursing with Allen College, Clarke University, Coe College, Dordt College, Grand View University, Iowa Wesleyan University, Mercy College of Health Sciences, Morningside College, Mount Mercy University, St. Ambrose University, University of Dubuque, Upper Iowa University and William Penn University.

The Iowa Consortium for Advancing Nursing Education recommends the following courses in addition to the current curriculum for preparation for a baccalaureate degree in Nursing:

- BIO-102 Introductory Biology (3 s.h.) and
- BIO-103 Introductory Biology Lab (1 s.h.)
- CHM-151 College Chemistry I (4 s.h.)
- MAT-156 Introduction to Statistics (3 s.h.)

Students are encouraged to correspond with the transfer college to obtain specific requirements.

### Required Courses/Suggested Schedule

#### Term 0

PSY-111	Introduction to Psychology	3 s.h.
		3 s.h.

#### First Term (Summer - 6 weeks or Fall - 15 weeks)

BIO-186	Microbiology*	4 s.h.
ENG-105	Composition I*	3 s.h.
		7 s.h.

#### Second Term (Fall or Spring - 15 weeks)

ADN-100	Nursing I	8 s.h.
BIO-206	Anatomy and Physiology I**	4 s.h.
PSY-121	Developmental Psychology*	3 s.h.
		15 s.h.

#### Third Term (Spring or Fall - 15 weeks)

ADN-103	Nursing II	10 s.h.
BIO-151	Nutrition*	3 s.h.
BIO-207	Anatomy and Physiology II**	4 s.h.
		17 s.h.

#### Fourth Term (Fall or Spring - 15 weeks)

ADN-603	Nursing III	12 s.h.
ENG-106	Composition II*	3 s.h.
		15 s.h.

#### Fifth Term (Spring or Fall - 15 weeks)

ADN-604	Nursing IV	12 s.h.
SPC-112	Public Speaking*	3 s.h.
		15 s.h.

**Total Program Hours** **72 s.h.**

\*Prescribed support courses which may be taken prior to entering the nursing program. Once in the nursing program, courses must be taken in the identified sequence and successfully completed with a C or higher grade for a student to progress in the program.

\*\*Anatomy and Physiology I and II must be completed within five years of beginning the program. Students enrolling in Anatomy and Physiology I or II should plan on taking both semesters of the sequence at NIACC or the same college.

NOTE: A current Basic Life Support CPR Certification (formerly Healthcare Provider CPR Certification) offered by the American Heart Association is required. The current certification/renewal needs to be completed prior to Nursing I or any reentry into the program. A yearly TB test is also required prior to Nursing I or any reentry into the program. Students must be current with these requirements or will not be allowed in the clinical area.

Students seeking entrance into the nursing program should be aware that nursing courses with a clinical component may not be taken by a person:

- a) who has been denied licensure by the Iowa Board of Nursing;
- b) whose licensure is currently suspended, surrendered or revoked in any United States jurisdiction;
- c) whose license/registration is currently suspended, surrendered or revoked in another country due to disciplinary action.

### Career Opportunities

- Hospitals, nursing facilities, and clinics
- Health maintenance organizations
- Private offices and clinics of doctors and dental surgeons
- Government agencies and the military
- Visiting nurse associations
- Community Healthcare agencies
- Temporary staff agencies
- Entrepreneurial ventures

## ADN Option for Licensed Practical Nurses

A limited number of Licensed Practical Nurses who meet the following criteria will be eligible to enter the Associate Degree Nursing program on a space-available basis and only during the fall start date for placement in Nursing II. The student is eligible to begin the application upon completion of ALL prerequisite courses and general education courses required for entry into the program and prior to Nursing III. Individuals considering enrollment or currently enrolled in the nursing program should be aware that prior felony convictions license may prohibit eligibility for licensure upon completion of the program.

Eligibility into Nursing II requires the following:

1. A current, unencumbered LPN license.
2. An ACT composite score of 20.
3. Graduation from an approved practical nursing program with a minimum of a C (2.0 GPA) in each nursing course. A minimum of a 2.0 cumulative GPA in the ADN prerequisite courses. Completion of ALL prerequisite and general education courses required in the first year of the program with at least a C in each course. A minimum overall 2.0 NIACC GPA is required to enter the program and must be maintained throughout the program.
4. Required employment within the past two years in an acute or long-term care setting involving routine medication administration and direct patient care with at least 500 hours of documented employment. A form verifying hours of employment and skill sets incorporated while employed will be sent to the employer.
5. At least one year must transpire between completion of the PN program and entrance into the ADN program.
6. Any transfer student applying for admission, who has been enrolled in a nursing curriculum other than NIACC, will be required to meet with the Program Leader, Practical and Associate Degree Nursing, to discuss placement in the curriculum after the following items have been received from the transfer institution: course syllabi, clinical placement documentation (hours/sites) reflecting sufficient theory, clinical hours, and experiences comparable to the first year of the ADN curriculum. The student will also, upon written authorization, allow contact with instructors from the transfer institution regarding theory, clinical, and overall student conduct from the administrator of the nursing program at the transfer institution. Information acquired from these contacts will be considered in acceptance and proper placement into the NIACC nursing curriculum.
7. Participation in a mandatory orientation prior to entering the program.

Because assignment to the proper course is contingent on multiple factors, students are encouraged to apply at least a year before the desired date of entering Nursing II to allow for placement in Nursing I, if necessary. Final placement in the appropriate nursing course will be determined by the faculty in June prior to fall start.

In the event a student is not successful in a nursing course, the student may be required to apply for re-entry into the program on a space-available basis.

Students should be aware that they will travel a distance for clinical experience and that some clinical experiences will be scheduled during evening/night hours and weekends. Online access for web-enhanced course assignments is required. Computer labs on campus are available during designated hours. Drug testing may be required by individual agencies. Criminal background checks and adult/dependent abuse checks will be required for all incoming students. Results of the background and abuse checks will be reviewed by the State Department of Human Services to determine eligibility for clinical enrollment in the program. but does not guarantee licensure upon program completion. Costs for requirements will be the responsibility of the student.

### Prerequisites

#### High School Requirements

The following required courses must be completed with a grade of C or better.

#### Mathematics:

- One full-year course (2 semesters) of high school Algebra II / college preparatory algebra or statistics

#### Science:

- Biology: two semesters of high school/college preparatory biology
- Chemistry: two semesters of high school/college preparatory-chemistry

The following required courses must be completed with a grade of C or better. A minimum overall 2.0 NIACC GPA is required to enter the program and must be maintained throughout the program.

BIO-186	Microbiology .....	4 s.h.
BIO-151	Nutrition .....	3 s.h.
BIO-206	Anatomy and Physiology I and Lab** .....	4 s.h.
BIO-207	Anatomy and Physiology II and Lab** .....	4 s.h.
ENG-105	Composition I .....	3 s.h.
PSY-111	Introduction to Psychology .....	3 s.h.
PSY-121	Developmental Psychology .....	3 s.h.

\*\*Anatomy and Physiology I and II must be completed within five years of beginning the Nursing II Anatomy and Physiology I and II must be completed prior to entering ADN-103. Students enrolling in Anatomy and Physiology I or II should plan on taking both semesters of the sequence at NIACC or the same college.



## ADN Option for Licensed Practical Nurses (Continued)

### Computer Technology:

Since the NCLEX-RN exam is a computerized test, computer competencies are strongly recommended.

Other elements of the selection process include high school and college GPA and ACT scores. All criteria for the ADN program apply and should be reviewed. This information must be in the applicant's file before the admissions committee will act on the application. Upon acceptance, a physical examination providing evidence of current immunization and sound physical and mental health is required.

Since the applicant's progress toward meeting prerequisites and admission requirements must be tracked, applicants to the Licensed Practical Nursing to Associate Degree Nursing program must complete the application process through the health professions counselor located in the Student Development Office. Expected date of graduation will determine when the application to the program must be submitted.

Students must attain a C grade in all ADN courses and prescribed support courses to continue in the ADN program. An overall 2.00 GPA in the prescribed curriculum and a minimum overall cumulative college grade point average of 2.00 is required for graduation from this program.

Further information regarding progression in the program and specific program policies is provided to the ADN student in the individual program handbook. Students are provided this handbook during the first ADN class day. Students are referred to this handbook throughout the program. A copy of the ADN Student Handbook is available on request from the Health Division and is posted on the ADN program website at [www.niacc.edu/nursing-adn-handbook/](http://www.niacc.edu/nursing-adn-handbook/).

**Upon successful completion of the ADN Option for Licensed Practical Nurses curriculum and assigned comprehensive review activities, the student is awarded an Associate in Applied Science Degree and is eligible for the NCLEX-RN exam.** After passing this examination, the graduate receives registered nurse status. The program is approved by the Iowa Board of Nursing and accredited by the Accreditation Commission for Education in Nursing (ACEN) (formerly National League for Nursing Accrediting Commission, Inc.), 3343 Peachtree Road N.E., Suite 850, Atlanta, GA 30326, (404-975-5000), <http://www.acenursing.org/>.

### Required Courses/Suggested Schedule

The following are the prerequisite courses and support courses required prior to beginning the nursing aspect of the curriculum. These courses must be completed with a minimum of a C grade.

BIO-186	Microbiology .....	4 s.h.
BIO-151	Nutrition .....	3 s.h.
BIO-206	Anatomy and Physiology I and Lab** .....	4 s.h.
BIO-207	Anatomy and Physiology II and Lab** .....	4 s.h.
ENG-105	Composition I .....	3 s.h.
PSY-111	Introduction to Psychology .....	3 s.h.
PSY-121	Developmental Psychology .....	3 s.h.

### Prescribed Curriculum

#### First Term (Fall)

ADN-103	Nursing II .....	10 s.h.
		10 s.h.

#### Second Term (Spring)

ADN-603	Nursing III .....	12 s.h.
ENG-106	Composition II* .....	3 s.h.
		15 s.h.

#### Third Term (Fall)

ADN-604	Nursing IV .....	12 s.h.
SPC-112	Public Speaking* .....	3 s.h.
		15 s.h.

\*Prescribed support courses which may be taken prior to entering the program.

\*\* Anatomy Physiology I and II must be taken within 5 years of beginning the Nursing II course. Anatomy and Physiology I and II must be completed prior to entering ADN-103. Students enrolling in Anatomy and Physiology I or II should plan on taking both semesters of the sequence at NIACC or the same college.

NOTE: A current Basic Life Support CPR Certification (formerly Healthcare Provider CPR Certification) offered by the American Heart Association is required. The current certification/renewal needs to be completed prior to entry into the program. A yearly TB test is also required prior to entry into the program. Students must be current with these requirements or will not be allowed in the clinical area.

Students seeking entrance into the nursing program should be aware that nursing courses with a clinical component may not be taken by a person:

- who has been denied licensure by the Iowa Board of Nursing;
- whose licensure is currently suspended, surrendered or revoked in any United States jurisdiction;
- whose license/registration is currently suspended, surrendered or revoked in another country due to disciplinary action.

### Career Opportunities

- Hospitals, nursing facilities, and clinics
- Health maintenance organizations
- Private offices and clinics of doctors and dental surgeons
- Government agencies and the military
- Visiting nurse associations
- Community Healthcare agencies
- Temporary staffing agencies
- Entrepreneurial ventures

## Practical Nursing - Diploma

Practical Nursing is designed to prepare individuals to work in nursing situations which are relatively stable and unchanging. They are also prepared to assist experienced registered nurses and physicians in nursing situations that are complex and changing. Individuals considering enrollment or currently enrolled in the nursing program should be aware that prior felony convictions may prohibit eligibility for licensure upon completion of the program.

Students should be aware they may need to travel a distance for clinical experience and that some clinical experiences will be scheduled during evening/night hours and weekends. Drug testing may be required by individual agencies. Criminal background checks and adult/dependent abuse checks will be required for all incoming students. Results of the background and abuse checks will be reviewed to determine eligibility for clinical enrollment in the program. Costs for requirements will be the responsibility of the student.

### Entrance Requirements

The applicant must complete the application process through the health professions counselor located in the Student Development Office. Entrance requirements include the following criteria:

1. Completion of a high school diploma or equivalency program.
2. Completion of high school with a grade point average of 2.00 or higher. If enrolled in NIACC courses, must attain an overall 2.00 GPA to enter the PN program and maintain a 2.00 or higher throughout the time enrolled in the program.
3. Completion of one year of high school Biology, with a grade of C or higher, taken in the last five (5) years.
4. Completion of one year of high school Algebra I, with a grade of C or higher, taken in the last five (5) years.
5. Satisfactory COMPASS assessment test results in reading, writing, and math (these are administered by NIACC).
6. Approved applicants are accepted into the program based on the date of application.

### Nurse Aide Training:

Submit proof of completion of the 75-hour State of Iowa approved Certified Nurse Aide Program or equivalent. Submit proof of successful completion of Nurse Aide written and skills test for placement on the Direct Care Worker Registry. A transcript indicating the applicant passed both tests, or a Registry card will serve as verification.

Applicants who do not meet requirements or those with a poor academic history may meet entrance requirements by successfully completing approved college courses and/or increasing assessment test results in an approved manner. This should be discussed with the health professions counselor.

### Course Recommendations:

Six semesters of English are recommended prior to applying to the program. Since the NCLEX-PN exam is a computerized test, a computer class is strongly recommended. An application to the Practical Nursing program, high school transcript, GED scores (if applicable), and all college transcripts must be in the applicant's folder before the Admissions Committee takes action on acceptance into the Practical Nursing program. After acceptance, a physical examination providing evidence of current immunization and sound physical and mental health is required.

Applicants who have been previously enrolled in an approved nursing program may request consideration for advanced standing.

Students must successfully complete all course requirements for each semester before enrolling in the next semester.

Students who withdraw from the program must make formal application for reentry and upon acceptance will be considered on a space-available basis. After being accepted into the program, a student may delay entrance into the program no more than one (1) year. A student will be required to reapply to the program after this period of time. Readmission criteria is addressed in the PN Student Handbook. A student may reenter the program one time only.

Students must attain a C grade in all nursing courses and at least a C in prescribed support courses to continue sequential progression in the PN program. However, an overall 2.00 GPA in the prescribed curriculum and a minimum overall cumulative college grade point average of 2.00 is required for graduation from the PN program. If the student wishes to later seek application to the ADN program, see ADN option for Licensed Practical Nurses in the catalog.

Any transfer student applying for admission, who has been enrolled in a nursing curriculum other than NIACC will be required to meet with the Program Leader, Practical and Associate Degree Nursing, to discuss placement in the curriculum after the following items have been received from the transfer institution: course syllabi, clinical placement documentation (hour/sites) reflecting sufficient theory, clinical hours, and experiences comparable to the first year of the ADN curriculum. The student will also, upon written authorization, allow contact with instructors from the transfer institution regarding theory, clinical, and over all student conduct from the administrator of the nursing program at the transfer institution. Information acquired from these contacts will be considered in acceptance and proper placement into the NIACC nursing curriculum.

**Upon successful completion of the Practical Nursing curriculum, the student is awarded a Diploma and is eligible for the NCLEX-PN exam.** After passing this examination, the graduate receives licensed practical nurse status and is prepared to work in a beginning licensed practical nurse position under the supervision of qualified personnel. The program is approved by the Iowa Board of Nursing.

Students seeking entrance into the nursing program should be aware that nursing courses with a clinical component may not be taken by a person

- a) who has been denied licensure by the Iowa Board of Nursing;
- b) whose licensure is currently suspended, surrendered or revoked in any United States jurisdiction;
- c) whose license/registration is currently suspended, surrendered or revoked in another country due to disciplinary action.



## Practical Nursing (Continued)

### Required Courses/Suggested Schedule

#### First Year

##### *First Term (Summer - 6 weeks)*

ENG-105	Composition I*	3 s.h.
HSC-150	Body Structure and Function** OR Anatomy and Physiology I and II	4 s.h.
PNN-603	Practical Nursing I	4 s.h. 11 s.h.

#### Second Term (Fall)

PNN-604	Practical Nursing II	13 s.h.
PSY-111	Introduction to Psychology*	3 s.h. 16 s.h.

#### Third Term (Spring)

PNN-607	Practical Nursing III	13 s.h.
PSY-121	Developmental Psychology*	3 s.h. 16 s.h.

**Total Program Hours                      43 s.h.**

\*Prescribed support courses which may be taken prior to entering the nursing program. If a support course is being taken in the same sequence with a nursing course, both the support course and the nursing course must be successfully completed to continue in the program.

\*\*Body Structure and Function must be completed within five years of beginning the nursing component of the curriculum.

NOTE: A current Basic Life Support (formerly Healthcare Provider (CPR) Certification) offered by the American Heart Association is required. The current certification/renewal needs to be completed prior to the fall term or any reentry into the program. A yearly TB test is also required prior to the Fall term or any reentry into the program. Students must be current with these requirements or will not be allowed in the clinical area.

### Career Opportunities

Licensed Practical Nurses work in:

- Hospitals, nursing homes, clinics, and other healthcare facilities
- Health maintenance organizations
- Private doctors' offices
- Public health agencies
- Home healthcare services
- Government agencies
- Welfare and religious organizations
- Nurses registries and temporary health agencies
- Private duty

Licensed Practical Nurses work with:

- Patients and their families
- Thermometers, stethoscopes, and other medical equipment
- Bandages, catheters, and other medical supplies
- Patients' records and charts
- Various types of medication
- Physicians' orders
- Appointment books

## Physical Therapist Assistant - Degree

The Physical Therapist Assistant program is designed to prepare individuals to work under the supervision of a Physical Therapist in the delivery of physical therapy services. Responsibilities include: implementing treatment programs according to the Physical Therapist's plan of care, training patients in exercises and activities of daily living, administering modalities such as ultrasound, electrical stimulation, and other treatment procedures, and communicating with the Physical Therapist on the patient's progress.

The program is two academic years in length including one summer. Students must attain a C grade in all PTA courses, achieve a "pass" grade in all clinical assignments, and a C grade in all support courses to progress through the program. **Although the program has specific requirements regarding the program completion, in order to be eligible for graduation from the College, all students must achieve a minimum overall cumulative GPA of 2.00. Upon successful completion of the PTA curriculum, the student is awarded an Associate in Applied Science Degree.** In order for the graduate to practice physical therapy, a license is required in most states. The PTA program at North Iowa Area Community College is accredited by the Commission on Accreditation in Physical Therapy Education (CAPTE), 1111 North Fairfax Street, Alexandria, VA 22314, telephone: 703-706-3245, e-mail: [accreditation@apta.org](mailto:accreditation@apta.org), website: [www.captionline.org](http://www.captionline.org); and, therefore, graduates of the program are eligible to take the national licensure examination.



### Entrance Requirements

The applicant must complete the application process through the health professions counselor located in the Student Development Office. Entrance requirements include the following criteria:

1. Have a high school diploma or its equivalent.
2. Meet two of the three following criteria:
  - a. Graduated in the upper half of the high school class.
  - b. Graduated from high school with a minimum of a 3.00 GPA.
  - c. Achieved an ACT composite score of 20 or higher.

Applicants who do not meet the above requirements or those with a poor academic history may meet entrance requirements by successfully completing approved college courses with a cumulative GPA of 2.00. This should be discussed with the health professions counselor.

3. Documented evidence of 12 hours of observation time in a physical therapy setting. When an applicant applies to the program, a required form will need to be used to document these hours. This form is available through Student Services.

An applicant's file will not be reviewed until all application criteria have been submitted.

### Prerequisites

The following courses must be completed with a grade of C or higher prior to entering the program:

#### Mathematics:

- Four semesters of high school/college preparatory math (e.g., Algebra I, Algebra II, Geometry)

#### Science:

- Two semesters of high school/college preparatory biology
- Two semesters of high school/college preparatory chemistry or physics

**New requirement for students accepted into the Fall 2016 Physical Therapist Assistant program:** The following NIACC courses must be completed in the Term 0 with a grade of C or higher prior to entering the program.

- BIO-206 Anatomy and Physiology I (4 s.h.)\*
- ENG-105 Composition I (3 s.h.)

\*Note: BIO-207 Anatomy and Physiology II, required after entry into the program, must be completed at the same institution in which BIO-206 Anatomy and Physiology I was completed.

After acceptance, a physical examination documenting current immunization and abilities to perform program requirements is needed. Students are also required to obtain CPR certification for the adult, child, and infant. CPR certification must be kept current while in the program. In addition, criminal background checks and adult/dependent abuse checks will also be required. Results of these checks will be used by contracted clinical facilities to determine clinical eligibility. Costs for requirements will be the responsibility of the student.

Students who withdraw from the program must make formal application for reentry and upon acceptance will be considered on a space-available basis. Readmission criteria is addressed in the PTA Student Handbook. A student may reenter the PTA program once. After being accepted into the program, a student may delay entrance into the program no more than two (2) years. A student will be required to reapply to the program after this period of time.

Further information regarding progression in the program and specific program policies is provided to the student in the PTA program Student Handbook. Students are provided this handbook the first week of classes. Students are encouraged to refer to this handbook throughout the program.

## Physical Therapist Assistant (Continued)

### Required Courses/Suggested Schedule

#### Term 0

BIO-206	Anatomy and Physiology I*	4 s.h.
ENG-105	Composition I*	3 s.h.
		<b>7 s.h.</b>

(Both courses above must be completed with a C or higher grade)

#### First Year

##### First Term (Fall)

BIO-207	Anatomy and Physiology II*	4 s.h.
HSC-120	Medical Terminology*	3 s.h.
PSY-111	Introduction to Psychology*++	3 s.h.
PTA-101	Introduction to PTA	2 s.h.
PTA-110	Fundamentals for PTA	3 s.h.
		<b>15 s.h.</b>

##### Second Term (Spring)

ENG-106	Composition II*	3 s.h.
PTA-120	Kinesiology*	3 s.h.
PTA-141	Developmental Processes	3 s.h.
PTA-190	Physical Agents	4 s.h.
		<b>13 s.h.</b>

##### Third Term (Summer - 7 weeks)

PTA-150	Pathophysiology	3 s.h.
PTA-162	PTA Assessment Procedures	3 s.h.
PTA-500	PTA Clinic I (3 weeks)	2 s.h.
		<b>8 s.h.</b>

#### Second Year

##### Fourth Term (Fall)

PSY-121	Developmental Psychology*	3 s.h.
PTA-210	Orthopedics	3 s.h.
PTA-231	Therapeutic Exercise for PTA	3 s.h.
PTA-241	Neurology for PTA	4 s.h.
PTA-250	PTA Career Essentials	2 s.h.
		<b>15 s.h.</b>

##### Fifth Term (Spring)

PTA-280	PTA Seminar	1 s.h.
PTA-501	PTA Clinic II (8 weeks)	7 s.h.
PTA-502	PTA Clinic III (6 weeks)	5 s.h.
		<b>13 s.h.</b>

#### Total Program Hours

**71 s.h.**

++Once enrolled in the program, courses must be taken in the identified sequence with the exception of the following: Medical Terminology must be completed prior to Term III. Introduction to Psychology must be completed prior to Term IV. PSY-121 Development Psychology may be taken any time prior to Term V.

The student should be aware that clinicals necessitate travel to various hospitals and clinics and may necessitate housing expenses. Each individual clinical site may have specific requirements that vary (e.g., 10-hour days, background checks, drug testing, agency specific orientations, urinalysis tests). The student is responsible for all costs and must comply with clinical requirements in order to be provided with an affiliation.

### Career Opportunities

Physical Therapist Assistants are employed at a variety of settings including but not limited to the following: hospitals, skilled nursing facilities, clinics, private practice clinics, rehabilitation centers, intermediate care facilities, residential facilities for children with disabilities, home health agencies, sports injury clinics, long-term care facilities, outpatient facilities, research centers, industrial settings, health maintenance organizations, academic institutions, and schools. Physical Therapist Assistants work with: prostheses (artificial limbs), orthoses (artificial supports); braces, canes, crutches, and walkers; wheelchairs; traction equipment, exercise equipment such as lifts, weights, and parallel bars; medical records.

\*Courses which may be taken prior to entering the program, but prerequisites may need to be taken. Note that Anatomy and Physiology must be taken within five years of beginning the program. Note that Kinesiology must be taken within three years of beginning the program. Students must earn a "C" or higher in BIO-206, Anatomy and Physiology I, prior to taking Kinesiology.

## Radiologic Technology - Degree

A Radiologic Technology (x-ray) program prepares radiographers to take x-rays of all parts of the human body for the purpose of diagnosing medical problems. Radiographers position the patients, who either lie on a table, sit, or stand, so that the correct parts of the body can be radiographed. In addition, radiographers may take portable radiographs in areas of the hospital that include the emergency room, operating room, intensive care unit, and patient care units. Radiologic Technologists work with ionizing radiation and learn proper procedures to protect themselves and their patients from unnecessary radiation exposure. The radiographer must use sterile technique, maintain records, assist with special procedures, and administer contrast media via multiple routes, including intravenous routes. Transfer and positioning activities are integrated throughout the program. Radiographers must be reliable, have mechanical aptitude and possess good communication skills.

**An Associate in Applied Science Degree in Radiologic Technology will be awarded to students who complete degree requirements.** This Degree will be granted exclusively to students enrolled in the Mercy Medical Center-North Iowa Radiologic Technology curriculum. The program is designed to be completed within the required two-year time period. An Associate of Arts degree may be obtained from NIACC with the completion of additional general education credits. Graduates are eligible to take the American Registry of Radiologic Technology certification exam. The program is accredited by JRCERT.

### Entrance Requirements

The applicant must complete the application forms which can be found on the Mercy Medical Center--North Iowa website ([www.mercynorthiowa.com/xrayschool](http://www.mercynorthiowa.com/xrayschool)) and contact the NIACC health professions counselor located in the Student Development Office. Mercy's application deadline is January 15 each year.

### Application Information

**In order to apply, the following must be met:**

1. All applicants **MUST** be United States citizens or permanent resident.
2. All applicants must be at least 18 years of age by the start date of the program.
3. All applicants must have graduated from an accredited high school or have passed a standard equivalent program.
4. All applicants must have attended one of the information sessions held by Mercy Medical Center-North Iowa.

Meeting the admission requirements does not guarantee acceptance into the Mercy Radiologic Technology program. Top applicants will be granted an interview at Mercy. The points-based selection process includes:

- Academics: Progress or completion of college A&P I and II with labs. Progress towards a college degree (minimum Associate). Minimum 2.5 GPA, minimum ACT score of 18 (high school graduates who have not taken the ACT before do not need to take) and achievements in health/anatomy/science/math related courses.
- Interview: Including interpersonal skills and suitability for success in the practice of this profession.
- Supporting Information: Including health-care related experiences, references, and essay.

For the top candidates selected by Mercy, final acceptance is contingent upon successful completion of the rest of the prerequisite courses listed in the curriculum section prior to the start of the program and successful completion of a physical exam, drug screen, background check, and post-offer screen **no sooner** than 30 days prior to the start of Radiologic Technology classes at Mercy Medical Center-

North Iowa. In addition, proof of CPR/BLS certification from either the American Heart Association's BLS: Healthcare Provider or the American Red Cross's Professional Rescuer prior to program start date must be provided.

There is no waiting list. Applicants who are not accepted and wish to be considered for the following year must re-apply. This includes applicants chosen as alternate candidates who did not start the program in that year.

### Program Completion

The American Registry of Radiologic Technologists (ARRT) requires radiologic technology graduates to have an Associates Degree or higher prior to taking the national certification exam. The degree does not need to be in Radiation Sciences and can be completed prior to or during the x-ray program. Therefore, Mercy Radiologic Technology program students must have a minimum of an Associate Degree to complete the program. There are several paths to fulfilling this:

1. Mercy and NIACC courses as stated in the curriculum section.
2. Prior degree from any accredited post-secondary institution.\*\*
3. Finishing a degree from any accredited post-secondary institution; degree-progression plan must be approved by the Program Director.\*\*

\*Must include a college Medical Terminology I course, (minimum of 2 s.h.) with a minimum grade of C.

\*Anatomy and Physiology I and II with labs, with a minimum grade of C (prerequisites - See Curriculum section). The above courses should be within the last five years and both Anatomy and Physiology courses at the same institution to ensure complete sequencing of information.

Options #1 and #3: Students wanting to complete general education courses past Mercy's second term will need to seek faculty approval and be evaluated on a case-by-case basis. No student will be allowed to go beyond **30 days of the completion of the Radiologic Technology program** as it would greatly impact the student's ability to successfully pass the ARRT certification exam.

Option #1: The NIACC A.A.S. Degree in Radiologic Technology requires a minimum of 17 s.h. of college-level general education courses (developmental courses do NOT qualify) and 3 s.h. of Medical Terminology. For applicants with significant non-NIACC college credits: even if previous courses transfer to NIACC, a minimum of 20 s.h. at NIACC is required to fulfill the A.A.S. Radiologic Technology Degree. Students must maintain a 2.00 to satisfy NIACC degree requirements. It is recommended that you have as many as possible of the required 20 s.h. completed prior to beginning the Mercy Radiologic Technology program. Continuation in the Mercy program is dependent upon successful progression on the NIACC courses as listed in the curriculum section.



## Radiologic Technology (Continued)

### Required Courses/Suggested Schedule

Students must obtain a minimum grade of C (2.00) in the NIACC courses.

#### Required Courses/Suggested Schedule

Students must obtain a minimum grade of C (2.00) in following courses.

#### Prerequisites: Prior to First Term

BIO-206 Anatomy and Physiology I with Lab*+ NIACC)	4 s.h.
BIO-207 Anatomy and Physiology II with Lab* NIACC)	4 s.h.
HSC-120 Medical Terminology I NIACC)	3 s.h.
**NIACC General Education elective	3-4 s.h.
	14-15 s.h.

Potential substitutions must be approved by the NIACC Health Professions counselor.

\*Students should plan to take A&P I and A&P II at the same institution to eliminate gaps in content.

+May exchange with NIACC course in Term I.

\*\*Choose from the list of Required NIACC General Education Electives

#### First Year

##### First Term (Fall)

Radiation Protection (Mercy)	1 s.h.
Introduction to Radiologic Technology and Patient Care (Mercy)	2 s.h.
Radiographic Image Critique I (Mercy)	2 s.h.
Radiographic Procedures I with Lab (Mercy)	3 s.h.
Clinical I (Mercy)	4 s.h.
**NIACC General Education elective	3 s.h.
	15 s.h.

##### Second Term (Spring)

Principles of Imaging (Mercy)	2 s.h.
Radiation Protection and Biology (Mercy)	1 s.h.
Radiographic Image Critique II (Mercy)	2 s.h.
Radiographic Procedures II with Lab (Mercy)	3 s.h.
Clinical II (Mercy)	6 s.h.
**NIACC General Education elective	3 s.h.
	17 s.h.

##### Third Term (Summer)

Medical Ethics and Legal Concerns (Mercy)	1 s.h.
Radiation Production (Mercy)	1 s.h.
Radiographic Procedures III with Lab (Mercy)	1.5 s.h.
Clinical III (Mercy)	6 s.h.
	9.5 s.h.

#### Second Year

##### Fourth Term (Fall)

RAD-764 Pharmacology for Radiographers (Mercy)	1 s.h.
Radiographic Image Processing (Mercy)	2 s.h.
Imaging Equipment and Quality Management (Mercy)	1 s.h.
Radiographic Procedures IV with Lab (Mercy)	3.5 s.h.
Clinical IV (Mercy)	5 s.h.
	12.5 s.h.

##### Fifth Term (Spring)

RAD-573 Clinical V (Mercy)	6 s.h.
RAD-744 Radiographic Pathology (Mercy)	2 s.h.
RAD-767 Radiographic Procedures V (Mercy)	2 s.h.
RAD-901 Registry Review (Mercy)	2 s.h.
	12 s.h.

##### Sixth Term (Summer)

RAD-576 Clinical VI (Mercy)	5 s.h.
	5 s.h.

**Total Program Hours**

**85-86**

### \*\*Required NIACC General Education Electives

By the end of Term 2, students must have completed a total of 9 s.h. with 3 s.h. from each of the General Education categories: Math, Social Science/Humanities, and Communications.

Math (choose 3 s.h. from the following):

MAT-110 Math for Liberal Arts (NIACC)	3 s.h.
OR MAT-121 College Algebra (NIACC)	4 s.h.
OR MAT-156 Introduction to Statistics (NIACC)	3 s.h.

Social Science/Humanities (choose 3 s.h. from the following):

PHI-105 Introduction to Ethics (NIACC)	3 s.h.
OR PSY-111 Introduction to Psychology (NIACC)	3 s.h.
OR PSY-121 Developmental Psychology (NIACC)	3 s.h.
OR SOC-110 Introduction to Sociology (NIACC)	

Communications:

ENG-105 Composition 1 (NIACC)	3 s.h.
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Potential substitutions must be approved by the NIACC Health Professions counselor.



### Career Opportunities

Radiologic Technologists work for:

- Hospitals and clinics
- Privately-owned facilities
- Physician's offices that provide radiological services

## Physical Fitness and Wellness

The Physical Fitness and Wellness program prepares students for direct employment or ongoing study in these fields. Graduates may find employment working with people of all ages with diverse backgrounds in such areas as health and fitness, municipal parks, commercial recreation, nonprofit settings, community agencies, tourism, and outdoor recreation. The program focuses on direct service programming as it relates to physical fitness and wellness for both the individual and groups.



### Physical Fitness and Wellness - Diploma

The intent of the Physical Fitness and Wellness Diploma is to provide a foundation for students interested in group fitness and/or becoming a personal trainer. National Certification is available through the American Council of Exercise (ACE).

**Upon successful completion of the Physical Fitness and Wellness curriculum with a grade point average of 2.00 (C) or higher, the student is awarded a Diploma.**

#### Required Courses/Suggested Schedule

##### **First Term (Fall Semester)**

PEC-127	Care and Prevention of Athletic Injuries.....	2 s.h.
PEH-111	Personal Wellness .....	3 s.h.
PEH-140	First Aid .....	1 s.h.
PEH-144	Human Movement Science.....	3 s.h.
PEH-161	Introduction to Physical Education.....	2 s.h.
	Physical Education Activity Elective(s).....	2 s.h.
	Recommended Elective(s).....	3 s.h.
		<b>16 s.h.</b>

##### **Second Term (Spring Semester)**

BIO-151	Nutrition.....	3 s.h.
	OR PEH-191 Sports Nutrition (3 s.h.)	
PEH-261	Physical Activity for Health and Fitness .....	3 s.h.
PET-135	Personal Trainer.....	3 s.h.
PSY-102	Human and Work Relations.....	3 s.h.
	OR BUS-162 Workplace Professionalism (3 s.h.)	
	Physical Education Activity Elective.....	1 s.h.
	Recommended Elective(s).....	3 s.h.
		<b>16 s.h.</b>

**Total Program Hours 32 s.h.**

#### **Recommended Physical Education Activity Electives:**

PEA-127	Beginning Jogging .....	1 s.h.
PEA-130	Downhill Skiing.....	1 s.h.
PEA-146	Physical Fitness I.....	1 s.h.
PEA-174	Tennis I.....	1 s.h.
PEA-187	Weight Training I.....	1 s.h.
PEA-190	Yoga/Stretching I.....	1 s.h.

#### **Recommended Electives:**

BIO-152	Health and Nutrition .....	3 s.h.
BIO-206	Anatomy and Physiology I.....	4 s.h.
BIO-207	Anatomy and Physiology II .....	4 s.h.
HSC-150	Body Structure and Function .....	4 s.h.
MKT-110	Principles of Marketing.....	3 s.h.
PEH-180	Rape Education and Self Defense.....	2 s.h.
PEH-221	Introduction to Leisure Services.....	3 s.h.
PEH-908	Cooperative Education Internship.....	1-3 s.h.
PET-110	Introduction to Athletic Training.....	2 s.h.
PTA-120	Kinesiology.....	3 s.h.

### Physical Fitness and Wellness - Certificate

The Physical Fitness and Wellness Certificate is intended for individuals desiring an introduction to health and wellness.

**Upon successful completion of the Physical Fitness and Wellness curriculum with a grade point average of 2.00 (C) or higher, the student is awarded a Certificate.**

#### Required Courses

BIO-151	Nutrition.....	3 s.h.
	OR PEH-191 Sports Nutrition (3 s.h.)	
PEC-127	Care and Prevention of Athletic Injuries.....	2 s.h.
PEH-111	Personal Wellness .....	3 s.h.
PEH-140	First Aid .....	1 s.h.
PEH-144	Human Movement Science.....	3 s.h.
	Emphasis Area Courses .....	5 s.h.

**Total Hours 17 s.h.**

#### Emphasis Area Courses:

##### **Fitness/Wellness**

PEH-261	Physical Activity for Health and Fitness.....	3 s.h.
PEA-187	Weight Training I.....	1 s.h.
PEA-XXX	Physical Education Activity Elective * .....	1 s.h.
	Emphasis Total.....	5 s.h.

##### **Coaching**

PEC-110	Coaching Ethics, Techniques and Theory.....	1 s.h.
PEC-115	Athletic Development and Human Growth.....	1 s.h.
PEC-161	Sports Officiating.....	3 s.h.
	Emphasis Total.....	5 s.h.

\*For a complete list of Physical Education Activities courses, see page 100.

## Coaching Authorization

A coach is a person who holds a coaching authorization or coaching endorsement from the Iowa Board of Educational Examiners, and who diagnoses, prescribes, evaluates, assists, or directs student learning of an interscholastic athletic endeavor at a practice session or on the field of competition. The coaching authorization class sequence is offered online throughout the year.

Upon completion of the curriculum, the student shall submit records of credit to:

Iowa Board of Educational Examiners Licensure  
Grimes State Office Building  
400 E. 14th St.  
Des Moines, IA 50319-0147  
Phone: 515-281-3245

For additional information, please see the NIACC website:  
[http://www.niacctrojans.com/f/Coaching\\_Authorization.php](http://www.niacctrojans.com/f/Coaching_Authorization.php).

### Required Courses

PEC-110	Coaching Ethics, Techniques, and Theory.....	1 s.h.
PEC-115	Athletic Development and Human Growth.....	1 s.h.
PEC-122	Introduction to Anatomy and Physiology for Coaching .....	1 s.h.
PEC-127	Care and Prevention of Athletic Injuries.....	2 s.h.

<b>Total Hours</b>	<b>5 s.h.</b>
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### Recommended:

PEC-161	Sports Officiating.....	3 s.h.
PEC-101	Introduction to Coaching .....	3 s.h.



# Industrial Technology



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## Architecture & Construction

Building Trades	86
Heating & Air Conditioning Technology	87



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## Manufacturing

General Machinist	88
Industrial Systems Technology	89
Industrial Technology	90
Tool and Die Technology	88
Welding	91



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## Transportation, Distribution & Logistics

Automotive Service Technology	84
Diesel Technology	85



The NIACC Industrial Division offers a variety of programs in conjunction with state-of-the-art equipment. In the process of earning a quality education from highly skilled instructors, students also become a part of the NIACC Industrial Technology family. One of the benefits to being a part of the Industrial Technology family is that we not only provide world-class training, but also make sure that our students have world-class opportunities.

Graduates of the Industrial programs are not just any graduate, they are skilled scholars. Our comprehensive programs teach students the technical skills needed to succeed as well as the soft skills valued by today's employers. Through our wide variety of programs, students gain the skills needed to pursue a rewarding career in Automotive Technology, Diesel Technology, Building Trades, HVAC, Industrial Technology, Manufacturing Technology, Welding, and more. A variety of credentials are offered including certificates, diplomas, and Associate degrees, as well as the opportunity to gain certification in the National Institute for Metalworking Skills exam for Materials, Measurement and Safety.





## Automotive Service Technology - Diploma/Degree

Automotive Service Technology is a 4 1/2 semester Associate in Applied Science (A.A.S.) Degree program. The program is ASE/NATEF Master Certified. All eight instructional areas meet industry and educational standards as identified by Automotive Service Excellence and evaluated by the National Automotive Technicians Education Foundation:



- Engine Repair
- Automatic Transmission/Transaxle
- Manual Drive Train and Axles
- Suspension and Steering
- Brakes
- Electrical/Electronic Systems
- Heating and Air Conditioning
- Engine Performance

Upon successful completion of the first three terms of the Automotive Service Technology curriculum with a cumulative grade point average of 2.00 (C) or higher, the student is awarded a Diploma. Developmental courses are not used in calculating the cumulative grade point average for graduation.

Students must achieve a minimum grade point average of 2.00 (C) in the core automotive courses in order to continue to the second year of the program. Upon successful completion of the Automotive Service Technology curriculum with a grade point average of 2.00 (C) or higher, the student is awarded an Associate in Applied Science Degree.

### Entrance Advising:

Due to the highly technical nature of the Automotive programs and NIACC's commitment to giving students the best possible opportunity for success, students will be scheduled for advisement sessions with counselors and program personnel. In these sessions, the student's career plans, previous background, transcriptions, test scores, life experiences, and motivation will aid in designing a positive educational experience.

### Required Courses/Suggested Schedule

#### First Year

##### First Term (Fall Semester)

AUT-105	Introduction to Automotive Technology	4 s.h.
AUT-113	Transportation Fundamentals	3 s.h.
AUT-115	Automotive Shop Safety	1 s.h.
AUT-627	Automotive Electrical Systems*	7 s.h.
		15 s.h.

##### Second Term (Spring Semester)

AUT-405	Automotive Suspension and Steering**	5 s.h.
AUT-505	Automotive Brake Systems**	5 s.h.
ENG-701	Communications I	3 s.h.
MAT-801	Applied Math A***	1 s.h.
MAT-802	Applied Math B****	1 s.h.
MAT-803	Applied Math C*****	1 s.h.
		16 s.h.

#### Third Term (Summer)

AUT-305	Automotive Manual Drive Train & Axles**	4 s.h.
AUT-704	Automotive Heating & Air-Conditioning**	4 s.h.
		8 s.h.

#### Second Year

##### Fourth Term (Fall Semester)

AUT-164	Automotive Engine Repair**	4 s.h.
AUT-204	Automotive Automatic Transmissions and Transaxles**	4 s.h.
AUT-843	Automotive Computerized Controls+	5 s.h.
BUS-162	Workplace Professionalism	3 s.h.
BUS-130	Introduction to Entrepreneurship	3 s.h.
OR Other General Education elective course (3 s.h.)		3 s.h.
		19 s.h.

##### Fifth Term (Spring Semester)

AUT-832	Automotive Fuel Delivery Systems++	3 s.h.
AUT-859	Advanced Automotive Engine Performance++	6 s.h.
AUT-866	Automotive Engine Performance Testing++	6 s.h.
ENG-702	Communications II+++	3 s.h.
		18 s.h.

#### Total Program Hours

76 s.h.

\*Corequisites: AUT-105 Introduction to Automotive Technology and AUT-115 Automotive Shop Safety or permission by the instructor.

\*\*Prerequisites: AUT-105 Introduction to Automotive Technology and AUT-115 Automotive Shop Safety or permission by the instructor.

\*\*\*Prerequisite: COMPASS Pre-Algebra score of at least 49, or ACT math score of at least 16, or MAT-063 Pre-Algebra with a grade of C or higher, or Accuplacer Arithmetic score of at least 59, or Accuplacer Elementary Algebra score of at least 50, or Accuplacer College Math score of at least 21.

\*\*\*\*Prerequisite: COMPASS Pre-Algebra score of at least 49, or ACT math score of at least 16, or MAT-063 Pre-Algebra with a grade of C or higher, or Accuplacer Arithmetic score of at least 59, or Accuplacer Elementary Algebra score of at least 50, or Accuplacer College Math score of at least 21.

\*\*\*\*\*Prerequisite: MAT-801 Applied Math A and MAT-802 Applied Math B with a grade of C or higher, or Accuplacer Arithmetic score of at least 59, or Accuplacer Elementary Algebra score of at least 50, or Accuplacer College Math score of at least 21.

+Prerequisites: AUT-105 Introduction to Automotive Technology, AUT-115 Automotive Shop Safety, and AUT-627 Automotive Electrical Systems or permission by the instructor.

++Prerequisite: AUT-105 Introduction to Automotive Technology, AUT-115 Automotive Shop Safety, and AUT-843 Automotive Computerized Controls or permission by the instructor.

+++Prerequisite: ENG-701 Communications I.

For a list of General Education Electives, see pages 96-98.

### Automotive Program Goal

Prepare individuals for employment in the automotive service industry by:

- Maintaining an environment that is conducive to learning.
- Offering curriculum that reflects current industry requirements.
- Delivering classroom instruction that encourages analytical thinking.
- Providing laboratory experience that utilizes technical and problem-solving skills.
- Promoting workmanship that meets or exceeds industry standards.

### Career Opportunities

Technicians are employed at automotive dealerships and independent service/repair facilities as general (line) technicians or as specialty technicians.

## Diesel Technology - Degree

The Diesel Technology program is designed to provide training in the diagnosis, repair, and maintenance of heavy-duty agricultural equipment, over-the-road diesel trucks, and other heavy-duty diesel systems. The Diesel Technology program will provide training in entry-level skills of mechanical, electrical and fuel systems, power trains, brake systems, air conditioning, welding and hydraulics.

Upon successful completion of the Diesel Technology curriculum with a grade point average of 2.00 (C) or higher, the student is awarded an Associate in Applied Science Degree.

### Entrance Advising:

Due to the highly technical nature of the Diesel program and NIACC's commitment to giving students the best possible opportunity for success, students will be scheduled for advisement sessions with counselors and program personnel. In these sessions, the student's career plans, previous background, transcriptions, test scores, life experiences, and motivation will aid in designing a positive educational experience.



### Career Opportunities

Completion of this program prepares graduates for employment in various occupational areas:

- Construction companies
- Consumer product dealerships
- Engine machine shops
- Farm agricultural repair shops
- Heavy equipment shops
- Independent repair shops
- Truck stops

### Required Courses/Suggested Schedule

#### First Year

##### First Term (Fall Semester)

AUT-113	Transportation Fundamentals .....	3 s.h.
DSL-101	Diesel Shop Safety .....	1 s.h.
DSL-636	Air Systems and Brakes* .....	4 s.h.
DSL-644	Steering and Suspension* .....	4 s.h.
		12 s.h.

##### Second Term (Spring Semester)

DSL-142	Electrical Systems** .....	3 s.h.
DSL-356	Diesel Engines I** .....	6 s.h.
ENG-701	Communications I .....	3 s.h.
MAT-801	Applied Math A*** .....	1 s.h.
MAT-802	Applied Math B**** .....	1 s.h.
MAT-803	Applied Math C**** .....	1 s.h.
		15 s.h.

##### Third Term (Summer)

AUT-704	Automotive Heating and Air Conditioning+ .....	4 s.h.
DSL-806	Class A CDL Driving Course+ .....	4 s.h.
		8 s.h.

#### Second Year

##### Fourth Term (Fall Semester)

DSL-428	Electronic Engine Controls** .....	6 s.h.
DSL-445	Diesel Fuel Systems** .....	3 s.h.
BUS-162	Workplace Professionalism .....	3 s.h.
BUS-130	Introduction to Entrepreneurship .....	3 s.h.
	OR Other General Education elective course (3 s.h.) .....	
		15 s.h.

##### Fifth Term (Spring Semester)

BUS-162	Workplace Professionalism .....	3 s.h.
DSL-834	Preventative Maintenance /Inspections** .....	5 s.h.
DSL-534	Drive Trains** .....	4 s.h.
ELT-790	Fluid Power++ .....	3 s.h.
ENG-702	Communications II+++ .....	3 s.h.
		15 s.h.

#### Total Program Hours

**65 s.h.**

\*Corequisite: DSL-101 Diesel Shop Safety

\*\*Prerequisite: DSL-101 Diesel Shop Safety

\*\*\*Prerequisite: COMPASS Pre-Algebra score of at least 49, or ACT math score of at least 16, or MAT-063 Pre-Algebra with a grade of C or higher, or Accuplacer Arithmetic score of at least 59, or Accuplacer Elementary Algebra score of at least 50, or Accuplacer College Math score of at least 21.

\*\*\*\*Prerequisite: COMPASS Pre-Algebra score of at least 49, or ACT math score of at least 16, or MAT-063 Pre-Algebra with a grade of C or higher, or Accuplacer Arithmetic score of at least 59, or Accuplacer Elementary Algebra score of at least 50, or Accuplacer College Math score of at least 21.

\*\*\*\*\*Prerequisite: MAT-801 Applied Math A and MAT-802 Applied Math B with a grade of C or higher, or Accuplacer Arithmetic score of at least 59, or Accuplacer Elementary Algebra score of at least 50, or Accuplacer College Math score of at least 21.

+ Prerequisite: DSL-101 Diesel Shop Safety or permission of the instructor.

++Prerequisite/Corequisite: MAT-801 Applied Math A, MAT-802 Applied Math B, MAT-803 Applied Math C, and MAT-804 Applied Math D, or permission of instructor.

+++Prerequisite: ENG-702 Communications II.

For a list of General Education Electives, see pages 96-98.

## Building Trades - Diploma

Building Trades is a Diploma program designed for individuals interested in a career in residential, commercial, or industrial building construction. Residential construction involves the building or remodeling of houses, condominiums, or apartment complexes. These structures are primarily wood frame construction. Commercial construction involves the building of single-story office buildings, stores, or restaurants. These structures often use light gauge metal framing in addition to wood construction. Industrial construction includes the building of factories, hospitals, schools, or multistory office buildings. These structures may be constructed of concrete, masonry, structural steel, or a combination of materials.



Building Trades program students learn and develop skills through a combination of classroom-structured units, manipulative lab projects, and mentored job experiences. Classroom units provide students with necessary information on safety, blueprint reading, and craft work processes. Manipulative projects provide students the opportunity to learn craft skills at their own pace in a mock job site setting. NIACC Building Trades students will have opportunities for nationally-recognized certifications including NCCER, OSHA, and other optional industry-related certifications. The Building Trades Lab is a state-of-the-art facility where students learn in an individualized, competency-based setting, mastering skills by constructing manipulative projects. Mentored job experiences provide students the opportunity to apply learned skills as well as develop new skills while working under the guiding supervision of skilled contractors on job sites around North Iowa.

Incoming students are eligible to compete for scholarships through the Tom and Linda Schaefer Endowment Fund, which provides twelve \$1,500 scholarships each year for NIACC Building Trades students. Graduating students are eligible to compete for a \$500 scholarship awarded each semester by the North Iowa Area Builders Exchange. **Upon successful completion of the Building Trades curriculum with a grade point average of 2.00 (C) or higher, the student is awarded a Diploma.**

Courses are structured so that students enter the Building Trades program in the Fall semester.

### Required Courses/Suggested Schedule

#### First Year

##### First Term (Fall Semester)

BCA-100	Computer Literacy.....	1 s.h.
CAD-216	Architectural CADD.....	2 s.h.
CON-107	Construction Safety.....	2 s.h.
CON-110	Construction Drawing.....	1 s.h.
CON-121	Carpentry Fundamentals I.....	4 s.h.
CON-123	Carpentry Fundamentals II*.....	4 s.h.
MAT-801	Applied Math A**.....	1 s.h.
MAT-802	Applied Math B***.....	1 s.h.
		16 s.h.

##### Second Term (Spring Semester)

CON-112	Blueprint Reading and Estimating.....	3 s.h.
CON-255	Carpentry I****.....	4 s.h.
CON-256	Carpentry II*****.....	4 s.h.
ENG-701	Communications I.....	3 s.h.
SDV-135	Job Seeking Skills.....	1 s.h.
		15 s.h.

##### Third Term (Summer)

CON-117	Building Codes and Standards.....	2 s.h.
CON-272	Commercial Construction.....	3 s.h.
SDV-210	Cooperative Education Internship.....	2 s.h.
		7 s.h.

**Total Program Hours** **38 s.h**

\*Prerequisite: CON-121 Carpentry Fundamentals I.

\*\*Prerequisite: COMPASS Pre-Algebra score of at least 49, or ACT math score of at least 16, or MAT-063 Pre-Algebra with a grade of C or higher, or Accuplacer Arithmetic score of at least 59, or Accuplacer Elementary Algebra score of at least 50, or Accuplacer College Math score of at least 21.

\*\*\*Prerequisite: COMPASS Pre-Algebra score of at least 49, or ACT math score of at least 16, or MAT-063 Pre-Algebra with a grade of C or higher, or Accuplacer Arithmetic score of at least 59, or Accuplacer Elementary Algebra score of at least 50, or Accuplacer College Math score of at least 21.

\*\*\*\*Prerequisites: CON-121 Carpentry Fundamentals I and CON-123 Carpentry Fundamentals II.

\*\*\*\*\*Prerequisite: CON-255 Carpentry I.

#### Other Elective Carpentry Courses:

CON-305	Cabinetry and Millwork.....	3 s.h.
CON-315	Guitar Building.....	2 s.h.
CON-949	Special Topics in Carpentry.....	1 to 4 s.h.

### Career Opportunities

Completion of this program prepares graduates to enter the construction industry as carpenters, with the basic skills to work in residential, commercial, or industrial construction. You will learn the skills necessary to perform work processes in:

- Concrete Formwork
- Framing
- Exterior Finish
- Interior Finish
- Interior Systems
- Cabinetry and Millwork

For specific information contact the NIACC Industrial Division.

## Heating and Air Conditioning Technology - Diploma/ Degree

Heating, air conditioning, and refrigeration technicians, often referred to as HVACR technicians, work on heating, ventilation, cooling, and refrigeration systems that control the air quality in many types of buildings. Heating and air conditioning systems control the temperature, humidity, and overall air quality in homes, businesses, and other buildings. By providing a climate-controlled environment, refrigeration systems make it possible to store and transport food, medicine, and other perishable items.

The Heating and Air Conditioning Technology program prepares students for entry into the residential, commercial and industrial heating, ventilation, and air conditioning industry.

**Upon successful completion of the first two terms of the Heating and Air Conditioning Technology curriculum and SDV-135 Job Seeking Skills, with a grade point average of 2.00 (C) or higher, the student is awarded a Diploma.**

**Upon successful completion of the Heating and Air Conditioning Technology two-year program curriculum with a grade point average of 2.00 (C) or higher, the student is awarded an Associate in Applied Science Degree. The student will then qualify for an HVAC Service Technician license through the State of Iowa.**

### Entrance Advising

Due to the highly technical nature of this program and NIACC's commitment to giving students the best possible opportunity for success, students will be scheduled for advisement sessions with counselors and program personnel. In these sessions, the student's career plans, previous background, transcripts, test scores, life experiences, and motivation will aid in designing a positive education experience.

### Required Courses/Suggested Schedule

#### First Year

##### First Term (Fall Semester)

HCR-115	Residential Heating Systems.....	4 s.h.
HCR-155	Troubleshooting Heating Systems.....	3 s.h.
IND-190	Skills and Safety in Industry.....	1 s.h.
MAT-801	Applied Math A*.....	1 s.h.
MAT-802	Applied Math B**.....	1 s.h.
MAT-803	Applied Math C***.....	1 s.h.
SDV-199	College Essentials.....	1 s.h.
WEL-335	Ag & Industry Welding.....	2 s.h.
		14 s.h.

##### Second Term (Spring Semester)

BUS-161	Human Relations.....	3 s.h.
ELT-745	Maintenance Shop Operations.....	3 s.h.
ENG-701	Communications I.....	3 s.h.
HCR-210	Residential Air-Conditioning Systems****.....	4 s.h.
HCR-240	Troubleshooting Air-Conditioning Systems*****.....	3 s.h.
		16 s.h.

#### Second Year

##### Third Term (Fall Semester)

ELT-790	Fluid Power+.....	3 s.h.
HCR-150	Commercial Heating Systems++.....	5 s.h.
HCR-510	Sheet Metal Fabrication+++.....	2 s.h.
HCR-802	Control Systems for HVAC++++.....	4 s.h.
MFG-108	Computer Aided Drafting+++++.....	2 s.h.
		16 s.h.

##### Fourth Term (Spring Semester)

BUS-130	Introduction to Entrepreneurship.....	3 s.h.
BUS-162	Workplace Professionalism.....	3 s.h.
HCR-235	Commercial Air-Conditioning Systems.....	5 s.h.
HCR-923	Systems Design#.....	3 s.h.
		14 s.h.

#### Total Program Hours

**60 s.h.**

\*Prerequisite: COMPASS Pre-Algebra score of at least 49, or ACT math score of at least 16, or MAT-063 Pre-Algebra with a grade of C or higher, or Accuplacer Arithmetic score of at least 59, or Accuplacer Elementary Algebra score of at least 50, or Accuplacer College Math score of at least 21.

\*\*Prerequisite: COMPASS Pre-Algebra score of at least 49, or ACT math score of at least 16, or MAT-063 Pre-Algebra with a grade of C or higher, or Accuplacer Arithmetic score of at least 59, or Accuplacer Elementary Algebra score of at least 50, or Accuplacer College Math score of at least 21.

\*\*\*Prerequisite: MAT-801 Applied Math A and MAT-802 Applied Math B with a grade of C or higher, or Accuplacer Arithmetic score of at least 59, or Accuplacer Elementary Algebra score of at least 50, or Accuplacer College Math score of at least 21.

\*\*\*\*Prerequisite: HCR-115 Residential Heating System, HCR-155 Troubleshooting Heating Systems, or instructor permission.

\*\*\*\*\*Prerequisite: HCR-115 Residential Heating Systems, HCR-155 Troubleshooting Heating Systems; Corequisite: HCR-210 Residential Air-Conditioning Systems or instructor permission.

+Prerequisite/Corequisite: MAT-801 Applied Math A, MAT-802 Applied Math B, MAT-803 Applied Math C, and MAT-804 Applied Math D, or permission of instructor.

++Prerequisite: HCR-115 Residential Heating Systems, HCR-155 Troubleshooting Heating Systems, HCR-210 Residential Air-Conditioning Systems, HCR-240 Troubleshooting Air-Conditioning Systems; Corequisite: HCR-510 Sheet Metal Fabrication, HCR-802 Control Systems, or instructor permission.

+++Prerequisite: HCR-115 Residential Heating Systems, HCR-155 Troubleshooting Heating Systems, HCR-210 Residential Air-Conditioning Systems, HCR-240 Troubleshooting Air-Conditioning Systems; Corequisite: HCR-802 Control Systems, or instructor permission.

++++Prerequisite: HCR-115 Residential Heating Systems, HCR-155 Troubleshooting Heating Systems, HCR-210 Residential Air-Conditioning Systems, HCR-240 Troubleshooting Air-Conditioning Systems, Corequisite: HCR-150 Commercial Heating Systems, HCR-510 Sheet Metal Fabrication, or instructor permission.

+++++Prerequisite: MFG-120, Machine Trade Print Reading I and MFG-130, Machine Trade Print Reading II or instructor permission.

#Prerequisite: HCR-115 Residential Heating Systems, HCR-150 Commercial Heating Systems, HCR-155 Troubleshooting Heating Systems, HCR-210 Residential Air-Conditioning Systems, HCR-240 Troubleshooting Air-Conditioning System, HCR-510 Sheet Metal Fabrication, HCR-802 Control Systems; Corequisite: HCR-923 Systems Design, or instructor permission.

### Career Opportunities

Completion of the Diploma program prepares graduates to enter the Heating and Air Conditioning Technology Degree program or to enter the following occupations:

- Residential Heating/Air Conditioning Service Mechanic
- Heating/Air Conditioning Installer
- Heating/Air Conditioning Parts Salesperson

Completion of the Degree program prepares graduates to enter the following occupations:

- Commercial Heating/Air Conditioning Controls Technician
- Commercial Heating/Air Conditioning Service Technician
- Heating/Air Conditioning Lab Technician
- Heating/Air Conditioning Sales Engineer
- Heating/Air Conditioning Parts Manager
- Manufacturer's Field Service Representative

For specific information contact the NIACC Industrial Division.



## General Machinist - Diploma

General Machinist is a two-semester Diploma program designed to provide in-depth study and considerable hands-on skills in the machine processing of a variety of metals. This one-year program provides the foundation for the Associate in Applied Science program, Tool and Die Technology.

Students become proficient in the operation of manual mills, lathes, grinders, drills, and saws as they complete increasingly complex projects while holding tight tolerances. Various pieces of precision measuring equipment (optical comparator, coordinate measuring machine, etc.) are used to check quality. Additional work in blueprint reading, heat-treating, and computer numerical controlled (CNC) machining is required to complete the General Machinist program.

Upon successful completion of the General Machinist curriculum with a grade point average of 2.00 (C) or higher, the student is awarded a Diploma. Program graduates have the option to continue into the A.A.S. Tool and Die Technology program or immediately begin employment in an area of machine shop or manufacturing facility producing a wide variety of machine parts.

## Tool and Die Technology - Degree

Tool and Die Technology is a five-semester Degree program which is a continuation of the General Machinist Diploma program. The Tool and Die Technology program builds upon the previous studies with an in-depth study of high-precision industrial dies and die components, progressive dies, and plastics industry molds. A portion of the program is devoted to producing computer-aided drawings (CAD) of molds and dies, and then using computer-aided manufacturing (CAM) software to generate computer numerical control (CNC) machine language. Students operate CNC machine tools to produce many of their second year projects. While taking MFG-408 Basic Die Making, students will have an opportunity to earn the National Institute for Metalworking Skills credential for Materials, Measurement and Safety.

**Upon successful completion of the Tool and Die Technology curriculum with a grade point average of 2.00 (C) or higher, the student is awarded an Associate in Applied Science Degree.** Program graduates are prepared to work in the "tool room" of area manufacturers or to work for a specialty tool and die shop producing dies and molds for a large variety of production machines in our area.

### Entrance Advising

Due to the highly technical nature of this program and NIACC's commitment to giving students the best possible opportunity for success, students are scheduled for advisement sessions with counselors and/or program personnel. In these sessions, the student's career plans, previous background, transcripts, test scores, life experiences, and motivation aid in designing a positive educational experience.

### Required Courses/Suggested Schedule

#### First Year

##### First Term (Fall Semester)

BCA-119	Computer Orientation.....	1 s.h.
ENG-701	Communications I.....	3 s.h.
IND-190	Skills and Safety in Industry.....	1 s.h.
MFG-137	Machinist Math I*.....	2 s.h.
	OR MAT-801 Applied Math A**(1 s.h.) and MAT-802 Applied Math B*** (1 s.h.) and MAT-803 Applied Math C**** (1 s.h.) and MAT-804 Applied Math D**** (1 s.h.)	
MFG-120	Machine Trade Print Reading I.....	1 s.h.
MFG-245	Machine Theory and Operations I+.....	9 s.h.
		17-19 s.h.

##### Second Term (Spring Semester)

MFG-130	Machine Trade Print Reading II++.....	1 s.h.
MFG-138	Machinist Math II+++.....	2 s.h.
MFG-248	Machine Theory and Operations II++++.....	7 s.h.
MFG-302	CNC Fundamentals+++++.....	3 s.h.
PHY-720	Career Physics#.....	4 s.h.
		17 s.h.

#### Second Year

##### Third Term (Summer)

MFG-108	Computer-Aided Drafting (CAD)##.....	2 s.h.
MFG-110	3-D Modeling ###.....	2 s.h.
MFG-380	EDM Fundamentals####.....	2 s.h.
MFG-424	Jig and Fixtures#####.....	5 s.h.
MFG-500	Statistical Process Control (SPC).....	1 s.h.
		12 s.h.

##### Fourth Term (Fall Semester)

BUS-162	Workplace Professionalism.....	3 s.h.
MFG-320	Computer-Aided Manufacturing (CAM)‡.....	3 s.h.
MFG-408	Basic Die Making††.....	8 s.h.
WEL-335	Ag and Industry Welding.....	2 s.h.
		16 s.h.

##### Fifth Term (Spring Semester)

ENG-702	Communications II†††.....	3 s.h.
MFG-312	Advanced CNC††††.....	2 s.h.
MFG-459	Injection Mold Making†††††.....	9 s.h.
MFG-460	Plastics Materials.....	1 s.h.
		15 s.h.

#### Total Program Hours

77-79 s.h.

\*Math Requirement – Students are required to complete MFG-137 and MFG-138 OR MAT-801, MAT-802, MAT-803, and MAT-804.

\*\*Prerequisite: COMPASS Pre-Algebra score of at least 49, or ACT math score of at least 16, or MAT-063 Pre-Algebra with a grade of C or higher, or Accuplacer Arithmetic score of at least 59, or Accuplacer Elementary Algebra score of at least 50, or Accuplacer College Math score of at least 21.

\*\*\*Prerequisite: COMPASS Pre-Algebra score of at least 49, or ACT math score of at least 16, or MAT-063 Pre-Algebra with a grade of C or higher, or Accuplacer Arithmetic score of at least 59, or Accuplacer Elementary Algebra score of at least 50, or Accuplacer College Math score of at least 21.

\*\*\*\*Prerequisite: MAT-801 Applied Math A and MAT-802 Applied Math B with a grade of C or higher, or Accuplacer Arithmetic score of at least 59, or Accuplacer Elementary Algebra score of at least 50, or Accuplacer College Math score of at least 21.

\*\*\*\*\*Prerequisite: MAT-801 Applied Math A and MAT-802 Applied Math B with a grade of C or higher.

+Corequisites: MFG-120, Machine Trade Print Reading I; and MFG-137 Machinist Math or MAT-801 Applied Math A and MAT-802 Applied Math B.

++Prerequisite/Corequisite: MFG-120, Machine Print Reading I.

+++Prerequisite: MFG-137 Machinist Math I.

++++Prerequisites: MFG-245 Machine Theory and Operations I; and MFG-137 Machinist Math I or MAT-801 Applied Math A and MAT-802 Applied Math B; Corequisites: MFG-130 Machine Trade Print Reading II; and MFG-138 Machinist Math II or MAT-803 Applied Math C and MAT-804 Applied Math D.

+++++Prerequisites: MFG-245 Machine Theory and Operations I and MFG-248 Machine Theory and Operations II with a grade of C or higher.

#Prerequisite: MAT-801 Applied Math A, MAT-802 Applied Math B, MAT-803 Applied Math C, and MAT-804 Applied Math D; or MFG-137 Machinist Math I and MFG-138 Machinist Math II.

##Prerequisite: MFG-120 Machine Trade Print Reading I, MFG-130, Machine Trade Print Reading II, or instructor permission.

###Prerequisite: MFG-108 Computer-Aided Drafting or instructor permission.

####Prerequisite/Corequisite: MFG-302 CNC Fundamentals with a grade of C or higher and MFG-423 Jig and Fixtures.

#####Prerequisite/Corequisite: MFG-302 CNC Fundamentals with a grade of C or higher and MFG-248 Machine Theory and Operations II.

‡Prerequisite/Corequisite: MFG-108, Computer-Aided Drafting; MFG-302, CNC Fundamentals; MFG-423, Jig and Fixtures; and MFG-380, EDM Fundamentals. Students must obtain a grade of C or higher in MFG-302, CNC Fundamentals.

††Prerequisite/Corequisite: MFG-424 Jig and Fixtures.

†††Prerequisite: ENG-701 Communications I.

††††Prerequisite/Corequisite: MFG-459 Injection Mold Making.

†††††Prerequisite/Corequisite: MFG-408 Basic Die Making and MFG-460 Plastic Materials.

### Career Opportunities

#### General Machinist

- Operate and set up CNC mills and lathes
- Maintenance work
- Operate and set up manual equipment



#### Tool and Die Technology

- Mold builder
- Operate/set up complex CNC equipment
- Tool maker
- Die maker
- CNC programmer
- Quality Control Inspector
- Gage maker
- Instrument maker
- CAD/CAM technician



## Industrial Systems Technology - Degree

Industrial Systems Technology is an Associate in Applied Science Degree program designed to prepare the graduate for immediate employment as electronic, electrical, and mechanical maintenance personnel in manufacturing settings.

### IST Courses

Several courses in the Industrial Systems Technology program are offered in an instructor-supervised/student-paced format. See course descriptions for details concerning specific course status. Some of the instruction in these courses is computer-based using software available only in the Industrial Systems Technology Labs on campus. Students enrolled in such courses should expect to spend 25-30 hours in the Industrial Systems Technology Lab for each semester hour of the course. For example, ELT-382, Electronic Circuit Analysis is a 3-semester-hour course. The student enrolled in that course should expect to spend 75-90 hours (5-6 hours per week) in the Industrial Systems Technology Lab and one hour of lecture to complete the course. While a suggested schedule appears on this page, the use of instructor-supervised/student-paced course work allows the student much more flexibility in scheduling.

### College Transfer Option

Through an articulation agreement with the University of Northern Iowa, graduates of the Industrial Systems Technology program may continue their education by transferring to baccalaureate programs in such industrial technology fields as manufacturing, electromechanical systems, engineering technology, or supervision and management. Help of a NIACC counselor or program instructor is advised.

**Upon successful completion of the Industrial Systems Technology curriculum with a grade point average of 2.00 (C) or higher, the student is awarded an Associate in Applied Science Degree.**

### Career Opportunities

Completion of this program prepares graduates to enter the following occupations:

- Electromechanical Technician
- Industrial Maintenance Technician
- Electronics Technician
- Industrial Process Control Technician

- Instrumentation Technician
- Control Systems Technician
- Computer Automated Process Control Technician

For specific information contact the NIACC Industrial Division.

### Required Courses/Suggested Schedule

#### First Year

##### First Term (Fall Semester)

ELT-190	Introduction to Tech Computing and CAD*	3 s.h.
ELT-382	Electronic Circuit Analysis**	3 s.h.
ELT-745	Maintenance Shop Operations	3 s.h.
ELT-790	Fluid Power**	3 s.h.
IND-190	Skills and Safety in Industry	1 s.h.
MAT-801	Applied Math A***	1 s.h.
MAT-802	Applied Math B****	1 s.h.
MAT-803	Applied Math C*****	1 s.h.
MAT-804	Applied Math D+	1 s.h.
	OR MAT-121 College Algebra (4 s.h.)++	
		17 s.h.

##### Second Term (Spring Semester)

BUS-162	Workplace Professionalism	3 s.h.
ELT-170	Introduction to PLC's	3 s.h.
ELT-210	Motor Control Circuits+++	3 s.h.
ELT-333	Analog and Digital Electronics+++	4 s.h.
WTT-103	Introduction to Wind Energy	3 s.h.
		16 s.h.

#### Second Year

Third Term (Summer)		
ELT-895	Industrial Systems Internship****	2 s.h.
		2 s.h.

##### Fourth Term (Fall Semester)

ELT-124	Advanced PLCs and System Integration++++	3 s.h.
ELT-133	Electric Motor Drives#	2 s.h.
ELT-734	Industrial Instrumentation##	4 s.h.
ENG-701	Communications I	3 s.h.
PHY-162	College Physics I###	4 s.h.
	OR PHY-106 Survey of Physics####(4 s.h.)	
	OR CHM-151 College Chemistry I#####(4 s.h.)	
		16 s.h.

##### Fifth Term (Spring Semester)

ELT-710	Computer Automated Manufacturing ‡	3 s.h.
ELT-750	Facilities Maintenance++++	3 s.h.
ENG-702	Communications II‡‡	3 s.h.
PHY-172	College Physics II‡‡‡	4 s.h.
	OR PHY-106 Survey of Physics####(4 s.h.)	
	OR CHM-151 College Chemistry I#####(4 s.h.)	
		13 s.h.

#### Total Program Hours

**64 s.h.**

Math Requirement – Students are required to complete MAT-121 OR MAT-801, MAT-802, MAT-803, and MAT-804.

\*Prerequisite/Corequisite: Ability to key-enter the equivalent of 25 words per minutes at a computer keyboard.

\*\*Prerequisite/Corequisite: MAT-801 Applied Math A, MAT-802 Applied Math B, MAT-803 Applied Math C, and MAT-804 Applied Math D or permission of instructor.

\*\*\*Prerequisite: COMPASS Pre-Algebra score of at least 49, or ACT math score of at least 16, or MAT-063 Pre-Algebra with a grade of C or higher, or Accuplacer Arithmetic score of at least 59, or Accuplacer Elementary Algebra score of at least 50, or Accuplacer College Math score of at least 21.

\*\*\*\*Prerequisite: COMPASS Pre-Algebra score of at least 49, or ACT math score of at least 16, or MAT-063 Pre-Algebra with a grade of C or higher, or Accuplacer Arithmetic score of at least 59, or Accuplacer Elementary Algebra score of at least 50, or Accuplacer College Math score of at least 21.

\*\*\*\*\*Prerequisite: MAT-801 Applied Math A and MAT-802 Applied Math B with a grade of C or higher, or Accuplacer Arithmetic score of at least 59, or Accuplacer Elementary Algebra score of at least 50, or Accuplacer College Math score of at least 21.

+Prerequisite: MAT-801 Applied Math A and MAT-802 Applied Math B with a grade of C or higher.

++ Prerequisite: MAT-092 Intermediate Algebra with a C or better, or Math ACT score of at least 21, or Compass Algebra Placement score of at least 76, or Accuplacer Elementary Algebra score of at least 116, or Accuplacer College Math score of at least 45.

+++Prerequisite: ELT-382 Electronic Circuit Analysis.

++++Prerequisite: Sophomore status in the Industrial Systems Technology program and permission of internship coordinator.

+++++Corequisite: ELT-170 Introduction To PLCs.

#Prerequisite: ELT-210 Motor Control Circuits.

##Prerequisites: ELT-170 Introduction to PLC's and ELT-333 Analog and Digital Electronics.

###Prerequisite: MAT-134 Trigonometry and Analytic Geometry or equivalent.

####Corequisite: MAT-092 Intermediate Algebra or equivalent

#####Prerequisite: MAT-063 Elementary Algebra or equivalent.

‡Prerequisite/Corequisite: ELT-790 Fluid Power and ELT-124 Advanced PLCs and System Integration.

‡‡Prerequisite: ENG-701 Communications I.

‡‡‡Prerequisite: PHY-162 College Physics I, or equivalent, or permission of instructor.

## Industrial Technology - Certificate/Diploma/Degree

The A.A.S. Degree graduate in Industrial Technology provides a broad technical background in a variety of disciplines related to industry. Industrial technologists work with management teams, entry-level supervisors, and technicians in providing manufacturing process and production solutions to ensure the success of our industries. The broad-based programming further provides the student the mobility to move throughout a variety of industrial areas. Graduates of this program have the option of employment upon graduation or articulation of the program to a four-year institution.

**Upon successful completion of MAT-121, MFG-195, and eight semester hours of selected industrial electives with a grade point average of 2.00 (C) or higher, the student is awarded a Certificate in Industrial Technology.** The Industrial Technology Certificate provides a basic technical background in a variety of disciplines related to industry. Industrial technologists work with production teams, entry-level foremen, and supervisors in manufacturing facilities. This Certificate can apply toward a Diploma or Degree in Industrial Technology.

**Upon successful completion of 26 semester hours of Industrial Technology credits and 4 semester hours of approved Math with a grade point average of 2.00 (C) or higher during the first year of the program, the student is awarded a Diploma.** To be awarded a Diploma, students must successfully complete a 30-semester-hour program of study, to include English and Mathematics general education requirements.

**Upon successful completion of the two-year Industrial Technology curriculum with a grade point average of 2.00 (C) or higher, the student is awarded an Associate in Applied Science Degree.** Students who know they wish to pursue a four-year degree and want to meet general education requirements of transfer institutions should pursue the A.A. degree. This will necessitate a slightly different curriculum.

The schedule shown on this page is a suggested program of study. Students may choose to change the sequence of courses to suit their needs. Please consult with a NIACC Counselor to develop a program of study that works for you.

### Required Courses/Suggested Schedule

#### First Year

##### First Term (Fall Semester)

ENG-105	Composition I .....	3 s.h.
	OR ENG-701 (3 s.h.) and ENG-702*(3 s.h.)	
IND-190	Skills and Safety in Industry.....	1 s.h.
MAT-121	College Algebra** .....	4 s.h.
	OR MAT-801 Applied Math A*** (1 s.h.) and MAT-802 Applied Math B**** (1 s.h.) and MAT-803 Applied Math C**** (1 s.h.) and MAT-804 Applied Math D+ (1 s.h.)	
MFG-108	Computer-Aided Drafting++ .....	2 s.h.
WEL-335	Ag and Industry Welding.....	2 s.h.
		12-15 s.h.

##### Second Term (Spring Semester)

ELT-115	Electronic Concepts .....	3 s.h.
ELT-790	Fluid Power+++ .....	3 s.h.
MFG-195	Manufacturing Processes I .....	2 s.h.
PHY-720	Career Physics++++ .....	4 s.h.
	OR PHY-162 College Physics I++++ (4 s.h.)	
		12 s.h.

#### Second Year

##### Third Term (Fall Semester)

BUS-162	Workplace Professionalism.....	3 s.h.
	Industrial Technology Electives .....	9 s.h.
Electives	.....	3 s.h.
BUS-130	Introduction to Entrepreneurship.....	3 s.h.
	OR Other General Education course (3 s.h.)	
		18 s.h.

##### Fourth Term (Spring Semester)

	Industrial Technology Electives** .....	9 s.h.
Electives	.....	9 s.h.
		18 s.h.
<b>Total Program Hours</b>		<b>60-63 s.h.</b>

\*Prerequisite: ENG-701 Communications I.

\*\*Prerequisite: MAT-092 Intermediate Algebra with a C or better, or Math ACT score of at least 21, or Compass Algebra Placement score of at least 76, or Accuplacer Elementary Algebra score of at least 116, or Accuplacer College Math score of at least 45.

\*\*\*Prerequisite: COMPASS Pre-Algebra score of at least 49, or ACT math score of at least 16, or MAT-063 Pre-Algebra with a grade of C or higher, or Accuplacer Arithmetic score of at least 59, or Accuplacer Elementary Algebra score of at least 50, or Accuplacer College Math score of at least 21.

\*\*\*\*Prerequisite: COMPASS Pre-Algebra score of at least 49, or ACT math score of at least 16, or MAT-063 Pre-Algebra with a grade of C or higher, or Accuplacer Arithmetic score of at least 59, or Accuplacer Elementary Algebra score of at least 50, or Accuplacer College Math score of at least 21.

\*\*\*\*\*Prerequisite: MAT-801 Applied Math A and MAT-802 Applied Math B with a grade of C or higher, or Accuplacer Arithmetic score of at least 59, or Accuplacer Elementary Algebra score of at least 50, or Accuplacer College Math score of at least 21.

+Prerequisite: MAT-801 Applied Math A and MAT-802 Applied Math B with a grade of C or higher.

++Prerequisite: MFG-120 Machine Trade Print Reading I, MFG-130, Machine Trade Print Reading II, or instructor permission.

+++Prerequisite/Corequisite: MAT-801 Applied Math A, MAT-802 Applied Math B, MAT-803 Applied Math C, and MAT-804 Applied Math D or permission of instructor.

++++Prerequisite: MAT-801 Applied Math A, MAT-802 Applied Math B, MAT-803 Applied Math C, and MAT-804 Applied Math D; or MFG-137 Machinist Math I and MFG-138 Machinist Math II.

\*\*\*\*\*Prerequisite: MAT-134 Trigonometry and Analytic Geometry, or equivalent.

### Choose 18 s.h. from the following Industrial Technology Electives:

BMA-168	Steam Plant Operations I (Low Pressure Boilers) .....	2 s.h.
BMA-169	Steam Plant Operations II (High Pressure Boilers)* .....	2 s.h.
ELT-170	Introduction to PLCs .....	3 s.h.
ELT-190	Introduction to Technical Computing & CAD** .....	3 s.h.
ELT-382	Electronic Circuit Analysis*** .....	3 s.h.
ELT-745	Maintenance Shop Operations .....	3 s.h.
HCR-115	Residential Heating Systems**** .....	4 s.h.
HCR-155	Troubleshooting Heating Systems***** .....	3 s.h.
HCR-210	Residential Air-Conditioning Systems+ .....	4 s.h.
HCR-240	Troubleshooting Air-Conditioning Systems++ .....	3 s.h.
MFG-110	3-D Modeling+++ .....	2 s.h.
MFG-120	Machine Trade Print Reading I .....	1 s.h.
WEL-108	Oxy-acetylene Welding and Cutting/SMAW .....	2 s.h.
WEL-109	Gas Metal Arc Welding/Gas Tungsten Arc Welding.....	2 s.h.
WEL-110	Welding Blueprint Reading .....	2 s.h.
WTT-103	Introduction to Wind Energy.....	3 s.h.

\*Prerequisite: BMA-168 Steam Plant Operations I (Low Pressure Boilers).

\*\*Prerequisite/Corequisite: Ability to key-enter the equivalent of 25 words per minutes at a computer keyboard.

\*\*\*Prerequisite/Corequisite: MAT-801 Applied Math A, MAT-802 Applied Math B, MAT-803 Applied Math C, and MAT-804 Applied Math D

\*\*\*\*Corequisite: HCR-155 Troubleshooting Heating Systems or instructor permission.

\*\*\*\*\*Corequisite: HCR-115 Residential Heating Systems or instructor permission.

+Prerequisite: HCR-115 Residential Heating System, HCR-155 Troubleshooting Heating Systems or instructor permission.

++Prerequisite: HCR-115 Residential Heating Systems, HCR-155 Troubleshooting Heating Systems, Corequisite: HCR-210 Residential Air-Conditioning Systems, or instructor permission.

+++Prerequisite: MFG-108 Computer-Aided Drafting or instructor permission.

### Career Opportunities

The intent of this program is to provide a flexible framework targeted primarily to individuals interested in or already employed in the manufacturing field. Many individuals taking this course work are focusing their efforts toward employment in the area of Industrial Maintenance and Repair. Others pursue careers in direct manufacturing.

## Welding - Certificate/Diploma

Welding is a two-semester Diploma program designed for individuals seeking skill development and certification in common welding procedures leading to employment in a variety of industries. The program is recognized as an Institutional Member of the American Welding Society and upon completion of all coursework, AWS Certification can be attained. The program's outlined competencies are achieved through a combination of classroom theory, welding demonstration, and practice. Primary emphasis is placed upon hands-on skill development in a state-of-the-art lab facility. Through completion of the program, students gain competency in arc, gas, and automated welding and cutting processes.

## Welding - Diploma

Upon successful completion of the Welding curriculum with a grade point average of 2.0 (C) or higher, the student is awarded a Diploma.

### Required Courses/Suggested Schedule

#### First Year

##### First Term (Fall Semester)

IND-190	Skills and Safety in Industry.....	1 s.h.
MAT-801	Applied Math A* .....	1 s.h.
MAT-802	Applied Math B** .....	1 s.h.
MFG-108	Computer Aided Drafting*** .....	2 s.h.
WEL-110	Welding Blueprint Reading.....	2 s.h.
WEL-244	Gas Metal Arc Welding Short Circuit .....	2 s.h.
WEL-245	Gas Metal Arc Welding Spray Transfer: SENSE1 .....	2 s.h.
WEL-262	Thermal Cutting Processes I.....	2 s.h.
	Manual and Mechanized OxyFuel Cutting: SENSE1 .....	
WEL-274	Shielded Metal Arc Weld I.....	3 s.h.
WEL-275	Shielded Metal Arc Welding IL: SENSE1.....	3 s.h.
		19 s.h.

##### Second Term (Spring Semester)

BCA-119	Computer Orientation.....	1 s.h.
ENG-701	Communications I .....	3 s.h.
SDV-135	Job Seeking Skills.....	1 s.h.
WEL-240	Welding Fabrication/certification**** .....	3 s.h.
WEL-250	Welding Automation**** .....	2 s.h.
WEL-251	Gas Tungsten Arc Welding Carbon Steel: SENSE 1***** .....	2 s.h.
WEL-252	Gas Tungsten Arc Welding Aluminum: SENSE 1+ .....	1 s.h.
WEL-253	Gas Tungsten Arc Weld Stainless Steel:SENSE 1+.....	1 s.h.
WEL-280	Flux Cored Arc Welding (Self-Shielded): SENSE1++.....	2 s.h.
WEL-281	Flux Cored Arc Welding (Gas-Shielded): SENSE1++.....	2 s.h.
		18 s.h.

**Total Program Hours** **37 s.h.**

\*Prerequisite: COMPASS Pre-Algebra score of at least 49, or ACT math score of at least 16, or MAT-063 Pre-Algebra with a grade of C or higher, or Accuplacer Arithmetic score of at least 59, or Accuplacer Elementary Algebra score of at least 50, or Accuplacer College Math score of at least 21.

\*\*Prerequisite: COMPASS Pre-Algebra score of at least 49, or ACT math score of at least 16, or MAT-063 Pre-Algebra with a grade of C or higher, or Accuplacer Arithmetic score of at least 59, or Accuplacer Elementary Algebra score of at least 50, or Accuplacer College Math score of at least 21.

\*\*\* Prerequisite: MFG-120 Machine Trade Print Reading I, MFG-130, Machine Trade Print Reading II, or instructor permission.

\*\*\*\*Prerequisites: WEL-244 Gas Metal Arc Welding Short Circuit Transfer: SENSE1, WEL-274 Shielded Metal Arc Welding I: SENSE1, WEL-280 Flux Cored Arc Welding (Self-Shielded): SENSE1, and WEL-281 Flux Cored Arc Welding (Gas-Shielded): SENSE1.

\*\*\*\*\*Prerequisite: IND-190 Skills & Safety in Industry.

+Prerequisite: IND-190 Skills and Safety in Industry; Co-requisites: WEL-251 Gas Tungsten Arc Welding for Carbon Steel: SENSE1 and WEL-253 Gas Tungsten Arc Welding for Austenitic Stainless Steel: SENSE1.

++Prerequisites: IND-190 Skills & Safety in Industry, WEL-244 Gas Metal Arc Welding Short Circuit Transfer: SENSE1 and WEL-245 Gas Metal Arc Welding Spray Transfer: SENSE1.

### Other Elective Welding Courses:

WEL-108	Oxy-acetylene Welding and Cutting and Shielded Metal Arc Welding .....	2 s.h.
WEL-109	Gas Metal Arc Welding and Gas Tungsten Arc Welding .....	2 s.h.
WEL-335	Ag and Industry Welding.....	2 s.h.

## Welding - Certificate

Upon successful completion of the Welding curriculum with a grade point average of 2.0 (C) or higher, the student is awarded a Certificate.

### Required Courses/Suggested Schedule

#### First Term (Fall Semester)

WEL-244	Gas Metal Arc Welding Short Circuit Transfer: SENSE1 .....	2 s.h.
WEL-245	Gas Metal Arc Welding Spray Transfer: SENSE1 .....	2 s.h.
WEL-274	Shielded Metal Arc Welding I: SENSE1.....	3 s.h.
WEL-275	Shielded Metal Arc Welding IL: SENSE1.....	3 s.h.
		10 s.h.

#### Second Term (Spring Semester)

WEL-251	Gas Tungsten Arc Welding for Carbon Steel: SENSE1* .....	2 s.h.
WEL-252	Gas Tungsten Arc Welding for Aluminum: SENSE1** .....	1 s.h.
WEL-253	Gas Tungsten Arc Welding for Austenitic Stainless Steel: SENSE1** .....	1 s.h.
WEL-280	Flux Cored Arc Welding (Self-Shielded): SENSE1*** .....	2 s.h.
WEL-281	Flux Cored Arc Welding (Gas-Shielded): SENSE1*** .....	2 s.h.
		8 s.h.

**Total Program Hours** **18 s.h.**

\*Prerequisite: IND-190 Skills & Safety in Industry.

\*\*Prerequisite: IND-190 Skills and Safety in Industry; Co-requisites: WEL-251 Gas Tungsten Arc Welding for Carbon Steel: SENSE1 and WEL-253 Gas Tungsten Arc Welding for Austenitic Stainless Steel: SENSE1.

\*\*\*Prerequisites: IND-190 Skills & Safety in Industry, WEL-244 Gas Metal Arc Welding Short Circuit Transfer: SENSE1 and WEL-245 Gas Metal Arc Welding Spray Transfer: SENSE1.

## Career Opportunities

Completion of this program prepares graduates to enter the following occupations:

- Production Welder
- Maintenance Welder
- Robot Operator
- Building/Structural Welder
- Ag/Construction Equipment Repair Technician
- Fabricator

Industries that use welding:

- Agriculture
- Manufacturing
- Automotive
- Construction
- Mining
- Utilities

For specific information contact the NIACC Industrial Division.

## General Education Course Categories for Associate in Applied Science Degree and Diploma Programs

To earn an Associate in Applied Science Degree, a student must complete a minimum of 15 semester hours (s.h.) of general education credit, of which 3 s.h. should be from the Communication category, 3 s.h. should be from the Social Science and/or Humanities category, and 3 s.h. should be from the Math and/or Natural Science category.

Possible general education courses for Associate in Applied Science Degrees and Diplomas:

### COMMUNICATION

BUS-121	Business Communications.....	3 s.h.
BUS-130	Introduction to Entrepreneurship.....	3 s.h.
ENG-701	Communications I.....	3 s.h.
ENG-702	Communications II.....	3 s.h.

### SOCIAL SCIENCE/HUMANITIES

BUS-161	Human Relations.....	3 s.h.
BUS-162	Workplace Professionalism.....	3 s.h.

### MATH/SCIENCE

AGS-109	Animal Science I.....	3 s.h.
AGS-110	Animal Science I Lab.....	1 s.h.
MAT-801	Applied Math A.....	1 s.h.
MAT-802	Applied Math B.....	1 s.h.
MAT-803	Applied Math C.....	1 s.h.
MAT-804	Applied Math D.....	1 s.h.
MFG-137	Machinist Math I.....	2 s.h.
MFG-137	Machinist Math II.....	2 s.h.
PHY-720	Career Physics.....	4 s.h.

To earn a Diploma, a student must complete a minimum of 3 s.h. of credit in any one of the categories listed above. Requirements vary according to the academic program selected. Please consult with an advisor or a faculty member for further information.

Students may choose from the general education courses listed on pages 96-98 and/or the courses listed on this page, unless following a prescribed program curriculum. Requirements vary according to the academic program selected. Please consult with an advisor or a faculty member for further information.



# College Transfer Programs

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**ARTS & SCIENCES**

**GENERAL EDUCATION AND OTHER TRANSFER PROGRAMS**

**DEGREE REQUIREMENTS**

**TWO-YEAR PLANS**

**PLACEMENT**

**ONLINE @ NIACC**



# Arts & Sciences

## CareerClusters® PATHWAYS TO COLLEGE & CAREER READINESS Agriculture, Food & Natural Resources

Agriculture	102
Animal Ecology	102
Biology	102
Environmental Sciences	102
Forestry	102
Horticulture	102
Veterinary Medicine	102

## CareerClusters® PATHWAYS TO COLLEGE & CAREER READINESS Arts, A/V Technology & Communications

Art-Visual/Graphic Communications	102
English	102
Family & Consumer Sciences	102
Journalism	102
Music	102
Public Relations	102
Speech	102
Theatre	102

## CareerClusters® PATHWAYS TO COLLEGE & CAREER READINESS Business Management & Administration

Accounting	102
Business	102
Business Administration	102
Business Management	102
Economics	102
Management Information Systems	102
Sports Management	102

## CareerClusters® PATHWAYS TO COLLEGE & CAREER READINESS Education & Training

Athletic Trainer	102
Coaching	102
Early Childhood Education	102
Elementary Education	102
Family & Consumer Sciences	102
History	102
Physical Education	102
Secondary Education	102
Teacher's Aide	102

## CareerClusters® PATHWAYS TO COLLEGE & CAREER READINESS Finance

Accounting	102
Finance	102

## CareerClusters® PATHWAYS TO COLLEGE & CAREER READINESS Government & Public Administration

Political Science	102
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## CareerClusters® PATHWAYS TO COLLEGE & CAREER READINESS Health Science

Chiropractic	102
Dental Hygiene	102
Dentistry	102
Exercise Science	102
Health Promotion/Community Health	102
Medicine	102
Mortuary Science	102
Nursing-Bachelors Degree (BSN)	102
Occupational Therapy	102
Optometry	102
Pharmacy	102
Pharmacy Technician	102
Physical Fitness & Wellness	102
Physical Therapy	102
Physician Assistant	102
Psychology	102
Radiology	102

## CareerClusters® PATHWAYS TO COLLEGE & CAREER READINESS Human Services

Human Services	102
Social Work	102
Sociology	102

## CareerClusters® PATHWAYS TO COLLEGE & CAREER READINESS Information Technology

Computer Science	102
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## CareerClusters® PATHWAYS TO COLLEGE & CAREER READINESS Law, Public Safety, Corrections & Security

Criminal Justice	102
Law	102

## CareerClusters® PATHWAYS TO COLLEGE & CAREER READINESS Manufacturing

Industrial Technology	102
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## CareerClusters® PATHWAYS TO COLLEGE & CAREER READINESS Marketing

Marketing	102
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## CareerClusters® PATHWAYS TO COLLEGE & CAREER READINESS Science, Technology, Engineering & Mathematics

Actuarial Science and Statistics	102
Biology	102
Chemistry	102
Engineering	102
Environmental Science	102
Geography	102
Mathematics	102
Physics	102

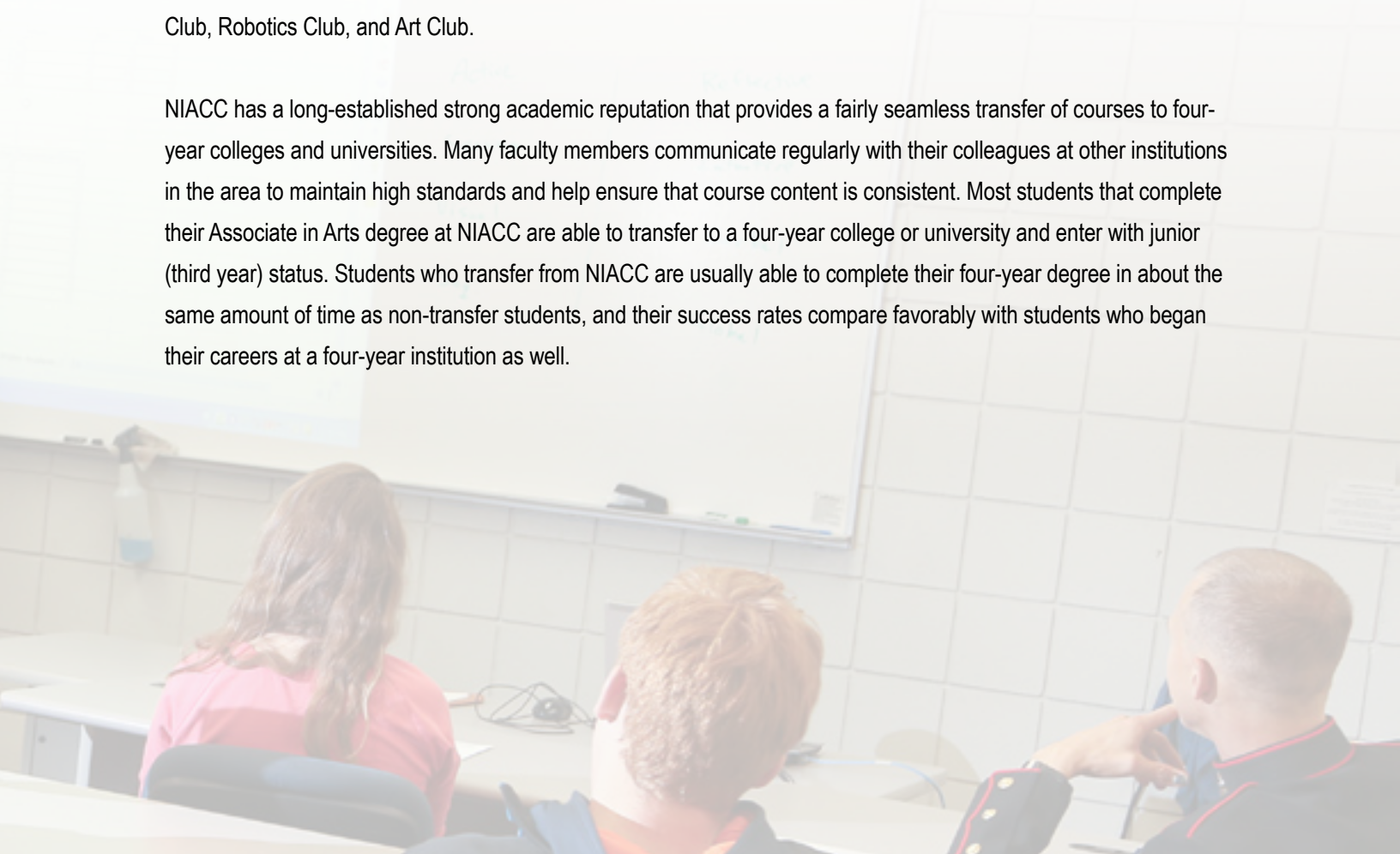


The Arts and Sciences faculty are very experienced in teaching and instruct all levels of courses, from beginning courses through advanced. Our instructors encourage students to follow their passion and help students improve their skills and reach their goals by providing opportunities to excel, whether in it's in the classroom or in the community. Most classes have fewer than 30 students so instructors can provide individual help and form personal connections with their students. Faculty time is devoted to teaching and helping students both in and outside of class as they gain the educational foundation that will support their pursuit of a degree. With a wide variety of courses to choose from, students can take the classes they want as well as the classes they need.

As a part of our mission to help students succeed, a variety of formal support options are available for students interested in extra help, such as tutoring at the Student Learning Center, Mastery Math and Writing, Supplemental Instruction, and other areas as needed. Both accelerated courses and extended course offerings are available to help meet a variety of student needs, while the flexibility of face-to-face, online, and hybrid courses allow students to create a schedule that works for them.

Students have the opportunity to perform in music and the arts from their first year of enrollment and beyond. Both the NIACC choir and band work with community performers and perform in a variety of venues. Various clubs, many of which are led by faculty members, give students numerous opportunities to expand their knowledge in various subject areas and connect with other students. Some of the academically-oriented clubs include the Math and Engineering Club, Robotics Club, and Art Club.

NIACC has a long-established strong academic reputation that provides a fairly seamless transfer of courses to four-year colleges and universities. Many faculty members communicate regularly with their colleagues at other institutions in the area to maintain high standards and help ensure that course content is consistent. Most students that complete their Associate in Arts degree at NIACC are able to transfer to a four-year college or university and enter with junior (third year) status. Students who transfer from NIACC are usually able to complete their four-year degree in about the same amount of time as non-transfer students, and their success rates compare favorably with students who began their careers at a four-year institution as well.



## GENERAL EDUCATION AND OTHER TRANSFER COURSES

North Iowa Area Community College considers education to be the foundation of a democratic society. At the core of the educational experience is general education, an ongoing endeavor that engages students in acquiring the knowledge and tools necessary to understand their environment and contribute to their communities.

Each of NIACC's degree programs provides varying levels of general education skill development through their distribution requirements:

To earn an Associate in Arts degree, a student must complete a minimum of 9 semester hours (s.h.) of credit in the communication distribution category and 8 s.h. in each of the humanities, social science, and natural science/mathematics distribution categories listed below, plus an additional 8 s.h. of credit selected from any of the aforementioned categories for a total minimum of 41 s.h. of general education credit within the degree program. Within the natural science/mathematics category, a student must select at least one mathematics and one science course.

To earn an **Associate in Science** degree, a student must complete a minimum general education core of 41 s.h. distributed in the following fashion: communication (9 s.h.); humanities and/or social science (8 s.h.); natural science/mathematics (20 s.h.); and distributed requirement (4 s.h.). Within the natural science/mathematics category, a student must select at least one mathematics and one science course.

Listed as follows are the general education courses for the **Associate in Arts** and **Associate in Science** degrees.

### COMMUNICATIONS

#### ENGLISH COMPOSITION

ENG-105	Composition I	3 s.h.
ENG-106	Composition II	3 s.h.

#### SPEECH

SPC-112	Public Speaking	3 s.h.
SPC-122	Interpersonal Communication	3 s.h.
SPC-132	Group Communication	3 s.h.
SPC-140	Oral Interpretation	3 s.h.

### HUMANITIES

#### ART

ART-101	Art Appreciation	3 s.h.
ART-102	Art for Elementary Education	3 s.h.
ART-115	Graphic Design	3 s.h.
ART-120	Two-Dimensional Design	3 s.h.
ART-123	Three-Dimensional Design	3 s.h.
ART-133	Drawing	3 s.h.
ART-134	Drawing II	3 s.h.
ART-173	Ceramics	3 s.h.
ART-187	Creative Photography	3 s.h.
ART-188	Creative Photography II	3 s.h.
ART-203	Art History I	3 s.h.
ART-204	Art History II	3 s.h.

#### DRAMA

DRA-119	Introduction to Theatre-TV-Film	3 s.h.
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#### FOREIGN LANGUAGE

ASL-131	American Sign Language I	3 s.h.
ASL-161	American Sign Language II	3 s.h.
ASL-241	American Sign Language III	3 s.h.
ASL-271	American Sign Language IV	3 s.h.
FLC-141	Elementary Chinese	4 s.h.
FLC-142	Elementary Chinese II	4 s.h.
FLF-141	Elementary French I	4 s.h.
FLF-142	Elementary French II	4 s.h.
FLG-141	Elementary German I	4 s.h.
FLG-142	Elementary German II	4 s.h.
FLS-141	Elementary Spanish I	4 s.h.
FLS-142	Elementary Spanish II	4 s.h.
FLS-241	Intermediate Spanish I	4 s.h.
FLS-242	Intermediate Spanish II	4 s.h.
FLS-261	Advanced Spanish I	3 s.h.
FLS-262	Advanced Spanish II	3 s.h.

#### HISTORY

CLS-121	Studies in Non-Western Culture	3 s.h.
HIS-110	Western Civilization: Ancient to Early Modern	3 s.h.
HIS-111	Western Civilization: Early Modern to Present	3 s.h.
HIS-112	Western Civilization: Ancient to Early Modern	4 s.h.
HIS-113	Western Civilization: Early Modern to Present	4 s.h.
HIS-151	U.S. History to 1877	3 s.h.
HIS-152	US History Since 1877	3 s.h.
HIS-201	Iowa History	3 s.h.
HIS-224	Nazi Germany	3 s.h.
HIS-251	US History 1945 to Present	3 s.h.
HIS-260	Latin American History and Culture	3 s.h.
HIS-266	Civil War	3 s.h.
HIS-268	American Experience in Vietnam	3 s.h.
HIS-269	1960s and the Vietnam War	3 s.h.
HIS-271	American Frontier History	3 s.h.

#### HUMANITIES

HUM-115	Encounters in Humanities	2 s.h.
HUM-137	Humanities in the Modern World	3 s.h.

#### JOURNALISM

JOU-115	Introduction to Journalism	3 s.h.
JOU-121	News Writing and Reporting	3 s.h.

#### LITERATURE

EDU-235	Children's Literature	3 s.h.
LIT-101	Introduction to Literature	3 s.h.
LIT-130	African American Literature	3 s.h.
LIT-131	Native American Literature	3 s.h.
LIT-132	Women of Color	3 s.h.
LIT-150	World Literature I	3 s.h.
LIT-151	World Literature II	3 s.h.
LIT-160	Short Story/Novel	3 s.h.
LIT-170	Poetry/Drama	3 s.h.
LIT-230	Law Enforcement in Contemporary Literature	3 s.h.

#### MUSIC

MUA-120	Applied Piano	1 s.h.
MUA-130	Applied Voice	1-2 s.h.
MUA-131	Applied Voice II	1-2 s.h.
MUA-132	Applied Voice III	1-2 s.h.
MUA-184	Applied Saxophone I	1-2 s.h.
MUA-186	Applied Flute I	1-2 s.h.
MUA-187	Applied Oboe I	1-2 s.h.
MUA-188	Applied Clarinet I	1-2 s.h.



MUA-189	Applied Bassoon I .....	1-2 s.h.
MUA-191	Applied Trumpet I .....	1-2 s.h.
MUA-192	Applied French Horn I .....	1-2 s.h.
MUA-193	Applied Trombone I .....	1-2 s.h.
MUA-194	Applied Euphonium I .....	1-2 s.h.
MUA-195	Applied Tuba I .....	1-2 s.h.
MUA-196	Applied Percussion I .....	1-2 s.h.
MUA-197	Applied Drum Set I .....	1-2 s.h.
MUA-198	Applied Guitar I .....	1-2 s.h.
MUA-286	Applied Flute II .....	1-2 s.h.
MUA-287	Applied Oboe II .....	1-2 s.h.
MUA-288	Applied Clarinet II .....	1-2 s.h.
MUA-289	Applied Bassoon II .....	1-2 s.h.
MUA-290	Applied Saxophone II .....	1-2 s.h.
MUA-291	Applied Trumpet II .....	1-2 s.h.
MUA-292	Applied French Horn II .....	1-2 s.h.
MUA-293	Applied Trombone II .....	1-2 s.h.
MUA-294	Applied Euphonium II .....	1-2 s.h.
MUA-295	Applied Tuba II .....	1-2 s.h.
MUA-296	Applied Percussion II .....	1-2 s.h.
MUA-297	Applied Drum Set II .....	1-2 s.h.
MUA-298	Applied Guitar II .....	1-2 s.h.
MUA-299	Applied Piano I .....	1-2 s.h.
MUA-399	Applied Piano III .....	1-2 s.h.
MUS-100	Music Appreciation .....	3 s.h.
MUS-120	Music Theory I .....	3 s.h.
MUS-121	Music Theory II .....	3 s.h.
MUS-130	Aural Skills I .....	2 s.h.
MUS-131	Aural Skills II .....	2 s.h.
MUS-132	Aural Skills III .....	2 s.h.
MUS-133	Aural Skills IV .....	2 s.h.
MUS-140	Concert Choir .....	1 s.h.
MUS-141	Concert Choir II .....	1 s.h.
MUS-142	Concert Choir III .....	1 s.h.
MUS-144	Orchestra .....	1 s.h.
MUS-145	Concert Band .....	1 s.h.
MUS-150	Chamber Ensemble .....	1 s.h.
MUS-152	Voice Ensemble (NIACC Singers) .....	1 s.h.
MUS-174	North Iowa Choral Society .....	1 s.h.
MUS-179	Jazz Band .....	1 s.h.
MUS-204	History of Rock and Roll .....	3 s.h.
MUS-205	Jazz History and Appreciation .....	3 s.h.
MUS-220	Music Theory III .....	3 s.h.
MUS-221	Music Theory IV .....	3 s.h.
MUS-244	Orchestra II .....	1 s.h.
MUS-245	Concert Band II .....	1 s.h.
MUS-252	Vocal Ensemble II - NIACC Singers .....	1 s.h.
MUS-274	North Iowa Choral Society II .....	1 s.h.
MUS-279	Jazz Band II .....	1 s.h.
MUS-344	Orchestra III .....	1 s.h.
MUS-345	Concert Band III .....	1 s.h.
MUS-379	Jazz Band III .....	1 s.h.

**PHILOSOPHY/ETHICS**

PHI-101	Introduction to Philosophy .....	3 s.h.
PHI-105	Introduction to Ethics .....	3 s.h.
PHI-110	Introduction to Logic .....	3 s.h.
PHI-111	Basic Reasoning .....	3 s.h.

**NATURAL SCIENCE/MATHEMATICS****BIOLOGICAL SCIENCES**

BIO-102	Introductory Biology .....	3 s.h.
BIO-103	Introductory Biology Lab .....	1 s.h.
BIO-123	Inquiry into Life Science .....	4 s.h.
BIO-151	Nutrition .....	3 s.h.
BIO-152	Health and Nutrition .....	3 s.h.
BIO-186	Microbiology .....	4 s.h.
BIO-196	Introduction to Bio-Technology .....	4 s.h.
BIO-202	Biology I .....	4 s.h.
BIO-203	Biology II .....	4 s.h.
BIO-206	Anatomy and Physiology I .....	4 s.h.
BIO-207	Anatomy and Physiology II .....	4 s.h.
ENV-110	Environmental Science .....	3 s.h.

**PHYSICAL SCIENCES**

CHM-122	Introduction to General Chemistry .....	4 s.h.
CHM-132	Introduction to Organic and Biochemistry .....	4 s.h.
CHM-151	College Chemistry I .....	4 s.h.
CHM-152	College Chemistry II .....	4 s.h.
CHM-166	General Chemistry I .....	5 s.h.
CHM-176	General Chemistry II .....	5 s.h.
CHM-263	Organic Chemistry I .....	5 s.h.
CHM-273	Organic Chemistry II .....	5 s.h.
PHS-125	Physical Science .....	4 s.h.
PHS-142	Principles of Astronomy .....	3 s.h.
PHS-166	Meteorology Weather and Climate .....	4 s.h.
PHS-172	Physical Geology .....	4 s.h.
PHS-185	Introduction to Earth Science .....	3 s.h.
PHY-106	Survey of Physics .....	4 s.h.
PHY-162	College Physics I .....	4 s.h.
PHY-172	College Physics II .....	4 s.h.
PHY-212	Classical Physics I .....	5 s.h.
PHY-222	Classical Physics II .....	5 s.h.

**MATH**

MAT-110	Math for Liberal Arts .....	3 s.h.
MAT-120	College Algebra (for Liberal Arts) .....	3 s.h.
MAT-121	College Algebra .....	4 s.h.
MAT-128	Precalculus .....	4 s.h.
MAT-134	Trigonometry and Analytic Geometry .....	3 s.h.
MAT-140	Finite Math .....	3 s.h.
MAT-153	Math for Elementary Teachers I .....	4 s.h.
MAT-154	Math for Elementary Teachers II .....	4 s.h.
MAT-156	Introduction to Statistics .....	3 s.h.
MAT-161	Business Statistics .....	3 s.h.
MAT-165	Calculus .....	3 s.h.
MAT-210	Calculus I .....	4 s.h.
MAT-216	Calculus II .....	4 s.h.
MAT-219	Calculus III .....	4 s.h.
MAT-226	Differential Equations with Laplace Transforms .....	3 s.h.

**SOCIAL SCIENCES****ECONOMICS**

ECN-110	Introduction to Economics .....	3 s.h.
ECN-115	Personal Finance .....	3 s.h.
ECN-120	Principles of Macroeconomics .....	3 s.h.
ECN-130	Principles of Microeconomics .....	3 s.h.

**GEOGRAPHY**

GEO-121	World Regional Geography.....	3 s.h.
GEO-124	Regional Geography of the Nonwestern World .....	3 s.h.
GEO-125	Regional Geography of the Developed World .....	3 s.h.
GEO-131	Physical Geography .....	3 s.h.

**GOVERNMENT/POLITICAL SCIENCE**

POL-111	American National Government.....	3 s.h.
POL-112	American State and Local Government.....	3 s.h.
POL-121	International Relations .....	3 s.h.
POL-125	Comparative Government and Politics .....	3 s.h.

**MASS MEDIA STUDIES**

MMS-101	Mass Media.....	3 s.h.
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**PSYCHOLOGY**

PSY-102	Human and Work Relations.....	3 s.h.
PSY-111	Introduction to Psychology.....	3 s.h.
PSY-121	Developmental Psychology.....	3 s.h.
PSY-211	Psychology of Adjustment.....	3 s.h.
PSY-223	Child and Adolescent Psychology.....	3 s.h.
PSY-226	Psychology of Aging.....	3 s.h.
PSY-228	Death and Dying.....	3 s.h.
PSY-241	Abnormal Psychology .....	3 s.h.
PSY-251	Social Psychology.....	3 s.h.
PSY-281	Educational Psychology.....	3 s.h.

**SOCIOLOGY**

SOC-110	Introduction to Sociology.....	3 s.h.
SOC-115	Social Problems .....	3 s.h.
SOC-120	Marriage and Family .....	3 s.h.
SOC-200	Minority Group Relations .....	3 s.h.
SOC-210	Men Women and Society.....	3 s.h.

**BUSINESS ELECTIVES****ACCOUNTING**

ACC-121	Principles of Accounting I.....	3 s.h.
ACC-122	Principles of Accounting II.....	3 s.h.

**COMPUTER TECHNOLOGY**

BCA-101	Introduction to Computers and Information Systems.....	3 s.h.
BCA-103	Management Information Systems .....	3 s.h.
CFR-110	Ethics and the Information Age.....	3 s.h.
CIS-125	Introduction to Programming Logic with Language .....	3 s.h.
CIS-153	Data Structures.....	4 s.h.
CIS-332	Database and SQL.....	3 s.h.
NET-136	Operating Systems II .....	3 s.h.
NET-201	Network LANs and WANs.....	5 s.h.

**ED-to-Go COURSES**

(limited to 3 s.h. maximum of these courses)

FIN-210	Analysis and Valuation of Stocks.....	1 s.h.
FIN-214	Stocks, Bonds, and Investing: Oh My!.....	1 s.h.

**INTERNSHIPS**

BUS-225	Business Internships .....	1-5 s.h.
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**MANAGEMENT**

BUS-102	Introduction to Business.....	3 s.h.
BUS-185	Business Law I.....	3 s.h.
BUS-186	Business Law II.....	3 s.h.
BUS-197	Leadership Development.....	3 s.h.
BUS-266	Property/Casualty Insurance.....	3 s.h.
BUS-267	Life, Health & Disability Insurance.....	3 s.h.
FIN-101	Principles of Banking .....	3 s.h.

MGT-101	Principles of Management .....	3 s.h.
MGT-130	Principles of Supervision.....	3 s.h.
MGT-170	Human Resource Management.....	3 s.h.
MGT-220	Introduction to Sport Management.....	3 s.h.
MGT-221	Current Issues in Sport .....	3 s.h.

**MARKETING**

MKT-110	Principles of Marketing.....	3 s.h.
MKT-140	Principles of Selling.....	3 s.h.
MKT-150	Principles of Advertising.....	3 s.h.

**BUSINESS ELECTIVES  
(CAREER/TECHNICAL)**

**NOTE: UP TO 16 SEMESTER HOURS OF CAREER/TECHNICAL COURSES CAN BE USED AS ELECTIVE CREDIT. SEE COURSE DESCRIPTIONS FOR A COMPLETE LIST OF CAREER/TECHNICAL COURSES.**

ACC-111	Introduction to Accounting.....	3 s.h.
ACC-135	Personal Income Tax.....	3 s.h.
ACC-161	Payroll Accounting.....	3 s.h.
ACC-265	Income Tax Accounting .....	4 s.h.
ACC-311	Computer Accounting.....	3 s.h.
ADM-105	Introduction to Keyboarding .....	1 s.h.
ADM-108	Keyboarding Skill Development.....	1 s.h.
ADM-123	Document Formatting.....	3 s.h.
ADM-131	Office Calculators .....	1 s.h.
ADM-162	Office Procedures .....	3 s.h.
ADM-185	Legal Terminology & Transcription .....	2 s.h.
ADM-215	Medical Office Procedures.....	3 s.h.
BCA-100	Computer Literacy.....	1 s.h.
BCA-129	Basic Word Processing .....	2 s.h.
BCA-136	Advance Word Processing.....	3 s.h.
BCA-152	Comprehensive Spreadsheets.....	3 s.h.
BCA-155	Introduction to Web Design.....	3 s.h.
BCA-174	Basic Presentation Software.....	1 s.h.
BCA-185	Beginning Web Page Development.....	3 s.h.
BCA-215	Computer Business Applications .....	3 s.h.
BUS-106	Employment Strategies.....	2 s.h.
BUS-121	Business Communications.....	3 s.h.
BUS-122	Emerging Business Practices and Technologies .....	3 s.h.
BUS-130	Introduction to Entrepreneurship.....	3 s.h.
BUS-152	Creating a Company.....	3 s.h.
BUS-161	Human Relations.....	3 s.h.
BUS-162	Workplace Professionalism.....	3 s.h.
BUS-255	60-Hour Real Estate Prelicense.....	3 s.h.
BUS-269	Insurance and Risk Management .....	3 s.h.
CFR-100	Computer Forensics I.....	3 s.h.
CFR-150	Computer Forensics II.....	3 s.h.
CIS-119	Introduction to Programming.....	4 s.h.
FIN-100	Introduction to Finance .....	3 s.h.
HCM-103	ServSafe Food Safety.....	1 s.h.
HCM-234	Introduction to Hospitality Management.....	3 s.h.
HCM-239	Customer Service.....	2 s.h.
HCM-250	Purchasing .....	2 s.h.
HCM-283	Controlling Food Service Costs .....	2 s.h.
HCM-304	Principles of Food and Beverage Management.....	2 s.h.
HCM-325	Human Resources Management & Supervision .....	2 s.h.
HCM-607	Hospitality & Restaurant Management .....	2 s.h.
HCM-612	Hospitality and Restaurant Marketing.....	2 s.h.
HIT-125	Essentials of Health Records.....	2 s.h.
HIT-210	Basic Medical Insurance/Coding.....	2 s.h.
HIT-242	Coding I (ICD-10).....	3 s.h.
HIT-247	Coding II (CPT).....	3 s.h.
HIT-250	Coding I.....	3 s.h.
HIT-251	Coding II.....	3 s.h.
HIT-420	Legal Aspects of Health Information .....	2 s.h.

HSC-108	Introduction to Health Professions.....	2 s.h.
HSC-120	Medical Terminology I.....	3 s.h.
HSC-121	Medical Terminology II.....	3 s.h.
HSC-144	Basic Pharmacology.....	2 s.h.
HSC-155	Laboratory Tests.....	2 s.h.
MGT-200	Managing Diversity.....	3 s.h.
MKT-181	Customer Service Strategies.....	2 s.h.
NET-113	IT Essentials I.....	4 s.h.
NET-133	IT Essentials II.....	4 s.h.
NET-200	Introduction to Networking.....	3 s.h.
NET-225	Routing and Switching Essentials.....	4 s.h.
NET-226	Scaling Networks.....	4 s.h.
NET-227	Connecting Networks.....	4 s.h.
NET-261	Virtualization/Cloud Operations.....	3 s.h.
NET-262	Hardening the Infrastructure.....	4 s.h.
NET-292	Information Technology Capstone.....	5 s.h.
NET-304	Windows Workstation Operating Systems.....	4 s.h.
NET-314	Windows Server.....	4 s.h.
NET-324	Windows Network Management.....	4 s.h.
NET-609	Network Security.....	3 s.h.
NET-613	Information Data Assurance.....	3 s.h.
NET-782	Computer Users Support.....	3 s.h.

**ED-to-Go COURSES**

(limited to 3 s.h. maximum of Ed-to-Go Courses)

BCA-182	Introduction to Microsoft Publisher.....	1 s.h.
BCA-270	Learn to Buy and Sell on eBay.....	1 s.h.
BCA-280	Introduction to Quickbooks.....	1 s.h.

**OTHER ELECTIVES****CAREER/ACADEMIC SUCCESS**

RDG-125	College Reading Strategies.....	3 s.h.
SDV-111	Success Seminar.....	1 s.h.
SDV-113	Strategies for Academic Success.....	2 s.h.
SDV-120	Individualized Educational Planning & Assessment.....	1 s.h.
SDV-135	Job Seeking Skills.....	1 s.h.
SDV-144	Introduction to STEM Careers.....	1 s.h.
SDV-153	Pre-employment Strategies.....	2 s.h.
SDV-160	Career Decision Making.....	2 s.h.
SDV-188	Understanding Chemical Dependency.....	2 s.h.
SDV-199	College Essentials.....	1 s.h.

**COACHING ENDORSEMENT**

PEC-101	Introduction to Coaching.....	3 s.h.
PEC-110	Coaching Ethics Techniques and Theory.....	1 s.h.
PEC-115	Athletic Development and Human Growth.....	1 s.h.
PEC-122	Introduction to Anatomy and Physiology for Coaching.....	1 s.h.
PEC-127	Care and Prevention of Athletic Injuries.....	2 s.h.
PEC-161	Sports Officiating.....	3 s.h.

**COOPERATIVE EDUCATION INTERNSHIPS**

SDV-210	Cooperative Education Internship.....	1-5 s.h.
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**CRIMINAL JUSTICE**

CRJ-100	Introduction to Criminal Justice.....	3 s.h.
CRJ-107	Survey of Criminal Justice Agencies.....	3 s.h.
CRJ-111	Police and Society.....	3 s.h.
CRJ-120	Introduction to Corrections.....	3 s.h.
CRJ-130	Criminal Law.....	3 s.h.
CRJ-141	Criminal Investigation.....	3 s.h.
CRJ-200	Criminology.....	3 s.h.
CRJ-201	Juvenile Delinquency.....	3 s.h.
CRJ-208	Introduction to Private Security.....	3 s.h.
CRJ-209	Vice and Drug Control.....	3 s.h.
CRJ-220	Community-based Corrections.....	3 s.h.
CRJ-227	Employment Strategies for Criminal Justice.....	1 s.h.
CRJ-230	Evidence.....	3 s.h.
CRJ-295	Contemporary Issues in Criminal Justice.....	3 s.h.

**ED-toGO COURSES**

(limited to 3 s.h. maximum of these courses)

RDG-161	Speed Reading.....	1 s.h.
SDV-177	Listen to Your Heart and Success Will Follow.....	1 s.h.

**EDUCATION**

ECE-103	Introduction to Early Childhood Education.....	3 s.h.
ECE-131	Home & School Relationships in Early Childhood.....	3 s.h.
ECE-133	Child Health, Safety, and Nutrition.....	3 s.h.
ECE-159	Early Childhood Curriculum II.....	3 s.h.
ECE-170	Child Growth and Development.....	3 s.h.
ECE-221	Infant/Toddler Care and Education.....	3 s.h.
ECE-243	Early Childhood Guidance.....	3 s.h.
EDU-216	Introduction to Teaching.....	3 s.h.
EDU-219	Field Experience and Seminar.....	1 s.h.
EDU-242	Classroom Assessment.....	2 s.h.
EDU-246	Including Diverse Learners.....	3 s.h.
EDU-250	Educational Technology and Design.....	3 s.h.
EDU-290	Education Capstone Seminar.....	1 s.h.

**ENGINEERING**

EGR-100	Engineering Orientation.....	1 s.h.
EGR-115	Engineering Mathematics.....	3 s.h.
EGR-181	Engineering Problems with Computer Applications.....	3 s.h.
EGR-192	Engineering Graphics and Design.....	3 s.h.
EGR-274	Statics for Engineering.....	3 s.h.
EGR-324	Mechanics of Materials.....	3 s.h.

**INTERCOLLEGIATE ATHLETICS**

PEV-115	Varsity Baseball.....	1 s.h.
PEV-120	Varsity Basketball.....	1 s.h.
PEV-130	Varsity Cross Country.....	1 s.h.
PEV-133	Varsity Track and Field.....	1 s.h.
PEV-140	Varsity Golf.....	1 s.h.
PEV-150	Varsity Soccer.....	1 s.h.
PEV-160	Varsity Softball.....	1 s.h.
PEV-170	Varsity Volleyball.....	1 s.h.
PEV-180	Varsity Wrestling.....	1 s.h.
PEV-215	Varsity Baseball II.....	1 s.h.
PEV-220	Varsity Basketball II.....	1 s.h.
PEV-230	Varsity Cross Country II.....	1 s.h.
PEV-233	Varsity Track and Field II.....	1 s.h.
PEV-240	Varsity Golf II.....	1 s.h.
PEV-250	Varsity Soccer II.....	1 s.h.
PEV-260	Varsity Softball II.....	1 s.h.
PEV-270	Varsity Volleyball II.....	1 s.h.
PEV-280	Varsity Wrestling II.....	1 s.h.

**PHYSICAL EDUCATION/ACTIVITIES**

PEA-107	Aerobic Circuit Training.....	1 s.h.
PEA-113	Flatwater and River Canoeing.....	1 s.h.
PEA-127	Beginning Jogging.....	1 s.h.
PEA-129	Spinning.....	1 s.h.
PEA-130	Downhill Skiing.....	1 s.h.
PEA-146	Physical Fitness I.....	1 s.h.
PEA-174	Tennis I.....	1 s.h.
PEA-187	Weight Training I.....	1 s.h.
PEA-190	Yoga/Stretching I.....	1 s.h.
PEA-191	Pilates.....	1 s.h.
PEA-287	Weight Training II.....	1 s.h.
PEH-111	Personal Wellness.....	3 s.h.
PEH-140	First Aid.....	1 s.h.
PEH-144	Human Movement Science.....	3 s.h.
PEH-161	Introduction to Physical Education.....	2 s.h.
PEH-180	Rape Education and Self Defense.....	2 s.h.
PEH-191	Sports Nutrition.....	3 s.h.
PEH-221	Introduction to Leisure Services.....	3 s.h.
PEH-261	Physical Activity for Health and Fitness.....	3 s.h.
PEH-908	Cooperative Education Internship.....	1-3 s.h.
PET-110	Introduction to Athletic Training.....	2 s.h.
PET-135	Personal Trainer.....	3 s.h.

**STUDENT SENATE/LOGOS**

JOU-145	Logos.....	1 s.h.
JOU-245	Logos II.....	1 s.h.
SDV-195	Student Senate.....	1 s.h.
SDV-295	Student Senate.....	1 s.h.

**OTHER ELECTIVES**

AGS-109	Animal Science I.....	3 s.h.
AGS-110	Animal Science I Lab.....	1 s.h.
AGS-209	Animal Science II.....	3 s.h.
AGS-210	Animal Science II Lab.....	1 s.h.
ANT-100	Introduction to Anthropology.....	3 s.h.
ANT-105	Cultural Anthropology.....	3 s.h.
ART-116	Graphic Design II.....	3 s.h.
ART-117	Computer Graphic Design.....	3 s.h.
ART-124	Computer Art.....	3 s.h.
ART-127	Digital Illustration.....	3 s.h.
ART-131	Digital Publication Design.....	3 s.h.
ART-143	Painting I.....	3 s.h.
ART-144	Painting II.....	3 s.h.
ART-186	Digital Photography.....	3 s.h.
CAD-114	AutoCAD I.....	2 s.h.
COM-140	Introduction to Mass Media.....	3 s.h.
COM-753	Technical Communications.....	3 s.h.
EDU-236	Young Adult Literature.....	3 s.h.
ENG-111	Technical Writing.....	3 s.h.
ENG-150	Fundamentals of English Grammar.....	3 s.h.
ENG-221	Creative Writing.....	3 s.h.
GLS-100	Contemporary World Issues.....	3 s.h.
HIS-254	American Indian History.....	3 s.h.
HIS-257	African American History.....	3 s.h.
HIS-278	U.S. History: The Role of Women.....	3 s.h.
HSE-100	Occupational Safety.....	3 s.h.
HSE-225	Legal Aspects of Occup. Safety and Health.....	3 s.h.
HSE-251	Ergonomics.....	2 s.h.
HSV-140	Social Work and Social Welfare.....	3 s.h.
HSV-152	Introduction to Counseling.....	3 s.h.
HSV-153	Professional Ethics.....	3 s.h.
HUM-110	Changes and Choices.....	3 s.h.
LIT-178	Mythological and Biblical Literature.....	3 s.h.
MLT-101	Introduction to Laboratory Science.....	2 s.h.
MLT-120	Urinalysis.....	3 s.h.
MUS-105	Introduction to Music Theory.....	2 s.h.
PRL-161	Family Law.....	3 s.h.
PSY-262	Psychology of Gender.....	3 s.h.
REL-101	Survey of World Religions.....	4 s.h.
REL-150	Introduction to the Bible.....	3 s.h.

SDV-287	Phi Theta Kappa Leadership Development Studies.....	2 s.h.
SOC-150	Introduction to Human Services.....	3 s.h.
SOC-212	Diversity.....	3 s.h.
SOC-215	Prime for Life: Substance Abuse.....	1 s.h.
SOC-881	Social Responsibility and Community Service.....	2 s.h.

**NOTE: ALL SPECIAL TOPICS COURSES, UNLESS OTHERWISE INDICATED, ARE ELECTIVE COURSES.**

**DEVELOPMENTAL**

**(Does not count toward Associate Degree)**

ESL-034	Mastery ESL (English as a Second Language).....	4 s.h.
ESL-036	Mastery ESL (English as a Second Language).....	3 s.h.
ENG-014	Mastery Writing.....	1-4 s.h.
ENG-015	Elements of Writing.....	4 s.h.
ENG-016	Mastery Writing - Co-Enroll.....	1-4 s.h.
ENG-068	Developmental Writing.....	1 s.h.
MAT-044	Mastery Math.....	1-4 s.h.
MAT-053	Pre-Algebra.....	4 s.h.
MAT-063	Elementary Algebra.....	4 s.h.
MAT-088	Math for Liberal Arts Supplement.....	1 s.h.
MAT-089	Survey of Mathematics.....	3 s.h.
MAT-092	Intermediate Algebra.....	4 s.h.
MAT-099	Combined Algebra.....	5 s.h.
RDG-015	Power Reading.....	2 s.h.

**PLEASE CHECK WITH A COUNSELOR TO VERIFY YOUR DEGREE REQUIREMENTS!**

**NOT ALL COURSES ARE OFFERED EVERY SEMESTER.**



## DEGREE REQUIREMENTS

### ASSOCIATE IN ARTS (A.A.)

Completion of at least sixty-two (62) semester hours of work consisting of courses whose principal design is for a baccalaureate program. Up to 16 semester hours of career courses can be used as elective credit. Developmental courses cannot be used to meet this requirement.

#### **GENERAL EDUCATION**

*Completion of the following General Education Core with a minimum of 41 semester hours.*

#### **Communications – 9 semester hours**

This requirement can be satisfied by baccalaureate-oriented communications or speech courses with a minimum of two courses in English Composition.

English Composition  
Speech

#### **Humanities – minimum 8 semester hours**

Performance courses such as vocal and instrumental music may satisfy no more than four hours of this requirement. (Additional performance courses will be counted as elective credit.)

Art	Drama	Foreign Language	History
Humanities	Journalism	Literature	Music
Philosophy/Ethics			

#### **Natural Sciences – minimum 8 semester hours**

Must include at least one math and one science course. It is recommended that students take a minimum of four semester hours of laboratory science.

Biological Sciences  
Physical Sciences  
Math

#### **Social Sciences – minimum 8 semester hours**

Economics	Geography	Government/Political Science
Mass Media Studies	Psychology	Sociology

#### **Distributed Requirement – minimum 8 semester hours**

To be taken from among the four divisions above.

College Essentials (SDV-199) - 1 semester hour

#### **ELECTIVES**

*Completion of a minimum of 20 semester hours, of which up to 16 semester hours can be career courses.*

#### **Business Courses**

Accounting  
Computer Tech  
Ed-to-Go  
Internships  
Management  
Marketing  
Business—Career/Tech

#### **Other Courses**

Career/Academic Success	Coaching Endorsement	Cooperative Education Internship	Criminal Justice
Ed-to-Go	Education	Engineering	Intercollegiate Athletics
Physical Ed/Activities	Student Senate Logos	Other Electives	

## TWO-YEAR PLANS

Hundreds of North Iowa Area Community College graduates transfer to four-year colleges and universities every year. Whether you want to become a teacher, lawyer, engineer, physician, artist or (you name it!), we can get you started. And if you're unsure about a major, NIACC is a great place to get your feet wet.

NIACC offers the first two years toward a bachelor's degree in virtually any field (see the list below). The Associate Degree earned provides you with the general education requirements and core courses needed to continue your education as a junior at a four-year school.

### Available TWO-YEAR PLANS - [www.niacc.edu/academics/sample-schedules-2-year-plans/](http://www.niacc.edu/academics/sample-schedules-2-year-plans/)

Accounting
Actuarial Science and Statistics
Agriculture
Agricultural Business - ISU
Agricultural Studies - ISU
Ag Education/Teacher
Animal Ecology - ISU
Art/Studio/High School or Middle School Art Teacher
Athletic Trainer
Biology
Biology - University of Northern Iowa
Business
Business (A.A.) - Buena Vista University
Business (A.A.) - Iowa State University
Business (A.A.) - University of Northern Iowa
Business (A.A.) - University of Iowa
Chemistry
Chiropractic
Coaching
Communications
Computer Science
Criminal Justice/Criminal Law
Dental Hygiene
Dentistry
Early Childhood Education
Early Childhood Education - Upper Iowa University
Economics
Elementary Education
Elementary Education - Buena Vista University
Elementary Education - Iowa State University
Elementary Education - Pre-K - K Endorsement - BVU
Elementary Education - University of Iowa
Elementary Education - University of Northern Iowa
Elementary Education - Upper Iowa University
Engineering
English
Environmental Science
Exercise Science/Human Physiology
Family and Consumer Science
Finance
Forestry - Iowa State University
Geography

Health Promotion/Community Health
History
Horticulture - ISU
Human Services
Industrial Technology
Journalism
Law
Liberal Arts
Management
Management Information Systems
Marketing
Mathematics
Medical Technology
Medicine
Mortuary Science
Music
Music Education - Drake University
Nursing BSN
Occupational Therapy
Optometry
Pharmacy
Physical Fitness & Wellness
Physical Education
Physical Therapy
Physician Assistant
Physics
Political Science
Psychology
Public Relations
Radiology
Secondary Education
Secondary Education - Buena Vista University
Secondary Education - Iowa State University
Secondary Education - University of Iowa
Secondary Education - University of Northern Iowa
Social Work
Sociology
Speech
Teacher's Aide
Theater
Veterinary Medicine

## PLACEMENT

### Academic Advising

Every effort is made to ensure the accuracy of information given in the curriculum section of the catalog, and academic advisors advise students to the best of their abilities. IT IS, nevertheless, THE RESPONSIBILITY OF THE STUDENT TO BE CERTAIN THAT THE COURSES SELECTED WILL MEET THE REQUIREMENTS FOR THE DEGREE SOUGHT. Students should correspond with the transfer college and obtain verification of their complete program at North Iowa Area Community College.

For all beginning students, an entrance exam of ACT scores or Accuplacer scores is needed. The chart below contains the course placement information used for entry-level advising.

\*ACT scores are valid only if they are less than three years old. Students with outdated scores should contact the Admissions Office to schedule the Accuplacer assessment.

## NORTH IOWA AREA COMMUNITY COLLEGE

### Course Placement Information for Entry-Level Advising

Assessment scores are required to facilitate placement in NIACC Reading, Writing and Math courses. Such tests are intended not to prevent participation but to help students make appropriate course selection. The scores listed below are the minimum score that is required to enroll in the course. Contact your Academic Counselor for the required courses in your program.

READING PLACEMENT			
ACCUPLACER READING	ACT READING	SAT CRITICAL READING	COURSE PLACEMENT
1 - 58	1 - 15	1 - 260	<b>RDG-015 Power Reading</b>
59 - 79	16 - 18	270	<b>RDG-125 College Reading Strategies REQUIRED</b> enrollment in <b>RDG-125</b>
80	19	330	<b>RDG-125 College Reading Strategies</b>

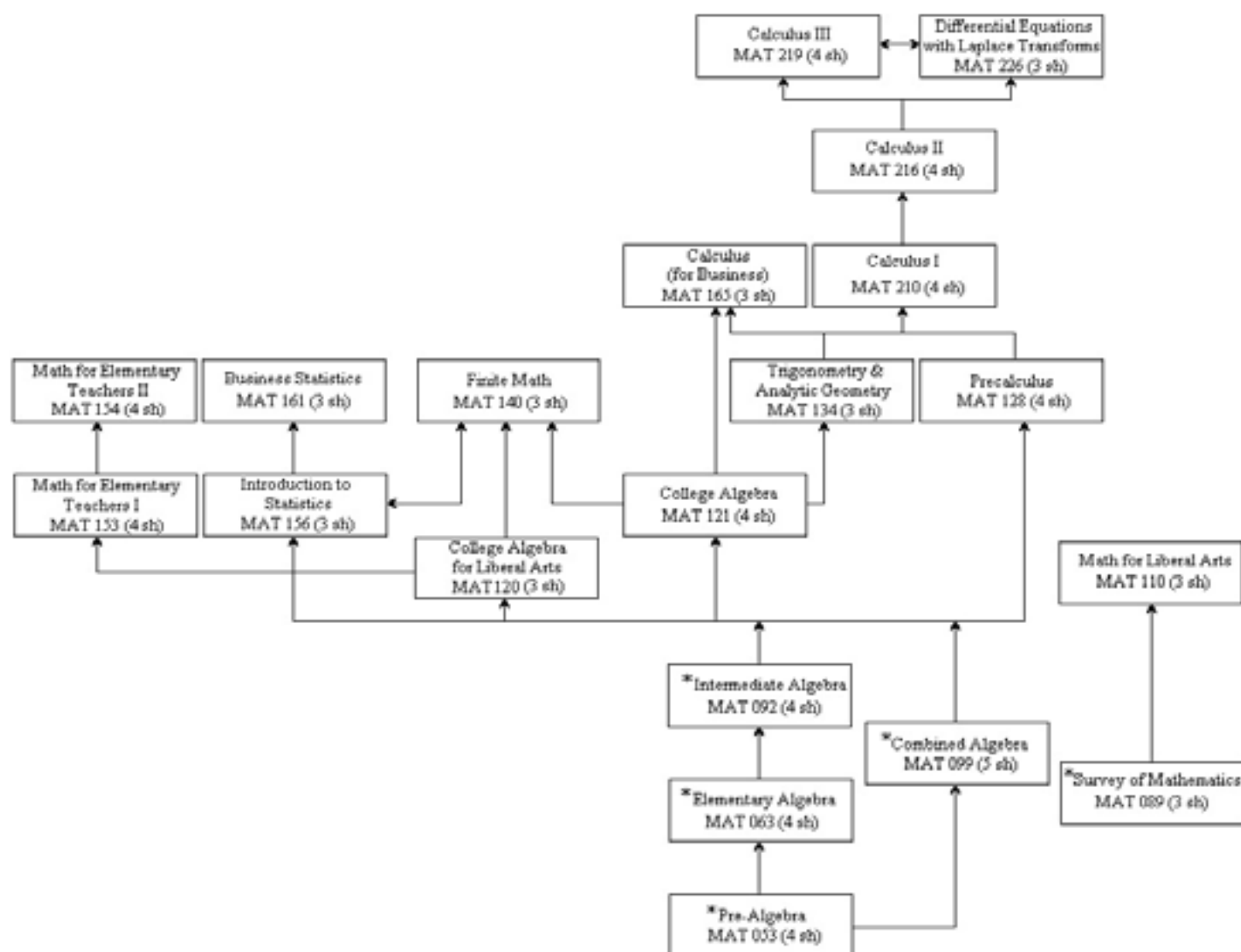
ENGLISH PLACEMENT			
NIACC WRITING SUBMISSION	ACT ENGLISH	SAT WRITING	COURSE PLACEMENT
3	1 - 9	1 - 260	<b>ENG-014 Mastery Writing</b>
4 - 9	10 - 15	270	<b>ENG-105 Composition I REQUIRED</b> enrollment in one credit of <b>ENG-016A Mastery Writing</b>
10	16	400	<b>ENG-105 Composition I</b> Intended for all majors who plan to transfer and obtain a bachelor's degree

Next page, Mathematics Placement

## PLACEMENT

MATHEMATICS PLACEMENT						
ACCUPLACER			ACT MATH	SAT MATH	ALEKS	COURSE PLACEMENT
ARITHMETIC	ELEM ALGEBRA	COLLEGE MATH				
						<b>MAT-044 Mastery Math</b> (By Instructor Permission/College Recommendation)
23	32		12	240	< 14	<b>MAT-053 Pre-Algebra</b>
23	32		12	240	< 38	<b>MAT-089 Survey of Mathematics</b>
59	50	21	16	380	14 - 29	<b>MAT-063 Elementary Algebra</b>
59	50	21	16	380	14 or higher	<b>MAT-801 Applied Math A-D</b> Intended for majors in Automotive, Building Trades, Heating & Air Condition, Industrial Systems, and Tool & Die
109	109	42	20	480	30	<b>MAT-092 Intermediate Algebra</b>
99	80	40	18	430	33 - 37	<b>MAT-110 Math for Liberal Arts--Decision Zone</b> <b>Additional Requirement for Enrollment</b> Take one credit of <b>MAT- 044</b> along with <b>MAT-110</b>
99	80	40	18	430	38	<b>MAT-153 Math for Elementary Teachers I</b>
						<b>MAT-154 Math for Elementary Teachers II (Pre-Reg MAT-153)</b>
	110	45	21	500	38 OR 65% on whole numbers AND 50% on proportions	<b>MAT-110 Math for Liberal Arts</b>
	116	45	21	500	38 or higher	<b>MAT-121 College Algebra</b>
	116	45	21	500	38 or higher	<b>MAT-156 Intro to Statistics</b>
		60	24	560	50 or higher	<b>MAT-140 Finite Math</b>
		70	26	590		<b>MAT-128 Precalculus</b>
		70	26	590		<b>MAT-134 Trigonometry &amp; Analytic Geometry</b>
						<b>MAT-161 Business Stats (Pre-Req MAT-156)</b>
		70	26	590	60 or higher	<b>MAT-165 Calculus (for business)</b>
		80	28	630	70	<b>MAT-210 Calculus I</b>



**MATH PLACEMENT**

\*No Credit towards degree

North Iowa Area Community College  
Mathematics Division  
Course Flow Chart

## Student Plan for Associate of Arts Degree

Use this a guide to stay on track for graduation

Minimum of 62 semester hours (s.h.) with a 2.0 GPA is required for graduation

COMMUNICATIONS	9 s.h.	Grade
Example: ENG-105 Comp I	3 s.h.	A
HUMANITIES	8 s.h.	Grade
NATURAL SCIENCE/MATHEMATICS	8 s.h.	Grade
SOCIAL SCIENCES	8 s.h.	Grade
TOTAL GENERAL EDUCATION	41 s.h.	

ELECTIVES	20 s.h.	Grade
Example: BCA-100 Computer Literacy	1 s.h.	A
TOTAL ELECTIVES	20 s.h.	
SDV-199 College Essentials	1 s.h.	

For complete advising information, make an appointment with your Academic Counselor to review your plan.



# Online @ NIACC

Earn your online Associate in Arts degree anytime, anywhere with NIACC's convenient online classes. When you choose NIACC, you can be confident that your courses are fully accredited and you'll be learning from supportive faculty who design your online course content for a valuable learning experience.

Many on-campus students choose to enroll in an online class or two while taking face-to-face classes on campus. Below you'll find a listing of the classes we offer. For the most up-to-date information related to online classes, go to Academics tab on our webpage and select Online Courses.

## Online Associate in Arts (A.A.)

Completion of at least sixty (62) semester hours of work consisting of courses whose principal design is for a baccalaureate program. The Associate in Arts Degree requirements are the same for online students and can be found under Degree Requirements.

For more information go to [www.niacc.edu/academics/online-courses/](http://www.niacc.edu/academics/online-courses/)

## ICCOC - IOWA COMMUNITY COLLEGE ONLINE CONSORTIUM

### A Partnership for Learning

In December of 1999, seven of Iowa's community colleges formed a partnership and organized the Iowa Community College Online Consortium (ICCOC). Representatives from each partner college participated in a comprehensive planning process to design and implement the consortium's technical infrastructure as well as establish objectives, policies, and procedures.

The initial objectives were to establish resources and applications, train online instructors, develop online courses, coordinate student services support, and implement an informational Web site. The ICCOC was able to obtain these objectives through the commitment of all consortium partners to provide quality online educational opportunities to students.

Today the ICCOC continues to assist our partner consortium colleges deliver quality online education to students all over the world. It has been our constant endeavor to provide training, communication, standards of quality, a collaborative working environment and a variety of learning opportunities.

NIACC is proud to be a partner in this statewide partnership with other community colleges.

## ICCOC MISSION

The mission of the Iowa Community College Online Consortium is to offer quality educational opportunities to online students supported by a comprehensive set of student support services.

The consortium's objectives focus on supporting each partner college's mission.

The ICCOC combines the expertise and resources of each consortium member to provide all ICCOC students with innovative lifelong online learning opportunities.

ICCOC courses are not offered every semester. Please refer to the listing of courses to see which semester these courses may be offered. NIACC continues to provide other opportunities for classes each semester. Check with your Academic Counselor for a complete listing of classes available to students.

For more information about the Iowa Community College Online Consortium, go to [www.iowaconline.org](http://www.iowaconline.org)

DEGREE REQUIREMENTS OFFERED ONLINE	SEMESTER HOURS (s.h.)	ICCOC
<b>Communication</b>		
ENG-105 Composition I	3 s.h.	
ENG-106 Composition II	3 s.h.	
SPC-112 Public Speaking	3 s.h.	
<b>Humanities</b>		
ART-101 Art Appreciation	3 s.h.	♦
ART-203 Art History I	3 s.h.	
ART-204 Art History II	3 s.h.	
HIS-151 U.S. History to 1877	3 s.h.	
HIS-152 U.S. History Since 1877	3 s.h.	
LIT-160 Short Story/Novel	3 s.h.	
MUS-100 Music Appreciation	3 s.h.	
PHI-101 Introduction to Philosophy	3 s.h.	
PHI-105 Introduction to Ethics	3 s.h.	
<b>Natural Science/Mathematics</b>		
BIO-102 Introductory Biology	3 s.h.	
BIO-151 Nutrition	3 s.h.	
BIO-152 Health and Nutrition	3 s.h.	
CHM-122 Introduction to General Chemistry	4 s.h.	♦
MAT-110 Math for Liberal Arts	3 s.h.	
MAT-121 College Algebra	4 s.h.	
MAT-156 Introduction to Statistics	3 s.h.	
MAT-165 Calculus (Business)	3 s.h.	♦
<b>Social Science</b>		
ECN-115 Personal Finance	3 s.h.	
ECN-120 Principles of Macroeconomics	3 s.h.	
ECN-130 Principles of Microeconomics	3 s.h.	
POL-111 American National Government	3 s.h.	
POL-121 International Relations	3 s.h.	
PSY-111 Introduction to Psychology	3 s.h.	
PSY-121 Developmental Psychology	3 s.h.	
PSY-211 Psychology of Adjustment	3 s.h.	
PSY-223 Child and Adolescent Psychology	3 s.h.	
SOC-110 Introduction to Sociology	3 s.h.	
SOC-120 Marriage and Family	3 s.h.	
<b>Distributed Requirement</b> Choose 8 s.h. from courses above (under Communication, Humanities, Natural Science/ Mathematics, and Social Sciences)		



Online Electives	SEMESTER HOURS	ICCOC
ACC-111 Introduction to Accounting	3 s.h.	
ACC-121 Principles of Accounting I	3 s.h.	
ACC-122 Principles of Accounting II	3 s.h.	
ACC-135 Personal Income Tax	3 s.h.	
ADM-105 Introduction to Keyboarding*	1 s.h.	
ADM-108 Keyboarding Skill Development*	1 s.h.	
ADM-131 Office Calculators	1 s.h.	
ANT-105 Cultural Anthropology	3 s.h.	
ART-101 Art Appreciation	3 s.h.	♦
ART-186 Digital Photography	3 s.h.	♦
BCA-100 Computer Literacy*	1 s.h.	
BCA-101 Introduction to Computers and Information Systems	3 s.h.	
BCA-129 Basic Word Processing*	2 s.h.	
BCA-152 Comprehensive Spreadsheets	3 s.h.	
BCA-182 Introduction to Microsoft Publisher	1 s.h.	
BCA-215 Computer Business Applications	3 s.h.	
BCA-270 Learn to Buy and Sell on eBay	1 s.h.	
BCA-280 Introduction to QuickBooks	1 s.h.	
BUS-102 Introduction to Business	3 s.h.	
BUS-121 Business Communications	3 s.h.	
BUS-122 Emerging Business Practices and Technologies	3 s.h.	
BUS-130 Introduction to Entrepreneurship	3 s.h.	
BUS-185 Business Law I	3 s.h.	
CRJ-133 Constitutional Criminal Procedure	3 s.h.	♦
ECE-103 Introduction to Early Childhood Education	3 s.h.	
ECE-131 Home and School Relationships in Early Childhood	3 s.h.	
ECE-133 Child Health, Safety, and Nutrition	3 s.h.	
ECE-159 Early Childhood Curriculum II	3 s.h.	
ECE-243 Early Childhood Guidance	3 s.h.	♦
ECN-110 Introduction to Economics	3 s.h.	
EDU-235 Children's Literature	3 s.h.	
FIN-210 Analysis and Valuation of Stocks	1 s.h.	
FIN-214 Stocks, Bonds, and Investing	1 s.h.	
GEO-121 World Regional Geography	3 s.h.	♦
HMC-234 Intro to Hospitality Management	3 s.h.	
HCM-239 Customer Service	2 s.h.	
HIS-266 Civil War	3 s.h.	♦
HIT-210 Basic Medical Insurance and Coding	2 s.h.	
HSC-120 Medical Terminology I	3 s.h.	
HSC-121 Medical Terminology II	3 s.h.	
HSC-144 Basic Pharmacology	2 s.h.	
HSC-150 Body Structure and Function	4 s.h.	
HSC-155 Laboratory Tests	2 s.h.	
MGT-101 Principles of Management	3 s.h.	

Online Electives	SEMESTER HOURS	ICCOC
MGT-130 Principles of Supervision	3 s.h.	
MGT-170 Human Resource Management	3 s.h.	
MGT-220 Introduction to Sport Management	3 s.h.	
MGT-221 Current Issues in Sport	3 s.h.	
MKT-110 Principles of Marketing	3 s.h.	
MKT-140 Principles of Selling	3 s.h.	
MKT-150 Principles of Advertising	3 s.h.	
MUS-100 Music Appreciation	3 s.h.	
PEA-146 Physical Fitness I	1 s.h.	
PEC-110 Coaching Ethics, Techniques and Theory	1 s.h.	
PEC-115 Athletic Development and Human Growth	1 s.h.	
PEC-122 Introduction to Anatomy and Physiology for Coaching	1 s.h.	
PEC-161 Sports Officiating	3 s.h.	
PEH-111 Personal Wellness	3 s.h.	
PHI-101 Introduction to Philosophy	3 s.h.	♦
PHI-105 Introduction to Ethics	3 s.h.	
RDG-161 Speed Reading	1 s.h.	
REL-101 Survey of World Religions	4 s.h.	♦
SDV-113 Strategies for Academic Success	2 s.h.	
SDV-135 Job Seeking Skills	1 s.h.	
SDV-160 Career Decision Making	2 s.h.	
SDV-177 Listen to Your Heart and Success Will Follow	1 s.h.	
SDV-199 College Essentials	1 s.h.	

\*Open enrollment courses. All others start and end on the regular semester dates.

Note: North Iowa Area Community College is registered as a private institution with the Minnesota Office of Higher Education pursuant to Minnesota Statute, sections 136A.61 to 136A.71. Registration is not an endorsement of the institution. Credits earned at the institution may not transfer to all other institutions.



# COURSE DESCRIPTIONS

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COURSE CATALOG NUMBERING SYSTEM

LIST OF COURSE DESCRIPTIONS

LIST OF ICCOC COURSE DESCRIPTIONS



## COURSE CATALOG NUMBERING SYSTEM

Course descriptions are listed by Department of Study Prefix in alphabetical order.

## ADN - 103 Nursing II

Department of Study Prefix

The three-letter prefix stands for the discipline or department of study.  
Three numbers:  
000-099 = Developmental Courses  
100-899 = College Transfer and Career/  
Technical Courses  
900-999 = Special Topics\*\* and OJT

<b>BUS-102 Introduction to Business</b>	<b>(3 s.h.)</b>
Description _____	
_____	(45-0-0-0)
Equivalent to 15-101, BUSN-101	

← The credit value of the course.

← Total lecture, lab, clinical, or work experience hours

← Previous course numbers

ACC	Accounting
ADM	Administrative Assistant
ADN	Associate Degree Nursing
AGA	Agriculture - Agronomy
AGB	Agriculture - Farm Management
AGC	Agriculture - Comprehensive/ Miscellaneous
AGM	Agriculture - Mechanics
AGP	Agriculture - Precision Agriculture
AGS	Agriculture - Animal Science
ANT	Anthropology
ART	Art
ASL	American Sign Language
AUT	Automotive Technology
BCA	Business Computer Application
BIO	Biology
BMA	Building Maintenance
BUS	Business
CAD	Computer-Aided Drafting
CFR	Computer Forensics
CHM	Chemistry
CIS	Computer Programming
CLS	Cultural Studies
CON	Construction
CRJ	Criminal Justice
DRA	Film and Theatre
DSL	Diesel
ECE	Early Childhood Education

ECN	Economics
EDU	Education
EGR	Engineering
EGT	Engineering Technology
ELT	Electronics
EMS	Emergency Medical Services
ENG	English Composition
ENV	Environmental Science
ESL	English as a Second Language
FIN	Finance
FLS	Foreign Language - Spanish
GEO	Geography
GLS	Global Studies
GRA	Graphic Communications
HCM	Hospitality, Culinary and Management
HCR	Heating and Air Conditioning
HIS	History
HIT	Health Information Technology
HSC	Health Sciences
HSV	Human Services
HUM	Humanities
IND	Industrial Technology
JOU	Journalism
LIT	Literature
MAP	Medical Assistant
MAT	Mathematics
MFG	Manufacturing

MGT	Management
MKT	Marketing
MLT	Medical Lab Technician
MMS	Mass Media Studies
MUA	Music - Applied
MUS	General Music
NET	Computer Networking
PEA	Physical Education Activities
PEC	Coaching Officiating
PEH	General Physical Education and Health
PET	Physical Education Training
PEV	Intercollegiate Physical Education
PHI	Philosophy
PHS	Physical Science
PHY	Physics
PNN	Practical Nursing
POL	Political Science
PRL	Paralegal
PSY	Psychology
PTA	Physical Therapist Assistant
RAD	Radiologic Technology
RDG	Reading
REL	Religion
SDV	Student Development
SOC	Sociology
SPC	Speech
WEL	Welding

### \*\*XXX-949A-C Special Topics

Special Topics courses are offered in each discipline. Students may submit a proposal for a special project to an instructor. With the instructor's approval and the consent of the Division Chair and the Vice President for Academic and Student Affairs, credit may be given upon satisfactory completion of the project. Course may be repeatable for credit. (15 to 45-0-0-0) Equivalent to XXXX-900A-C. NOTE: All Special Topics courses, unless otherwise indicated, are elective credit.

1-3 s.h.



## Course Descriptions

### **ACC-111 Introduction to Accounting (3 s.h.)**

This course provides the student with a basic understanding of the accounting cycle and basic accounting rules along with the process of collecting and using financial information in a business. (45-0-0-0) *Equivalent to 15-109, ACCT-101.*

### **ACC-121 Principles of Accounting I (3 s.h.)**

A financial accounting course: analyzing transactions, matching principle, adjusting and closing entries, financial statements, receivables, inventories, fixed assets and intangible assets, current liabilities, corporations (capital stock transactions, dividends, income taxes, stockholder's equity, investment in stocks), bonds payable, investment in bonds. (45-0-0-0) *Equivalent to 15-150, ACCT-120.*

### **ACC-122 Principles of Accounting II (3 s.h.)**

Prerequisite: ACC-121 Principles of Accounting I or equivalent. A managerial accounting course that covers statement of cash flows, financial statement analysis, job order and process cost systems, cost behavior, budgeting, standard costing, differential analysis and product pricing, capital investment analysis, activity-based costing, and just-in-time manufacturing. Emphasis is on management's use of accounting information. (45-0-0-0) *Equivalent to 15-151, ACCT-121.*

### **ACC-135 Personal Income Tax (3 s.h.)**

Personal Income Tax is a course that introduces the student to the fundamentals of federal income tax regulations. Students engage in an in-depth study of the preparation of the individual income tax return. Emphasis is placed on the preparation of federal returns for individuals. The course is designed to help the student develop a broad understanding of the tax laws as they relate to the individual. Course content includes the examination of regulations pertaining to general tax return preparation and filing federal income tax returns for the individual. Students will prepare a variety of tax forms and schedules, including the calculation of deductions and credits. Annual tax law changes are also examined. (45-0-0-0)

### **ACC-161 Payroll Accounting (3 s.h.)**

Prerequisite: ACC-111 Introduction to Accounting or ACC-121 Principles of Accounting I with a grade of C or higher. A study of basic business taxes. Emphasis on payroll taxes including social security taxes, income taxes, and unemployment taxes; completion of quarterly and annual reports and a payroll simulation project. (45-0-0-0) *Equivalent to 15-155, ACCT-105.*

### **ACC-311 Computer Accounting (3 s.h.)**

Prerequisite: ACC-111 Introduction to Accounting or ACC-121 Principles of Accounting I with a grade of C or above. Designed to provide students with realistic experience with automated accounting consisting of five systems: general ledger, accounts payable, accounts receivable, depreciation, and payroll. Students will simulate taking an accounting position in a company already using a computerized accounting system. (45-0-0-0) *Equivalent to 15-160, ACCT-106.*

### **ADM-105 Introduction to Keyboarding (1 s.h.)**

Course covers the development of keyboarding techniques using the touch method on the computer keyboard to learn/review the alphabetic keys. The keyboarding competency is a minimum rate of 25 words a minute with two or fewer errors on a two-minute timing. This course has been designed as a pass/no pass course only. Also Open Entry. (0-30-0-0) *Equivalent to 15-112, BUSN-102.*

### **ADM-108 Keyboarding Skill Development (1 s.h.)**

Prerequisite: ADM-105 Introduction to Keyboarding or ability to keyboard at 25 or more words a minute with two or fewer errors on a 2-minute timing. Course covers the development of keyboarding techniques using the touch method on the computer keyboard to learn/review the alphabetic, numeric, and symbol keys. The keyboarding competency is a minimum rate of 35 words a minute with three or fewer errors on a three-minute timing. This course has been designed as a pass/no pass course only. Also Open Entry. (0-30-0-0) *Equivalent to 15-113, BUSN-103.*

### **ADM-123 Document Formatting (3 s.h.)**

Prerequisite: Keyboarding skill of 30 wpm (words a minute) with 3 or fewer errors on a 3-minute timed writing is recommended. This course covers the continued development of speed and accuracy on the alphabetic, numeric, and symbol keys. Students develop skills in formatting, producing, and proofreading the following documents: memos, letters, envelopes, tables, reports, and other miscellaneous business documents. (30-30-0-0) *Equivalent to 15-107, OFFC-701.*

### **ADM-131 Office Calculators (1 s.h.)**

A study of the 10-key, electronic calculator following current trends in office technology. Course emphasizes use of the touch method, explains common calculator features, and practices mathematical skills necessary in business calculations. This course has been designated as a pass/no pass course. Note: The arranged offering is a guided self-study intended for motivated students possessing good basic mathematical skills. Evaluation is by three individually arranged proctored exams. (5-20-0-0) *Equivalent to 15-110, OFFC-702.*

### **ADM-162 Office Procedures (3 s.h.)**

Office procedures and techniques necessary to perform general office duties. Includes using a word processor, developing transcription skills, using the Internet to access information, filing, handling telephone services, discussing professionalism, applying grammar rules, and taking care of general office administration. Students are expected to spend time outside of class working in the computer lab. (45-0-0-0) *Equivalent to 15-218, OFFC-830.*

### **ADM-185 Legal Terminology and Transcription (2 s.h.)**

Prerequisites: BCA-129 Word Processing, BUS-121 Business Communications, and HIT-125 Essentials of Health Records or MAP-353 Clinical Procedures I. Management of a lawyer's office that includes transcribing legal documents in the area of law the attorney practices, which may include litigation, probate, divorce, adoption, bankruptcy, corporate organization, and real estate. In addition, students will develop an understanding of legal terminology, legal procedures, grammar, punctuation, number expression, word choice, and spelling so that documents can be prepared accurately and efficiently. (0-60-0-0)

### **ADM-215 Medical Office Procedures (3 s.h.)**

Prerequisites: BCA-129 Basic Word Processing and BUS-121 Business Communications. Management of a medical office that includes preparing correspondence and patient records, using the Internet to access information, filing, handling telephone services, making and keeping appointments, developing transcription skills, composing letters, discussing professionalism, applying grammar rules, and taking care of general office duties. Also includes medical ethics and etiquette, medical law, and use of a computer for word processing. Students are expected to spend time outside of class working in the computer lab. (45-0-0-0) *Equivalent to 15-259, OFFC-850.*

**ADN-100 Nursing I (8 s.h.)**

Prerequisites: BIO-186 Microbiology, ENG-105 Composition I, PSY-111 Introduction to Psychology. Corequisites: BIO-206 Anatomy and Physiology I with Lab, and PSY-121 Developmental Psychology. Nursing I includes the philosophy and conceptual framework of the NIACC Associate Degree Nursing program. The course includes basic concepts related to legal and ethical aspects of nursing, nursing roles, and current trends in health care. The student is introduced to wellness-illness theory, the therapeutic nurse-patient relationship, and effective communication techniques. An introduction to caring concepts is also included. Nursing I utilizes the nursing process with emphasis on assessment and nursing diagnosis in meeting client needs resulting from impairments relating to safety and comfort throughout the life span. Pharmacological concepts, diet modification, psychosocial concepts, and health maintenance are integral considerations in the progressive development of the student's knowledge and skills. Clinical experiences include opportunities to apply nursing roles and the nursing process in long-term care, medical-surgical, and community settings. (75-60-45-0)

**ADN-103 Nursing II (10 s.h.)**

Prerequisites: ADN-100 Nursing I, BIO-186 Microbiology, BIO-206 Anatomy and Physiology I with Lab, ENG-105 Composition I, PSY-111 Introduction to Psychology, and PSY-121 Developmental Psychology. Corequisites: BIO-151 Nutrition and BIO-207 Anatomy and Physiology II with Lab. Nursing II utilizes the nursing process with emphasis on planning in meeting client needs resulting from impairments relating to self-esteem and mobility throughout the life span. Pharmacological concepts, diet modification, psychosocial concepts, and health maintenance are integral considerations in the progressive development of the student's knowledge and skills. Clinical experiences include opportunities to apply nursing roles and the nursing process in maternal-newborn, pediatrics, medical-surgical, and community settings. (105-0-135-0) *Equivalent to 90-111, ADNS-703.*

**ADN-603 Nursing III (12 s.h.)**

Prerequisites: ADN-103 Nursing II, plus all prerequisites and corequisites of the freshman year non-nursing courses. Corequisite: ENG-106 Composition II. Nursing III utilizes the nursing process with an emphasis on implementation in meeting client needs resulting from impairments in interpersonal interaction, oxygenation, and nutrition throughout the life span. Pharmacological concepts, diet modification, psychological health, and health maintenance are integral considerations in the progressive development of the student's knowledge and skills in assisting clients to meet interpersonal, oxygen, and nutrition needs. Clinical experiences will include opportunities to apply nursing roles and the nursing process in a variety of care settings. (105-0-225-0) *Equivalent to 90-210, ADNS-801.*

**ADN-604 Nursing IV (12 s.h.)**

Prerequisite: All prerequisites and corequisites for course work in previous terms in the ADN program. ADN-603 Nursing III. Corequisite: SPC-112 Public Speaking. Nursing IV utilizes the nursing process with emphasis on evaluation in meeting client needs resulting from impairments relating to nutrition, elimination, and sensory stimulation throughout the life span. Pharmacological concepts, diet modification, psychosocial concepts, and health maintenance are integral considerations in the progressive development of the student's knowledge and skills to meet the diverse needs of the client. Concepts of management, legal, and ethical aspects for the nursing profession and issues related to current

trends are presented. Clinical experiences will focus on clients with complex needs. The management experience is the culmination of the student's academic and clinical education in which the student will have an opportunity to care for a group of clients and apply basic skills in leadership and conflict management. Clinical experiences will include opportunities to apply nursing roles and the nursing process in a variety of care settings. (105-0-225-0) *Equivalent to 90-211, ADNS-802.*

**AGA-114 Principles of Agronomy (3 s.h.)**

A foundation course in agronomy. Problem areas include: plant anatomy; plant classification and ID; crop physiology; pest classification, ID, and control; pesticides; and pesticide certification. Students will take the Iowa Commercial Pesticide Applicator Core 1A, 1B and 1C exams as a requirement for this course. (38-15-0-0) *Equivalent to 90-160, AGAS-701.*

**AGA-154 Fundamentals of Soil Science (3 s.h.)**

Introduction to the physical, chemical, and biological properties of soils with an emphasis on the functions of the soil as a medium to support plant life. A review of the sources and functions of major and minor plant elements, fertilizers and their properties, soil acidity, liming materials, and soil conservation. (38-15-0-0) *Equivalent to 90-186, AGAS-703.*

**AGA-852 Principles of Crop Production (3 s.h.)**

Production and management practices for corn, soybeans, small grains, and forage crops common to North Iowa agriculture. (38-15-0-0) *Equivalent to 90-161, AGAS-702.*

**AGA-855 Site-Specific Crop Management (2 s.h.)**

Prerequisite: AGA-154 Fundamentals of Soil Science or equivalent. This course covers advanced soil management. (30-0-0-0) *Equivalent to 92-261, AGPS-702.*

**AGA-860 Soils and Crop Management (2 s.h.)**

Prerequisite: AGA-154 Fundamentals of Soil Science or equivalent or instructor permission. Advanced plant nutrition, soil fertility, and nutrient management. (30-0-0-0) *Equivalent to 90-282 and AGAS-801.*

**AGB-133 Introduction to Ag Business (3 s.h.)**

This course is designed for students seeking an Associate of Applied Science Degree in Agriculture. Basic economic concepts, principles, and practices reflected in agriculture will be outlined. Students will also reflect on the major components of an agricultural business organization, and the economic fundamentals involved in organizing, operating, and managing an agricultural business. (45-0-0-0)

**AGB-330 Farm Business Management (3 s.h.)**

Principles of Farm Management. Emphasis is given to decision making, implementation, and control in farm operations using economic principles, farm records, enterprise analysis, financial reports, and investment analysis. This course also provides students the opportunity to develop an understanding of real estate value and the application of the appraisal process to estimating the market value of agricultural and rural real estate. (45-0-0-0)

**AGB-338 Salesmanship and Advertising (2 s.h.)**

This course is designed for students seeking an Associate in Applied Science Degree in Agriculture. Sales presentations and advertising setups of agricultural goods and services will serve as a

basis of discussion in this course. Students will study techniques of selling and advertising of agricultural goods and services, and have a firsthand chance to sell products to student consumers during the course of the semester. (30-0-0-0) *Equivalent to 90-189, AGBS-815*

**AGB-437 Commodity Marketing (3 s.h.)**

Elements of producer marketing of major Midwest crops with emphasis on formulating marketing goals and plans. Marketing tools, futures and option markets, speculation, hedging, and risk management. (45-0-0-0)

**AGB-810 Agriculture Internship (4 s.h.)**

Agriculture Internships are high impact educational experiences offered by North Iowa Area Community College to prepare students for employment and advancement potential within the agricultural industry. Under the supervision of the college, faculty, and employment supervisor, internships allow the student to apply theoretical principles learned in the classroom to every day on-the-job practices in his or her field of study. Students majoring in Agriculture Operations/Management and Agriculture Sales/Service are required to complete two professional internship experiences before graduation. Students majoring in Agriculture Marketing/Finance are required to complete at least one professional internship experience before graduation. (0-0-0-240)

**AGC-190 Skills and Safety in Agriculture (1 s.h.)**

This course is designed to acquaint the student with the proper personal and shop safety procedures needed to function in an agricultural lab setting. In addition to the safety, students will also receive instruction on first aid in an emergency situation, as well as computing skills needed to be successful in an agricultural setting. (7.5-15-0-0)

**AGC-315 Leadership in Agriculture (3 s.h.)**

Develop skills in parliamentary procedure, business meeting agendas, techniques of delegation, applied communication skills, organization structure and job seeking skills. Emphasis will also be placed on salaries, benefits, retirements, personal finance, and other human resource items deemed viable for today's workplace. (45-0-0-0)

**AGC-420 Issues in Agriculture (3 s.h.)**

This course provides students the opportunity to collect, discuss, interpret, and defend current economic, environmental and social issues that affect the production of agricultural commodities. (45-0-0-0)

**AGM-120 Basic Agricultural Mechanics (2 s.h.)**

Maintenance and management of agricultural machinery and power units. (30-0-0-0) *Equivalent to 92-273, AGMS-701.*

**AGP-331 Precision Agriculture (2 s.h.)**

Prerequisite: AGA-114 Principles of Agronomy, AGA-852 Principles of Crop Production, and demonstrated computer proficiency, or permission from instructor. Precision agriculture is a management strategy that uses information technologies to bring data from multiple sources to bear on decisions associated with crop production. It should be viewed as a developing management system and not simply as an application of technology. GPS is considered the enabling tool for the entire Precision Agriculture system. GPS is

vital for yield monitoring, soil sampling, measuring field boundaries, and variable-rate application of crop nutrients and crop protection products. Students will be introduced to this and other important technologies, with hands-on experience being provided using GPS receivers, scouting, navigation tools, and mapping software. (15-30-0-0) *Equivalent to 90-267, AGPS-701, AGP-333.*

**AGS-109 Animal Science I (3 s.h.)**

This course is designed to provide students with a general overview of the livestock industry. It identifies the ways in which domestic animals serve the basic needs of humans for food, fiber, shelter, protection, fuel and emotional well-being. Students will develop an understanding of and be able to apply the basic principles of animal selection, breeding, genetics, feeding, health, and husbandry practices. As a student, you will become familiar with the economic and social issues that confront the livestock industry. (45-0-0-0) *Equivalent to 70-112, AGSS-701.*

**AGS-110 Animal Science I Lab (1 s.h.)**

This course incorporates laboratory experiences designed to help students develop livestock husbandry skills, livestock facilities construction and maintenance skills, related livestock technology use skills, and group problem-solving skills. This course is designed to be a companion for AGS-109 Animal Science I and will provide students with hands-on experiences in each of the Animal Science units of study. Students will be able to apply the basic principles of animal selection, breeding, feeding, health, and husbandry practices. Students will coordinate specific animal improvement and marketing activities associated with the livestock species at NIACC. (0-30-0-0) *Equivalent to AGSS-701L.*

**AGS-209 Animal Science II (3 s.h.)**

This course applies advanced principles of livestock production and management. Areas of emphasis include: a review of animal husbandry practices, which result in greater performance and profit; livestock facilities requirements; production trends, animal health, and nutritional requirements for livestock produced in the Midwest; emphasis on swine and beef cattle production. (45-0-0-0) *Equivalent to 70-212, AGSS-702.*

**AGS-210 Animal Science II Lab (1 s.h.)**

This course incorporates laboratory experiences designed to help students develop livestock husbandry skills, livestock facilities construction and maintenance skills, related livestock technology use skills, and group problem-solving skills. This course is designed to be a companion for AGS-209 Animal Science II and will provide students with hands-on experiences in each of the Animal Science units of study. Students will be able to apply the basic principles of animal selection, breeding, feeding, health, and husbandry practices. Students will coordinate specific animal improvement and marketing activities associated with the livestock species at NIACC. (0-30-0-0) *Equivalent to AGSS-702L.*

**AGS-317 Animal Nutrition (2 s.h.)**

Fundamentals of nutrition that deal with monogastric and ruminant animals. Materials covered will enable students to identify sources, composition and functions of various feedstuffs. Students will learn to evaluate and formulate livestock rations and will be able to make feeding recommendations based upon varying livestock, environment and management conditions. (30-0-0-0) *Equivalent to 90-171, AGSS-710.*

**AGS-401 Swine Production (3 s.h.)**

This course applies advanced principles of swine production and management. Areas of emphasis include: a review of swine husbandry practices, which result in greater performance and profit; livestock facilities requirements and maintenance, animal health, reproduction, and nutritional requirements. Students will have the opportunity to apply skills learned in the classroom to the swine operation at the NIACC Farm Lab. (30-30-0-0)

**AGS-554 Beef Production (3 s.h.)**

This course is designed to help students identify the primary biological principles that contribute to raising productive beef cattle, to integrate biological and economic principles that comprise effective management decisions needed to produce profitable cattle, and to enhance the understanding and communication between all segments of the beef industry. The course material identifies the primary management principles and practices needed by commercial and seedstock producers to raise productive and profitable cattle that can meet the specifications needed by the beef industry. (30-30-0-0)

**AGS-811 Animal Technologies (1 s.h.)**

This course is designed for students seeking an Associate in Science Degree in Agriculture. Students will be involved with techniques and technologies that enable better management, decision-making, and improved economic efficiency of agricultural operations. Included in the course are Animal Reproductive Technologies, Embryo Transfer, Estrus and Ovulation Synchronization, Electronic Heat Detection, Quality Assurance Evaluation, and Food Safety. (10-15-0-0) *Equivalent to AGSS-816.*

**ANT-105 Cultural Anthropology (3 s.h.)**

This course embraces cultures from all continents, highlights major human subsistence patterns, and illustrates human adaptation to the environment from the beginning of human history to the present. Individual studies enable students to experience cultures in depth. The student's goal is to understand one's own culture from a historical perspective and to analyze the forces of today in terms of how those forces may affect the future of earth and mankind. (45-0-0-0) *Equivalent to 80-160, SOCS-115.*

**ART-101 Art Appreciation (3 s.h.)**

An introductory course designed to give a better understanding of art as an important force in present-day living. Aims to develop an appreciation of art and creative thinking through lectures, readings, and visual aids. Experimentation with a variety of tools, techniques, and materials is a meaningful part of the course. Recommended for nonart majors. This is an entry-level course. (45-0-0-0) *Equivalent to 10-101, ARTS-101.*

**ART-102 Art for Elementary Education (3 s.h.)**

This course is designed for elementary education majors or those who are planning to work with children pre-K to grade 6. Focuses on instructional planning for art studio and response activities with emphasis on interdisciplinary and multicultural approaches. Components are artistic development of children, peer teaching, field observation, and foundations of art education. (45-0-0-0) *Equivalent to 10-112, ARTS-103.*

**ART-115 Graphic Design (3 s.h.)**

Creative problem solving through the exploration of aesthetic and technical aspects of graphic design using computer-aided design software. (45-0-0-0) *Equivalent to 10-202, ARTS-202.*

**ART-116 Graphic Design II (3 s.h.)**

Prerequisite: ART-115 Graphic Design. As a continuation of ART-115 Graphic Design, this course will emphasize the conceptual skills necessary to effectively integrate the principles of visual perception to design projects. Emphasis will be given to the role of color as it relates to visual communication. The theoretical, psychological and cultural aspects of color will be studied in the context of their application to appropriate graphic design decisions. Design software such as, but not limited to, Adobe InDesign, Photoshop, Illustrator and QuarkXpress will be utilized. (45-0-0-0)

**ART-120 Two-Dimensional Design (3 s.h.)**

Students/artists explore the process of visual problem solving through participation in class critiques of individual projects. Perception and structure: exploring visual order emphasizing two-dimensional concepts. (45-0-0-0) *Equivalent to 10-201, ARTS-201.*

**ART-123 Three-Dimensional Design (3 s.h.)**

Beginning experiences in conceiving and making in three dimensions; emphasis on interaction between work and idea, skills in art making, and common vocabulary of art. An exploration of aesthetic and practical considerations of working three-dimensionally. (45-0-0-0)

**ART-127 Digital Illustration (3 s.h.)**

Creation and manipulation of digital imagery is explored in the context of creative expression. User interactivity, full-color printing and computer art theories are covered. The history of digital illustration will be studied in the context of how it has changed our perceptions of visual imagery. The student completes visual projects with instructor guidance. (45-0-0-0)

**ART-131 Digital Publication Design (3 s.h.)**

Prerequisite: ART-115 Graphic Design or permission of instructor. Utilizing the skills gained in previous courses, Digital Publication Design will explore how to use conceptual design skills to systematically integrate photographs, type and illustration using page composition software, such as Adobe InDesign and other as needed. The student will achieve an understanding of printing processes, pre-press, and post-press production, as well as paper specification. (45-0-0-0)

**ART-133 Drawing (3 s.h.)**

The development of visual perception in objective and subjective representation. Study of line, form, texture, and value in a variety of media stressing an individual's creative development. This is an entry-level course. (45-0-0-0) *Equivalent to 10-120, ARTS-120.*

**ART-134 Drawing II (3 s.h.)**

Prerequisite: ART-133 Drawing I. A continuation of Drawing I, with a greater emphasis on self-expression. (45-0-0-0)

**ART-143 Painting I (3 s.h.)**

Prerequisite: ART-101 Art Appreciation, ART-120 Two-Dimensional Design, or ART-133 Drawing. This is a beginning course planned to familiarize the student with the basic materials and tools of painting, the elements of pictorial organization, and the individual's creative development. Each student is encouraged to cultivate his or her own visual vocabulary. (45-0-0-0) *Equivalent to 10-210, ARTS-210.*

**ART-144 Painting II (3 s.h.)**

Prerequisite: ART-143 Painting I. Continuation of ART-143 Painting I. Independent research, reading, and personal exploration of media and techniques. (45-0-0-0) *Equivalent to 10-211, ARTS-211.*

**ART-173 Ceramics (3 s.h.)**

An introductory course involving hand-building, wheel-throwing, glazing, and firing. Slides, lectures, and demonstrations. Ceramics facilities are located in the MacNider Museum, Mason City. (20-50-0-0) *Equivalent to 10-130, ARTS-130.*

**ART-187 Creative Photography (3 s.h.)**

An investigation into the relationship of basic photographic techniques to design, perception, and aesthetics. Each student is encouraged to cultivate his or her own visual vocabulary while working on photographic projects. (45-0-0-0) *Equivalent to 10-150, ARTS-150.*

**ART-188 Creative Photography II (3 s.h.)**

Prerequisite: ART-187 Creative Photography. Emphasis on exploring photographic techniques in the development of a personal vision. Technical subjects covered: lighting, advanced computer manipulation, and camera techniques. Only offered spring semester. (45-0-0-0) *Equivalent to 10-151, ARTS-151.*

**ART-203 Art History I (3 s.h.)**

The study of the development of the visual arts of western civilization including painting, sculpture, architecture, and crafts from prehistoric origins through Gothic. (45-0-0-0) *Equivalent to 10-102, ARTS-104.*

**ART-204 Art History II (3 s.h.)**

The study of the development of the visual arts of western civilization including painting, sculpture, architecture, crafts, and photography from the Renaissance through the present time. (45-0-0-0) *Equivalent to 10-103, ARTS-105.*

**ASL-131 American Sign Language I (3 s.h.)**

This course is designed to provide students with an introduction to American Sign Language (ASL) and the Deaf Culture in America. Focus is on building sign vocabulary, finger spelling, grammar and syntax rules, facial expressions, use of personal space, and the development of sensitivity and awareness of the Deaf Community in America. The student is expected to acquire basic signing skills and sign vocabulary. (45-0-0-0)

**ASL-161 American Sign Language II (3 s.h.)**

Prerequisite: ASL-131 American Sign Language I with a grade of C- or higher. This course continues the study and practice of basic skills initiated in ASL-131 American Sign Language I. The course is focused on vocabulary building, finger spelling, facial expressions, body language, use of personal space, and the development of sensitivity and awareness of the Deaf Community in America. Students will learn to sign at a conversation level both expressively and receptively. (45-0-0-0)

**ASL-241 American Sign Language III (3 s.h.)**

Prerequisite: ASL-161 American Sign Language II with a C or higher. This course continues the study and practice of the skills learned in American Sign Language I and American Sign Language II and allows recognition and demonstration of more sophisticated

grammatical features of ASL. It also increases fluency and accuracy in fingerspelling and numbers. (45-0-0-0)

**ASL-271 American Sign Language IV (3 s.h.)**

Prerequisite: ASL-241 American Sign Language III with a C or higher. This course is designed to provide a continuation of instruction from American Sign Language III in the grammatical features of ASL, vocabulary development, conversational skills, as well as expanding understanding and appreciation of Deaf culture and the Deaf community. Emphasis will be placed on the student's conceptual understanding of the grammatical structure of ASL and application of these concepts in language skill development and use. ASL IV integrates receptive and expressive skills with an emphasis on linguistic, literature, and discourse styles at an intermediate level. This course is aimed at refining and strengthening the skills acquired in previous levels. (45-0-0-0)

**AUT-105 Introduction to Automotive Technology (4 s.h.)**

Corequisite: AUT-115 Automotive Shop Safety. Instruction in service procedures, information and equipment. Classroom and laboratory activities emphasize routine vehicle maintenance in the care of fluids, tires, batteries, lighting, belts, hoses, filters, and cooling systems. (30-60-0-0)

**AUT-113 Transportation Fundamentals (3 s.h.)**

This course will require many of the basic elements required to be successful in transportation courses. The concepts covered include basic electronics and an introduction to basic shop equipment. Emphasis will be placed on problem solving, proper use and application of equipment, study of electrical and mechanical diagrams, and ability to identify equipment needed in repair situations. Coursework will include many hands-on exercises with industrial grade equipment. (30-30-0-0)

**AUT-115 Automotive Shop Safety (1 s.h.)**

This course is designed to acquaint the student with the proper personal and shop safety procedures needed to function in an automotive shop. Tool identification, tool care, and maintenance will be covered along with careers and career options in the automotive industry. Policies, procedures, and orientation will also be included in this course. (15-7.5-0-0)

**AUT-164 Automotive Engine Repair (4 s.h.)**

Prerequisite: AUT-105 Introduction to Automotive Technology and AUT-115 Automotive Shop Safety, or permission by the instructor. Instruction/laboratory procedures for engine repair diagnosis, removal, disassembly, inspection, overhaul and reassembly of automotive and/or light truck engines according to manufacturer's specifications. (15-90-0-0)

**AUT-204 Automotive Automatic Transmissions and Transaxles (4 s.h.)**

Prerequisite: AUT-105 Introduction to Automotive Technology and AUT-115 Automotive Shop Safety, or permission by the instructor. Automotive Shop Safety, or permission by the instructor. Instruction in diagnosis, maintenance, and overhaul of major automatic transmissions and transaxles in various makes of automobiles. (15-90-0-0)



**AUT-305 Automotive Manual Drive Trains and Axles (4 s.h.)**

Prerequisite: AUT-105 Introduction to Automotive Technology and AUT-115 Automotive Shop Safety, or permission by the instructor. Instruction/laboratory procedures for servicing, diagnosing, and repairing/replacing standard transmissions and clutches, transaxles, and differentials. (15-90-0-0)

**AUT-405 Automotive Suspension and Steering (5 s.h.)**

Prerequisites: AUT-105 Introduction to Automotive Technology and AUT-115 Automotive Shop Safety, or permission by the instructor. Instruction/laboratory service procedures for inspection, adjustments, alignment, repair and/or replacement of suspension and steering components. (45-75-0-0)

**AUT-505 Automotive Brake Systems (5 s.h.)**

Prerequisites: AUT-105 Introduction to Automotive Technology and AUT-115 Automotive Shop Safety, or permission by the instructor. Instruction in the theory and operating principles of drum, disc, hydraulic and anti-lock brake systems (ABS). Laboratory procedures for inspecting, testing, diagnosing, repairing and/or replacing conventional, power, and ABS brake system components. (45-75-0-0)

**AUT-627 Automotive Electrical Systems (7 s.h.)**

Corequisites: AUT-105 Introduction to Automotive Technology and AUT-115 Automotive Shop Safety, or permission by the instructor. Instruction in the electrical and electronic principles and testing procedures as applied to automotive circuits and microprocessors. Laboratory procedures to include the utilization of wiring schematics and test equipment for diagnosing and repairing starting systems, charging systems, instrumentation, electrical accessory and lighting systems. An introduction to scan tools is included, with basic use, such as code reading and data gathering. (60-90-0-0)

**AUT-704 Automotive Heating and Air Conditioning (4 s.h.)**

Prerequisite: AUT-105 Introduction to Automotive Technology and AUT-115 Automotive Shop Safety, or permission by the instructor. Instruction in theory and operation of automotive heating and air conditioning systems including heat transfer and pressures. Laboratory procedures for servicing and maintaining heating and air conditioning systems and controls utilizing approved refrigerant recovery/recycling equipment and methods. (30-60-0-0)

**AUT-832 Automotive Fuel Delivery Systems (3 s.h.)**

Prerequisite: AUT-105 Introduction to Automotive Technology, AUT-115 Automotive Shop Safety and AUT-843 Automotive Computerized Controls, or permission by the instructor. Strong mechanical aptitude. Instruction in the fundamentals of operation and service of complete fuel systems including storage, delivery, and metering. (30-30-0-0) *Equivalent to 98:208.*

**AUT-843 Automotive Computerized Controls (5 s.h.)**

Prerequisites: AUT-105 Introduction to Automotive Technology, AUT-115 Automotive Shop Safety and AUT-627 Automotive Electrical Systems, or permission by the instructor. Instruction in electronics theory as it applies to automotive computers, sensors, and control devices, with emphasis on developing an organized approach to diagnostics. (30-90-0-0)

**AUT-859 Advanced Automotive Engine Performance (6 s.h.)**

Prerequisites: AUT-105 Introduction to Automotive Technology, AUT-115 Automotive Shop Safety and AUT-843 Automotive

Computerized Controls, or permission by the instructor. Instruction in the theory and operating principles of automotive computerized engine control systems and other advanced electronic systems with emphasis on utilizing relevant vehicle data and service information, lab and oscilloscopes, DVOMs, and scan tools to test/diagnose/repair system malfunctions. (45-90-0-0)

**AUT-866 Automotive Engine Performance Testing (6 s.h.)**

Prerequisite: AUT-105 Introduction to Automotive Technology, AUT-115 Automotive Shop Safety and AUT-843 Automotive Computerized Controls, or permission by the instructor. Instruction in the theory and operating principles of automotive emission systems with emphasis on utilizing relevant vehicle data and service information, lab and, oscilloscopes, DVOMs, and scan tools to test/diagnose/repair system malfunctions. (45-90-0-0)

**BCA-100 Computer Literacy (1 s.h.)**

This course is intended to familiarize the student with Windows-based personal computers including introductory file control and management using Windows, exposure to different software, and basics on how to use e-mail and the Internet. Students with little or no computer background are encouraged to take this course. This course has been designated as a pass/no pass course. (0-30-0-0) *Equivalent to 15-114, COMP-100.*

**BCA-101 Introduction to Computers and Information Systems (3 s.h.)**

Emphasis on computer literacy and business applications of computer software. Students do business problems using electronic spreadsheets, word processing software, database management software, and presentation software. Students also are exposed to web use, file management, and simple web page development. (45-0-0-0) *Equivalent to 15-140, COMP-110.*

**BCA-103 Management Information Systems (3 s.h.)**

The primary goal of MIS is to prepare students to be productive participants in an information society. The course is designed to develop a broad understanding of business information systems, various ways to discern information from an information system, and look at ways to distribute this information. The student will also learn the basic principles and techniques for developing simple computer-based information systems for managerial decision support systems through an extensive group project component of the course. (45-0-0-0) *Equivalent to 15-141, COMP-111.*

**BCA-119 Computer Orientation (1 s.h.)**

Introduction to basic computer hardware and software functions. Emphasis on using the computer as a tool to create personal and business documents. Introductory Windows, word processing, spreadsheet, presentation, and Internet units give students an opportunity to view software capabilities and use some of the features. (15-15-0-0) *Equivalent to 96-162, COMP-702.*

**BCA-129 Basic Word Processing (2 s.h.)**

This course is designed to introduce students to computers and the fundamentals of word processing. The students will progress from basic through intermediate features of word processing software. (20-20-0-0) *Equivalent to 15-211, COMP-105.*

**BCA-136 Advanced Word Processing (3 s.h.)**

Prerequisites: BCA-129 Basic Word Processing and BCA-215 Computer Business Applications. Students will learn intermediate

to advanced functions of Microsoft Word including customizing templates, recording macros, creating on-screen forms, managing long documents, creating hyperlinks, and publishing on the World Wide Web. (30-30-0) *Equivalent to 15-136, COMP-207.*

**BCA-152 Comprehensive Spreadsheets (3 s.h.)**

Prerequisite: BCA-101, Introduction to Computers and Information Systems or BCA-215 Computer Business Applications. Learn the fundamentals of spreadsheets, databases, and business graphics using appropriate software. (30-30-0) *Equivalent to 15-175, COMP-115.*

**BCA-155 Introduction to Web Design (3 s.h.)**

Introduction to Web Design is an introductory web design course for non-computer majors. Students will participate in basic webpage and website design including updating of existing webpages and websites. Students will study the process to build their own website for free-lance and/or entrepreneurial purposes. Images, HTML code, and writing content for the web and copyright laws will also be covered. (30-30-0)

**BCA-182 Introduction to Microsoft Publisher (1 s.h.)**

Introduction to Microsoft Publisher demonstrates layout and design techniques to create brochures, newsletters, and publish a website to the Internet. This course has been designated as a pass/no pass course. (5-20-0) *Equivalent to 15-244, BUSN-252.*

**BCA-185 Beginning Web Page Development (3 s.h.)**

This class covers the basics of building a web page. Students will learn basic coding with HTML and explore web development products such as Nvu, Kompozer & Weebly to build a web page. Students will also learn how to post a web page on web server to be seen on the Internet, add graphics, change fonts, add colors, develop navigation, and design tables. (45-0-0) *Equivalent to 15-137; ECOM-100*

**BCA-215 Computer Business Applications (3 s.h.)**

Emphasis on business applications of computer software. Students complete business problems using word processing, electronic spreadsheet, and database management software. Students are also exposed to Windows operating systems, presentation software, and the Internet. (45-0-0) *Equivalent to 15-134, COMP-101.*

**BCA-270 Learn to Buy and Sell on eBay (1 s.h.)**

Learn to Buy and Sell on eBay demonstrates skills of entitling, creating advertisements, uploading photographs, conduct financial transactions and protect against fraud. This course has been designated as a pass/no pass course. (5-20-0) *Equivalent to 15-245, BUSN-253.*

**BCA-280 Introduction to QuickBooks (1 s.h.)**

Introduction to QuickBooks provides a traditional approach to small business accounting by creating a chart of accounts, reconciling checking accounts, creating invoices, receipts, statements, payable registry, inventory, receivables registry, and generate reports. This course has been designated as a pass/no pass course. (5-20-0) *Equivalent to 15-246, BUSN-254.*

**BIO-102 Introductory Biology (3 s.h.)**

Study of organismic biology including organization, metabolism, and reproduction of living systems. Includes evolutionary patterns, inheritance, ecosystems, and structure-function relationships among organisms. (45-0-0) *Equivalent to 70-101, BIOL-101.*

**BIO-103 Introductory Biology Lab (1 s.h.)**

Corequisite: Credit for or current enrollment in BIO-102 Introductory Biology. This is a lab component intended to supplement Introductory Biology. (0-30-0) *Equivalent to 70-102, BIOL-102.*

**BIO-123 Inquiry Into Life Science (4 s.h.)**

Prerequisite: EDU-216 Introduction to Teaching. This course is specifically designed for education majors. Topics include ecosystems, plants, gene, homeostasis, microbes and metabolism. These topics are presented while modeling effective pedagogy when it comes to teaching science. The course is modeled on the *Teaching Standards and Content Standards of the National Science Education Standards*. (45-30-0) *Equivalent to 70-190, BIOL-103.*

**BIO-151 Nutrition (3 s.h.)**

Prerequisite: Three credit hours of high school inorganic chemistry. Physiology or biology helpful, but not essential. Basic math skills will be employed. Introduces the science of human nutrition and its application to the role of the nurse, other allied health professional or educator in promoting good nutrition throughout the life span. Emphasis is placed on the study of macro and micro nutrient needs; and the use of science-based evidence for evaluation of findings and adoption of applications promoting sound nutritional practices among patients, clients and the community at large. Some principles of diet modification are presented as they relate to common chronic health problems, such as heart disease and diabetes. (45-0-0) *Equivalent to 70-200, BIOL-205.*

**BIO-152 Health and Nutrition (3 s.h.)**

This course covers the science of health and its application to the individual, home, community, and school. Topics include elementary physiology, nutrition, dependency, and current health problems of national concerns. (45-0-0) *Equivalent to 70-110, BIOL-105.*

**BIO-186 Microbiology (4 s.h.)**

Morphology, physiology, taxonomy, and relationship of microorganisms to disease. In-depth laboratory study and suitable lecture material with applications to agriculture, industry, and medicine. (45-30-0) *Equivalent to 70-109, BIOL-109.*

**BIO-196 Introduction to Bio-Technology (4 s.h.)**

The purpose of this course is to help students understand the importance and impact of bio-technology on our lives. Students will be introduced to bio-science's impact on society and made to realize that technologies, like the tools they are manifested in, can be used "for better or for worse." The benefits of bio-science will be discussed in six major categories: agriculture, industry, medicine, environmental, forensic, and advancement of knowledge. (45-30-0)

**BIO-202 Biology I (4 s.h.)**

Prerequisite or Corequisite: CHM-151 College Chemistry I or CHM-166 General Chemistry I. This course, with the addition of BIO-203 Biology II, is a detailed study of the fundamental principles of biology. It is intended for students who will major in biology and it should be taken with the understanding that Biology II will be taken at NIACC also. Problems may result for the student who takes one Biology semester here and takes the other semester at a different institution. Biology I includes the study of ecology and environmental issues, cell structure and function, energy transfer, inheritance, and evolution. (45-30-0) *Equivalent to 70-105, BIOL-201.*

**BIO-203 Biology II (4 s.h.)**

Prerequisite: BIO-202 Biology I, with a grade of C or higher; or equivalent; or permission of instructor. This course, with the addition of Biology I, is a study of the diversity of life. It is intended for students who will major in Biology and it should be taken with the understanding that Biology I should also be taken at NIACC. Problems may result for the student who takes one Biology semester here and takes the other semester at a different institution. Biology II includes evolution of life (unless it was covered in semester one of that year) and study of the six kingdoms of life. (45-30-0-0) *Equivalent to 70-108, BIOL-202.*

**BIO-206 Anatomy and Physiology I (4 s.h.)**

Prerequisite: Must have successfully completed, with a grade of C or higher, one of the following: BIO-102 Introductory Biology; BIO-186 Microbiology; BIO-202 Biology I; HSC-150 Body Structure and Function; high school AP Biology; high school Anatomy and Physiology; or an ACT Composite score of at least 21. A lecture and laboratory-based study of the human body emphasizing the complementary nature of structure and function, molecular and cellular interactions, homeostasis, and metabolic processes. Includes a study of cells, tissues, membranes, skeletal, muscular, and reproductive systems. Students enrolling in Anatomy and Physiology I or II should plan on taking both semesters of the sequence at NIACC. Problems may result for the student who takes one A&P semester at NIACC and the other semester at a different institution. (45-30-0-0) *Equivalent to 70-250, BIOL-220.*

**BIO-207 Anatomy and Physiology II (4 s.h.)**

Prerequisite: BIO-206 Anatomy and Physiology I, with a grade of C or higher; or permission of instructor. A continuation of BIO-206 Anatomy and Physiology I. Includes a study of the circulatory, respiratory, digestive, endocrine, urinary, and nervous systems. Fetal pig, heart, kidney, brain, and eye dissections are required laboratory activities. Students enrolling in Anatomy and Physiology I or II should plan on taking both semesters of the sequence at NIACC. Problems may result for the student who takes one A&P semester at NIACC and the other semester at a different institution. (45-30-0-0) *Equivalent to 70-251, BIOL-221.*

**BMA-168 Steam Plant Operations I (Low Pressure Boilers)(2 s.h.)**

This course presents principles of safe operation and maintenance of low-pressure boiler systems and prepares students for the state certification exam. This course has been designated as a pass/no pass course. (30-0-0-0)

**BMA-169 Steam Plant Operations II (High Pressure Boilers) (2 s.h.)**

Prerequisite: BMA-168 Steam Plant Operations I (Low Pressure Boilers) or permission of instructor. This course provides an overview of high pressure boiler operations and is used as a preparatory course for the state boiler technician exam. This course has been designated as a pass/no pass course. (30-0-0-0)

**BUS-102 Introduction to Business (3 s.h.)**

An overview of the phases and functions of the business enterprise. Units of instruction include the organization, financing, production, and contemporary issues in business. The course provides an awareness and understanding of the complexities of the business world. (45-0-0-0) *Equivalent to 15-101, BUSN-101.*

**BUS-121 Business Communications (3 s.h.)**

This course will help the student become an effective communicator in the business world. Basic written communication will be emphasized through practice in grammar structure, vocabulary building, and organization of thoughts. These skills will then be implemented when the student plans and writes business letters and interoffice memorandums. A secondary emphasis will be placed on oral communication, listening skills, and nonverbal communication. (45-0-0-0) *Equivalent to 15-212, ENGL-705.*

**BUS-122 Emerging Business Practices & Technologies(3 s.h.)**

This is an introductory course designed to assist students in creating simple, inexpensive technologies including a webpage for a new business or concept while applying basic marketing, advertising, and sales techniques that are targeted to Internet or electronic information and sales. (15-60-0-0)

**BUS-130 Introduction to Entrepreneurship (3 s.h.)**

This course introduces the concept of Entrepreneurship beginning with identifying characteristics of the Entrepreneur, evaluating opportunities, feasibility, financing, and planning for success. Students will also understand the need for a contingency plan as well as an exit strategy. (45-0-0-0) *Equivalent to 15:171 and ENT-101*

**BUS-152 Creating a Company (3 s.h.)**

You will learn about entrepreneurship by being one. This course will give participants the opportunity to experience the activities, emotions and tensions that are part of founding and/or joining a start-up company. While the course materials will provide initial guidance, your success will be determined by your own initiative, perseverance, imagination and energy. This is neither a "game" nor a "simulation". Students are required to identify real business customers and clients and to take steps to deliver real services or products. This is a real-world experience, supplemented by classroom activities and sharing of lessons learned. (45-0-0-0)

**BUS-161 Human Relations (3 s.h.)**

Human Relations is a course designed to improve the student's ability to function in the workplace. This class will work on increasing the student's self-awareness and improving their ability to get along with customers, coworkers, and supervisors. (45-0-0-0) *Equivalent to 15-241, BUSN-105.*

**BUS-162 Workplace Professionalism (3 s.h.)**

Workplace Professionalism is a course designed to provide students with skills for success on the job and the tools for obtaining and maintaining employment. This course will also teach students how to communicate in a professional manner, maturely deal with conflict, behave in a fair and ethical manner, be accountable to team members, and develop leadership skills. In addition, students will learn about expectations related to appropriate use of technology, suitable workplace attire, proper business etiquette, and other self-management techniques. (45-0-0-0)

**BUS-185 Business Law I (3 s.h.)**

Law as applied to business transactions and business relationships. An introduction to jurisprudence and the courts, contracts, commercial paper, sales, and security agreements. The course begins by looking at the history of law and ethical considerations. Moving through the course, students will review the courts system, governmental regulation of business, and study and become acquainted with the various types of law. (45-0-0-0) *Equivalent to 15-120, BUSN-120.*

**BUS-186 Business Law II (3 s.h.)**

Prerequisite: BUS-185 Business Law I is recommended. Law as applied to business transactions and business relationships. A continuation of the study of jurisprudence and the courts, statutes, rights, duties, liability and application to today's world. The course begins by reviewing basic legal terminology. Moving through the course, students will study the courts system, governmental regulation of business, and become acquainted with the various types of law. (45-0-0-0) *Equivalent to 15-121, BUSN-121.*

**BUS-225A-E Business Internships (1-5 s.h.)**

Prerequisites: 1. Students must enroll in and pass BUS-162 Workplace Professionalism. 2. Students must have completed and filed an Application for Employment with their Internship Coordinator. 3. Students must have their proposed experience approved by the Internship Coordinator before they may register and begin. Business Internships is a learning experience which is: 1. based on practical work experience, 2. related directly to the student's program of study, 3. individualized to enable the student to gain valuable work experience and help determine career choices, and 4. geared to the student's academic knowledge, personal development and professional preparation. Instructor's consent required. This course is repeatable for a maximum of 15 credit hours. (0-0-0-60, 0-0-0-120, 0-0-0-180, 0-0-0-240, or 0-0-0-300)

**BUS-255 60-Hour Real Estate Pre-License (3 s.h.)**

This pre-license course is required by the Iowa Real Estate Commission prior to examination for an Iowa Real Estate Salesperson License. Upon completion of this curriculum, a participant will be exposed to principles of real estate, terminology, mathematical calculations, procedures and ethics necessary to enable them to understand the real estate profession. This course prepares them to take the Real Estate Salesperson Examination, and to function as well-informed real estate salesperson. (30-30-0-0) *Equivalent to 15-207, BUSN-210.*

**BUS-267 Life, Health, and Disability Insurance (3 s.h.)**

This course is designed to provide instruction in a variety of areas giving the student a good understanding of life insurance, health insurance, and the role and application of both within the industry. (45-0-0-0) *Equivalent to 15-200; INSS-103*

**BUS-269 Insurance and Risk Management (3 s.h.)**

The purpose of this course is to anticipate potential losses and develop a plan to survive them. Insurance is an integral part of risk management as it is a financial arrangement for redistributing the costs of unexpected losses. This course is designed to emphasize terminology and basic concepts used in risk management and insurance. Study will include the analysis of various insurance instruments including property, casualty, health, life, disability and liability insurance used to shift and minimize risk. (45-0-0-0)

**CAD-216 Architectural CADD (2 s.h.)**

Students will be instructed in residential architecture drafting techniques required to design and draft floor plans, exterior and interior details, and structural representations. The course will use architectural CAD software to develop a full set of residential house plans. Upon completion, students should be able to prepare and plot architectural drawings to scale within accepted architectural standards. (16-26-0-0)

**CFR-100 Computer Forensics I (3 s.h.)**

Prerequisite: NET-113 IT Essentials I or permission of instructor. This course deals with the preservation, identification, extraction, documentation and interpretation of computer data. Topics covered include legal concepts, evidence handling, hashing of data and images, chain of custody, preservation, identification and recovery of computer data. The course also covers establishing the need for doing an investigation, file system structures, and establishing a lab for collecting evidence and analyzing data. (30-30-0-0)

**CFR-110 Ethics and the Information Age (3 s.h.)**

A study of ethics and moral philosophy as a means for providing a framework for ethically grounded decision making in the information age. (30-30-0-0)

**CFR-150 Computer Forensics II (3 s.h.)**

Prerequisite: CFR-100 Computer Forensics I or permission of instructor. This course deals with the preservation, identification, extraction, documentation and interpretation of computer data. Topics covered include conducting a complete investigation using the terminal and command prompt from various operating systems. The course also covers detailed report writing and using additional tools to acquire images and live information from various systems. (30-30-0-0)

**CHM-122 Introduction to General Chemistry (4 s.h.)**

Prerequisite: MAT-063 Elementary Algebra or equivalent. A one-semester college chemistry course which surveys important concepts and topics of chemistry. Among these are the metric system of measurement, matter and energy, atomic theory of matter, energy levels and atomic structure, the periodic table, ionic and molecular compounds, ionic and covalent bonding, chemical reactions, and reaction equations and calculations. High school chemistry is not a prerequisite. Laboratory work is an important part of this course. (45-30-0-0) *Equivalent to 70-140, CHEM-101.*

**CHM-132 Introduction to Organic and Biochemistry (4 s.h.)**

Prerequisite: CHM-122 Introduction to General Chemistry, CHM-151 College Chemistry I, or CHM-166 General Chemistry I. Basic elements of organic chemistry and biochemistry including alkanes and their derivatives, carbohydrates, lipids, proteins, and enzymes, chemistry of cell metabolism, and chemistry of heredity. (45-30-0-0)

**CHM-151 College Chemistry I (4 s.h.)**

Prerequisite: MAT-063 Elementary Algebra or equivalent. First semester of a two-semester sequence intended for nonscience majors. Introduction to the basic concepts and facts of chemistry. Topics include the metric system of measurement, atomic theory of matter, energy levels and atomic structure, the periodic table, ionic and molecular compounds, ionic bonding, covalent bonding and molecular structure, classification of chemical reactions, and reaction equations and chemical calculations. This course treats these topics in more depth than introductory Chemistry; however, high school chemistry is NOT a prerequisite. Laboratory work is an important part of this course. (45-30-0-0)

**CHM-152 College Chemistry II (4 s.h.)**

Prerequisite: CHM-151 College Chemistry I, with a grade of C or higher; or equivalent; or permission of instructor. Continuation of

**CHM-151 College Chemistry I**, this is the second semester of a two-semester sequence intended for nonscience majors. Topics include reaction rates, chemical equilibrium and acid-base chemistry, electron-transfer reactions and electrochemical cells, and, as time permits, introductions to organic and biological chemistry. Laboratory work is an important part of this course. (45-30-0-0)

**CHM-166 General Chemistry I (5 s.h.)**

Prerequisite: Satisfactory completion of one year of high school chemistry and MAT-092 Intermediate Algebra, or the equivalent. Atomic structure, stoichiometry, thermochemistry, reactions in aqueous solution, chemical bonding and molecular structure, structure-property relationships. (45-60-0-0) *Equivalent to 70-137, CHEM-210.*

**CHM-176 General Chemistry II (5 s.h.)**

Prerequisite: CHM-166 General Chemistry I, with a grade of C or higher; or equivalent; or permission of instructor. Physical properties (gases, liquids, solids), chemical equilibrium and kinetics, acid-base chemistry, chemical thermodynamics, electrochemistry, and an introduction to organic chemistry and polymers. (45-60-0-0) *Equivalent to 70-138, CHEM-211.*

**CHM-263 Organic Chemistry I (5 s.h.)**

Prerequisite: CHM-152 College Chemistry II or CHM-176 General Chemistry II. Survey of the major classes of organic compounds emphasizing molecular structure, stereochemistry, reaction mechanisms and synthesis. Laboratory work includes procedures of distillation, solvent extraction, chromatography, polarimetry, and the use of both macroscale and microscale laboratory glassware. (45-60-0-0) *Equivalent to 70-274, CHEM-220.*

**CHM-273 Organic Chemistry II (5 s.h.)**

Prerequisite: CHM-263 Organic Chemistry I. Introduction to electron delocalization and its effect of the stability and reactivity of organic compounds. Substitution and elimination reaction mechanisms will be described and used to explain the chemistry of some important classes of organic compounds. Students will be introduced to the technique of molecular structure determination by the analysis of infrared and nuclear magnetic resonance spectra. Laboratory work includes synthesis of organic compounds and their analysis by infrared spectroscopy, gas chromatography, and molecular modeling software programs. (45-60-0-0) *Equivalent to 70-275, CHEM-221.*

**CIS-119 Introduction to Programming (4 s.h.)**

Prerequisite: CIS-125 Introduction to Programming Logic with Language or permission of instructor. This course provides students exposure to computer program design, structure, development, and troubleshooting through an examination of such topics as logic concepts, variables, input/output, interactive constructs, conditional flow, modular design, create and manage databases, debugging, cgi scripting, object-oriented programming, and the comparison of programming languages. (60-0-0-0) *Equivalent to 15-168, ISTS-105.*

**CIS-125 Introduction to Programming Logic with Language (3 s.h.)**

A fundamental requirement for people in the Information Technology field is the ability to organize a solution to a problem. This, in and of itself, is a difficult task. Often, however, this skill takes a backseat to learning code or is lost in the complexity of the task. Introduction

to Programming Logic with Language concentrates on the process of developing a logical algorithmic solution to a problem. (45-0-0-0) *Equivalent to 15-196, ISTS-125.*

**CIS-153 Data Structures (4 s.h.)**

Prerequisite: CIS-125 Introduction to Programming Logic with Language. Students will study functional decomposition. Students will learn the data structures and accompanying algorithms that are most fundamental to computer science discipline and analyze various implementations of each. (60-0-0-0)

**CIS-332 Database and SQL (3 s.h.)**

This course introduces students to database concepts, with topics such as database structure and design, planning, modeling, database software and servers, SQL, reports, fault tolerance, and administration being covered. Exposure to current and popular database systems will be provided. (45-0-0-0) *Equivalent to 15-174, COMP-205.*

**CON-107 Construction Safety (2 s.h.)**

This course covers Safety and Health Standards for the Construction Industry (29 CFR Part 1926). Safety in the construction industry is as essential to securing the well being of the company as it is to protecting the welfare of the worker. Changes in the labor market, insurance costs, and OSHA compliance requirements make it imperative that supervisors and workers receive adequate safety training to develop, practice, and maintain safe working conditions at construction work sites. (30-0-0-0) *Equivalent to 91-161, BUIL-700.*

**CON-110 Construction Drawing (1 s.h.)**

Students will learn about the fundamentals of drawing using manual and computer-aided drafting skills. Architectural Drawing is designed to give students the skills necessary to produce a set of working drawings. Students will learn to draw basic plans, sections, elevations, details, and schedules. (15-0-0-0) *Equivalent to 91-173, BUIL-705.*

**CON-112 Blueprint Reading and Estimating (3 s.h.)**

Residential and commercial printreading and materials estimating covers understanding drawings, the language of construction. Students learn how to gather and use information from prints and drawings to estimate quantities of materials and perform construction work processes. (45-0-0-0) *Equivalent to 91-198, BUIL-720.*

**CON-117 Building Codes and Standards (2 s.h.)**

This course covers construction-related building codes and standards. Presentations illustrate which of the various codes and standards affect specific types of construction. Students learn how competent construction workers bear responsibility for knowing, understanding, and complying with codes and standards during all phases of the construction process. (30-0-0-0) *Equivalent to 91-174, BUIL-715.*

**CON-121 Carpentry Fundamentals I (4 s.h.)**

General skills instruction covers safety; basic hand tools; basic power tools; jobsite safety; printreading; construction materials and systems; construction fasteners and processes; residential construction practices; and commercial construction practices. (24-75-0-0)



**CON-123 Carpentry Fundamentals II (4 s.h.)**

Prerequisite: CON-121 Carpentry Fundamentals I. General skills instruction covers safety; basic hand tools; basic power tools; jobsite safety; printreading; construction materials and systems; construction fasteners and processes; residential construction practices; and commercial construction practices. (24-75-0-0)

**CON-255 Carpentry I (4 s.h.)**

Prerequisites: CON-121 Carpentry Fundamentals I and CON-123 Carpentry Fundamentals II. General skills instruction covers safety; hand tools; power tools; printreading; builders level, transit, and laser; scaffolding; rigging; arc welding; cutting and burning. Residential skills instruction covers sitework; building layout; formwork; floor and still framing; wall and ceiling framing; roof framing; stair construction; exterior walls, soffits, and cornice construction; roof coverings; window and door installation; cabinet fabrication; and running trims and hardware installations. (24-75-0-0)

**CON-256 Carpentry II (4 s.h.)**

Prerequisite: CON-255 Carpentry I. General skills instruction covers safety; hand tools; power tools; printreading; builders level, transit and lasers; scaffolding; rigging; arc welding; cutting and burning. Commercial skills instruction covers sitework; building layout; footing, wall, stair, column, beam, and deck form constructions; wood and steel stud framing; exterior walls and canopy constructions; cabinet fabrication; wood and steel jamb, window, door, millwork, and hardware installations; and office partition, and acoustical ceiling installations. (24-75-0-0)

**CON-272 Commercial Construction (3 s.h.)**

Provides introductory lab experience in tool and equipment use, and basic commercial construction procedures. Focuses on safety and foundational elements in a variety of systems. Hands-on lab activities include foundations, floor and wall systems, concrete, masonry, basic plumbing and electrical. Commercial skillsets in hollow core door frame installation, cabinet installation and basic welding will be introduced as well. (30-30-0-0)

**CON-305 Cabinetry and Millwork (3 s.h.)**

This competency-based course prepares students for entry-level positions in the cabinetmaking and millwork, furniture-making and woodworking industries. (30-30-0-0)

**CON-315 Guitar Building (2 s.h.)**

Students in Guitar Building will design and build an electric guitar or bass and learn a lot about types and species of woods, as well as the intricate details that go into guitar building. This course will cover a number of different concepts as they relate to design, engineering, materials processes, fastening techniques, precision measuring and machining, electronics, physics, math and communications. As time allows, students will also learn basic chording and rhythm techniques with their custom built instrument. Students will be responsible for the cost of their instrument. (15-30-0-0)

**CON-949A-C Special Topics in Carpentry (1-3 s.h.)**

This course provides options for students that have earned a Building Trades Diploma and are seeking a Degree. It provides an opportunity to focus on specific skill sets for a current or potential employer. (15-0-0-0, 30-0-0-0, or 45-0-0-0)

**CRJ-100 Introduction to Criminal Justice (3 s.h.)**

This course examines the criminal justice system as a method of social control in the United States. This course also examines crime definitions, data collection and analysis, and the roles, rules, and responsibilities of the law enforcement, the courts, and the correctional components of the criminal justice system in responding to crime. (45-0-0-0) *Equivalent to 80-291, CRIM-107.*

**CRJ-107 Survey of Criminal Justice Agencies (3 s.h.)**

Prerequisite: CRJ-100 Introduction to Criminal Justice. Criminal Justice students will learn about the practical application of Criminal Justice practices from current practitioners in the public and private sectors. Guest speakers from public and private agencies will visit the classroom and engage students in informal and formal discussions about the agency's duties and responsibilities. Students will also gain experience in job seeking by participating in a mock employment process. (45-0-0-0)

**CRJ-111 Police and Society (3 s.h.)**

This course examines the police as part of society's official control apparatus. The course examines current police issues, integrating six core elements: history, role, socialization, culture, function, and experience. Topics covered include history, basic police role and organization, the making of a police officer, police behavior, stress, the delivery of effective police services, and the future of law enforcement. (45-0-0-0)

**CRJ-120 Introduction to Corrections (3 s.h.)**

Prerequisite: CRJ-100 Introduction to Criminal Justice. An Introduction to the philosophy and history of corrections, identifying multiple facets of the correctional system, including: jails and detention facilities, probation, intermediate sanctions, imprisonment and parole. This course focuses on how today's correctional subsystems function within a larger criminal justice system. (45-0-0-0)

**CRJ-130 Criminal Law (3 s.h.)**

The philosophy and basis for law; the historical development of criminal law and procedures; the structure, definitions, and criminal laws of Iowa. Required course for law enforcement curriculum. (45-0-0-0) *Equivalent to 80-190, CRIM-101.*

**CRJ-141 Criminal Investigation (3 s.h.)**

Prerequisite: CRJ-100 Introduction to Criminal Justice. The examination of fundamental investigative techniques, and the application of those techniques to specific investigative situations. (45-0-0-0) *Equivalent to 80-292, CRIM-108.*

**CRJ-201 Juvenile Delinquency (3 s.h.)**

Prerequisite: CRJ-100 Introduction to Criminal Justice. This course is a survey of the field of juvenile delinquency. The content includes the history of juvenile delinquency and the juvenile court, as well as the role of police agencies and correctional agencies. We will also examine different theoretical perspectives to aid in the understanding of delinquent behavior as well as examining societal response to delinquent behavior. (45-0-0-0)

**CRJ-208 Introduction to Private Security (3 s.h.)**

This course is designed to familiarize students with the facets of the private security industry and business. Discussions will cover history and professionalization, business of security, concepts, tools, and system convergence, private security laws, as well as

all types of security features, information and computer security, investigative security, surveillance and undercover, private and public partnerships. (45-0-0-0)

**CRJ-227 Employment Strategies for Criminal Justice (1 s.h.)**

Prerequisite: Student must be registered in the Criminal Justice program. This course prepares students for the steps involved in securing a position in criminal justice fields. It is an introduction to the job search process, including the resume, cover letter, and job interview. It also covers information unique to the criminal justice selection process. (15-0-0-0)

**CRJ-230 Evidence (3 s.h.)**

The kinds and degrees of evidence and the rules governing the admissibility of evidence in court. Required course for Criminal Justice curriculum. (45-0-0-0) *Equivalent to 80-290, CRIM-106.*

**CRJ-295 Contemporary Issues in Criminal Justice (3 s.h.)**

Prerequisite: CRJ-100 Introduction to Criminal Justice, CRJ-111 Police and Society and CRJ-120 Introduction to Corrections. This course is an overview of contemporary issues in the criminal justice arena. Topics covered will include community policing and problem-solving, ethics and discretionary decision-making, diversity in the criminal justice system and the community, domestic violence and other contemporary issues. (45-0-0-0)

**DRA-119 Introduction to Theatre, TV and Film (3 s.h.)**

A survey of dramatic theatre, television, and film. (45-0-0-0) *Equivalent to 85-150, DRAM-101.*

**DSL-101 Diesel Shop Safety (1 s.h.)**

This course is designed to acquaint the student with proper personal and shop safety procedures. Tool identification, care, and maintenance will be covered along with careers and career opportunities. Policies, procedures, and orientation will also be included in this course. (15-7.5-0-0)

**DSL-102 Diesel Shop Safety (2 s.h.)**

This course is designed to introduce, perfect, and evaluate basic safety and shop skills necessary for successful completion of the Diesel Technology program. The course consists of instruction and shop performance exercises in safety, hand and machine tool operation, use and maintenance, tool identification and other basic shop skills. (15-30-0-0)

**DSL-142 Electrical Systems (3 s.h.)**

Prerequisite: DSL-101 Diesel Shop Safety. Instruction in diesel starting, charging, and accessory electrical systems and components. An emphasis is placed on electrical system diagnosis and electrical repair. Includes using various industry standard diagnostic electrical equipment and testing techniques. (15-60-0-0)

**DSL-351 Introduction to Diesel Engines (8 s.h.)**

This course begins with diesel engine design and theory. Included are disassembly, inspection, and reassembly of the engine and its components. Special attention will be given to diesel engine systems troubleshooting, parts failure analysis, and fuel systems. (45-150-0-0)

**DSL-356 Diesel Engines I (6 s.h.)**

Prerequisite: DSL-101 Diesel Shop Safety. Instruction in diesel engine application, design, construction, theory, and operating principles. This course also covers diagnosis, disassembly, and assembly of diesel engines. (45-90-0-0)

**DSL-360 Advanced Diesel Engines, Emissions, and Fuel Systems (4 s.h.)**

This course introduces the latest engine advancements. Emission systems such as Exhaust Gas Recirculation (EGR), Diesel Particulate Filters (DPF), and Selective Catalytic Reduction (SCR) is covered along with common rail fuel systems. (30-60-0-0)

**DSL-377 Diesel Engine Rebuild (7 s.h.)**

Students are introduced to diesel engine application, design, construction, theory, and operating principles. This course also covers diagnosis, disassembly, and assembly of diesel engines. Basic air, fuel, cooling and lubrication systems is introduced. (45-120-0-0)

**DSL-400 Diesel Engine Electronics I (7 s.h.)**

The purpose of this course is to familiarize you with the components and controls of electronically controlled diesel engines. You will study electronic control modules (ECM), sensors, and electronic unit injectors (EUI). This course concentrates on theory, troubleshooting, repair, and parameter changes of electronic controlled systems. (30-150-0-0)

**DSL-409 Diesel Electronics (5 s.h.)**

A study of electronic fundamentals, lab work with electronic components and testing equipment. Computer-controlled diesel engines are used in lab to demonstrate applications of electronics on diesel power that will meet the demands of the future. The basics of electrical theory, circuit analysis, use of special tools and equipment, and basic electrical troubleshooting. It also covers wiring schematics, batteries, starting and charging circuits, and lighting. (30-90-0-0)

**DSL-428 Electronic Engine Controls (6 s.h.)**

Prerequisite: DSL-101 Diesel Shop Safety. Instruction in diesel equipment power train electronic control systems and addresses electronic principles. Includes an in-depth study of electronic engine/power train control operation, component operation, trouble shooting techniques, and proper repair of these systems. (45-90-0-0)

**DSL-445 Diesel Fuel Systems (3 s.h.)**

Prerequisite: DSL-101 Diesel Shop Safety. Instruction in theory, diagnosis and service of hydro-mechanical and electronic diesel fuel systems. Includes an opportunity to analyze fuel system components, and system operational characteristics. (15-60-0-0)

**DSL-534 Drive Trains (4 s.h.)**

Prerequisite: DSL-101 Diesel Shop Safety. Instruction in theory, diagnosis and service of clutches, driveline, non-synchro transmissions and final drives. Includes proper repair and service of assemblies for standard and automated transmissions. (30-60-0-0)

**DSL-540 Manual Transmissions (4 s.h.)**

Covers a basic introduction to manual transmissions. The course will cover manual and automated twin countershaft transmissions. Operation, troubleshooting, diagnostics, and failure analysis will be introduced. (15-90-0-0)

**DSL-590 Power Trains and Suspension (6 s.h.)**

This course is designed to provide the necessary knowledge required to be able to identify, service, troubleshoot, remove, disassemble, inspect, reassemble, and install rear axle assemblies, transmissions, and suspensions. Lubrication, manual and remote controls, failure analysis, and parts evaluations are included. (30-120-0-0)

**DSL-630 Air Brakes and ABS (2 s.h.)**

Covers a basic introduction to air brakes and anti-locking braking systems. Learning activities concentrate on theory, operation, diagnosis, maintenance, and repair of air and anti-lock brakes found on diesel trucks. (15-30-0-0)

**DSL-635 Air Systems and Brakes (3 s.h.)**

This course covers the operation and repair of the complete air systems and brakes including antilock and traction control systems used on trucks and trailers. The regulation of the air brake safety standards set by the DOT is included. (15-60-0-0)

**DSL-636 Air Systems and Brakes (4 s.h.)**

Corequisite: DSL-101 Diesel Shop Safety. Instruction in theories of braking system operation and provides hands-on experience in the rebuilding, repairing, and adjusting of the various braking systems including hydraulic, air, and electrical types, as well as ABS brake operation. (30-60-0-0)

**DSL-644 Steering and Suspension (4 s.h.)**

Corequisite: DSL-101 Diesel Shop Safety. Instruction in theory and hands-on training needed to properly test, repair, troubleshoot, and align suspension and steering systems used on trucks and heavy equipment. (30-60-0-0)

**DSL-800 Truck and Trailer Service (3 s.h.)**

This is a course designed to acquaint you with maintenance on trucks and trailers. The course includes lubrication, preventive maintenance inspection, federal DOT inspection, adjustments, and basic fuel and brake systems on trucks and trailers. (15-60-0-0)

**DSL-806 Class A CDL Driving Course (4 s.h.)**

Prerequisite: DSL-101 Diesel Shop Safety or permission of the instructor. This course provides the safety and skills training needed to meet the minimum requirements established by the Federal Department of Transportation to obtain a Class A Commercial Driver's License. This classification of driver's license will give the learner the foundational skills required to apply for entry level employment in a variety of fields requiring the Class A CDL. This course is designated as a pass/no pass course. (30-60-0-0)

**DSL-834 Preventative Maintenance (5 s.h.)**

Prerequisite: DSL-101 Diesel Shop Safety. Overview of knowledge and demonstration of basic engine maintenance and repair, heavy duty brakes, drive train, air conditioning, fuel and emission systems, electronics, safety inspection, DOT inspection, servicing, maintenance records, and repairs of all onboard systems. (30-90-0-0)

**DSL-840 Diesel Operations and Maintenance I (3 s.h.)**

This course is designed to introduce proper methods of maintaining, servicing, and basic repairs on vehicles and equipment. Federal annual inspection for commercial vehicles will be covered. The Diesel Operations and Maintenance I course will provide

students with the opportunity to do real life trouble shooting and repair on projects in the shop. They will also learn the correct way to service and maintain trucks, trailers, and equipment. (15-60-0-0)

**ECE-103 Introduction to Early Childhood Education (3 s.h.)**

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. (45-0-0-0) *Equivalent to 20-125, EDUC-125.*

**ECE-131 Home and School Relationships in Early Childhood (3 s.h.)**

Home and School Relationships in Early Childhood provides techniques for developing home, school, and community relationships to encourage the learning and well-being of each child. Birth through age 8 is emphasized. (45-0-0-0) *Equivalent to EDUC-128.*

**ECE-133 Child Health, Safety, and Nutrition (3 s.h.)**

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. (45-0-0-0) *Equivalent to 20-126, EDUC-126.*

**ECE-159 Early Childhood Curriculum II (3 s.h.)**

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 developmental stages and developing appropriate learning opportunities, interactions and environments in the following areas: emergent literacy, math, science, technology, and social studies. (45-0-0-0)

**ECE-170 Child Growth and Development (3 s.h.)**

Reviews typical and atypical development of children from conception to adolescence in all developmental domains. Examines interactions between child, family and society within a variety of community and cultural contexts and how each impacts the developing child. Examines theories and evidence-based practices associated with understanding and supporting young children. (45-0-0-0)

**ECE-221 Infant/Toddler Care and Education (3 s.h.)**

Focuses on care, education, and assessment of children from birth to thirty-six months. Prepares students to utilize developmentally-appropriate, evidenced-based practices including responsive caregiving, routines as curriculum, collaborative relationships with culturally, linguistically, and ability-diverse children and families, and a focus on the whole child in inclusive settings. (45-0-0-0)

**ECE-243 Early Childhood Guidance (3 s.h.)**

This course 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 family and diversity on child guidance. (45-0-0-0) *Equivalent to EDUC-129.*

**ECN-110 Introduction to Economics (3 s.h.)**

An introductory study of how people use scarce resources to satisfy their many material wants and needs. The general concepts include scarcity, supply and demand, and the structure and function of a market economy. Microeconomic concepts include decision making by consumers and producers in competitive and monopolized product and labor markets. Macroeconomic concepts include business cycles, aggregate supply and demand, fiscal policy, economic growth, money and banking systems, and monetary policy. This course cannot be transferred as barrier credit. (45-0-0-0)

**ECN-115 Personal Finance (3 s.h.)**

Introduction to financial planning, using financial services and your income wisely, protecting your assets, increasing your income through savings and investments, and planning for retirement. The primary emphasis is on investments. These include, but are not limited to stocks, bonds, real estate, and financial derivatives. (45-0-0-0) *Equivalent to 80-135, ECON-101.*

**ECN-120 Principles of Macroeconomics (3 s.h.)**

An introductory study of how people use scarce resources to satisfy unlimited wants. After an introduction to economics and some basic principles of market economies, the emphasis is on the determination of national income, output, employment, and the general price level in the national economy including an examination of the money and banking system. (45-0-0-0) *Equivalent to 80-133, ECON-110.*

**ECN-130 Principles of Microeconomics (3 s.h.)**

Prerequisite: ECN-120 Principles of Macroeconomics. An introductory study of how people use scarce resources to satisfy their virtually unlimited material wants and needs. The concepts emphasized are scarcity, supply and demand, and decision making by individual consumers, resource suppliers, and entrepreneurs in the product and resource markets and the resulting effects on the efficiency with which resources are used. (45-0-0-0) *Equivalent to 80-134, ECON-111.*

**EDU-216 Introduction to Teaching (3 s.h.)**

An introductory course in teacher education that gives students a clear view of the skills and knowledge they will need to be successful professionals. The course covers the place of the school in the community, basic philosophy including foundations and the future, the organization and administration of school, and the nature of the curriculum. (45-0-0-0) *Equivalent to 20-101, EDUC-101.*

**EDU-219 Field Experience and Seminar (1 s.h.)**

Corequisite: EDU-216 Introduction to Teaching. Field experience provides purposeful classroom observations for pre-service teachers. Students will reflect on the ways schools function, identify the roles and responsibilities of teachers, and observe student behavior. Through this field experience, the students will get a realistic view of being a teacher and will be able to make an informed decision as to whether or not teaching is a good career choice. Students will spend at least 30 hours in observation. Evaluation is pass/no pass. (5-30-0-0)

**EDU-235 Children's Literature (3 s.h.)**

Prerequisites: EDU-216 Introduction to Teaching; and ENG-105 Composition I and ENG-106 Composition II, or comparable courses, or approval of instructor. A study of Children's Literature from begin-

ning literature to contemporary literature by genre. An emphasis on teaching literature in the classroom is a major component of the course. Purposeful school visitations will provide practical experience. This course meets some educational program requirements. (45-0-0-0) *Equivalent to 30-210, EDUC-201.*

**EDU-236 Young Adult Literature (3 s.h.)**

Prerequisites: EDU-216 Introduction to Teaching; and ENG-105 Composition I and ENG-106 Composition II, or comparable courses, or approval of instructor. This course is designed to discuss, evaluate, and select literature written for adolescents (grades 6-12). Types of literature and methods of utilization and evaluation for use in schools and home will be addressed. An emphasis on teaching literature will be a component of this course. Purposeful school visitations, when available, will provide practical experience. (45-0-0-0)

**EDU-242 Classroom Assessment (2 s.h.)**

Prerequisite: EDU-216 Introduction to Teaching. This course is an introduction to the assessment process for classroom teachers. It will focus on the interaction between assessment and instruction, formative and summative assessment, development and use of teacher-constructed assessments, purposes and interpretation of standardized assessments, and grading and communicating about student performance. (30-0-0-0) *Equivalent to 20-110, EDUC-210.*

**EDU-246 Including Diverse Learners (3 s.h.)**

Prerequisite: EDU-216 Introduction to Teaching. An introductory discussion of issues and practices regarding the inclusion of diverse student populations in general education settings. Emphasis is placed on addressing the needs of all students (i.e. general education, special education, gifted, at risk, and multicultural). Formal and informal projects explore adaptive strategies for the curriculum and the classroom. (45-0-0-0) *Equivalent to 20-120, EDUC-220.*

**EDU-250 Educational Technology and Design (3 s.h.)**

Prerequisite: None; however, prior education courses are recommended. The production of instructional media/computer technology and their relationship to educational strategies within an instructional design framework. Course activities include the planning, design, and production of media and the operation of hardware and software for educational use. Students will be exposed to various ways of thinking about educational media and the messages they deliver. The course provides students with experiences that enable them to integrate technology resources to support clearly defined learning objectives. (30-30-0-0) *Equivalent to 20-195, EDUC-195.*

**EDU-290 Education Capstone Seminar (1 s.h.)**

Corequisites: Enrolled in the Elementary Education Learning Community which consists of the following courses: BIO-123 Inquiry Into Life Science, EDU-242 Classroom Assessment, EDU-246 Including Diverse Learners, and MAT-154 Math for Elementary Teachers II; or permission from any of the four instructors. This course provides an opportunity for Education majors to discuss: (i) current education topics; (ii) characteristics of effective educators focusing on dispositions; and (iii) professional development organizations and opportunities. Students will work on assembling an education portfolio, and will learn about further opportunities in education. This course has been designated as a pass/no pass course. (15-0-0-0)

**EGR-100 Engineering Orientation (1 s.h.)**

Introduction to the profession of engineering and preparations for professional employment. Considerations of engineering academic programs and planning an engineering curriculum. Discussion of the ethics of the engineering profession and introduction to case studies. Opportunities to interact with local engineers. Information concerning college policies, procedures, and resources. This course has been designated as a pass/no pass course. (15-0-0-0)

**EGR-115 Engineering Mathematics (3 s.h.)**

Corequisite: MAT-121 College Algebra or MAT-128 Precalculus or MAT-134 Trigonometry and Analytic Geometry. Math topics most heavily used in first and second-year engineering and science courses. Topics include engineering applications of algebra, trigonometry, vectors, complex numbers, sinusoids and signals, systems of equations and matrices, derivatives, integrals and differential equations. (30-30-0-0)

**EGR-181 Engineering Problems with Computer Applications (3 s.h.)**

Corequisite: MAT-121 College Algebra or MAT-128 Precalculus or MAT-134 Trigonometry and Analytic Geometry or MAT-210 Calculus I; or higher. Development of skills, standards, and orderly methods of solving engineering problems. SI and English measurement and unit conversion. Estimation and calculation with approximate numbers. Significant figures. Graphing and curve-fitting of technical data. Using logarithmic and trigonometric functions. Introduction to engineering economics and statistics. Solution of engineering problems using computer programming languages. (30-30-0-0) *Equivalent to 25-111, ENGR-111, EGT-181.*

**EGR-192 Engineering Graphics and Design (3 s.h.)**

Corequisite: MAT-121 College Algebra or MAT-128 Precalculus or MAT-134 Trigonometry and Analytic Geometry or MAT-210 Calculus I; or higher. The integration of fundamental engineering graphics, computer-aided design (CAD), and engineering design. CAD drawing of orthographic views and isometric pictorials; and basic dimensioning. Techniques for visualizing, analyzing and communicating 3-D geometries. Application through creative design projects with written and oral reports. (15-75-0-0) *Equivalent to 25-112, ENGR-112, EGT-192.*

**EGR-274 Statics for Engineering (3 s.h.)**

Prerequisite: EGR-115 Engineering Mathematics or MAT-210 Calculus I. Prerequisite/Corequisite: PHY-162 College Physics I or PHY-212 Classical Physics I. Scalar and vector quantities; forces, moments of forces, couples, and force systems; equilibrium; centroids and centers of gravity; analysis of structures; internal forces, shear and bending moments; friction; moments of inertia of areas. (45-0-0-0) *Equivalent to 25-231, ENGR-231, EGT-129.*

**EGR-324 Mechanics of Materials (3 s.h.)**

Prerequisite: EGR-274 Statics for Engineering, with grade of C or higher. Plane stress, plane strain, stress-strain relationships, and elements of material behavior. Application of stress and deformation analysis to members subject to centric, torsional, flexural, and combined loadings. Elementary considerations of theories of failure, buckling. (45-0-0-0) *Equivalent to 25-251, ENGR-232, EGT-119.*

**EGT-400 Project-Lead-The-Way -- Introduction to Engineering Design (3 s.h.)**

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). (16-64-0-0)

**EGT-410 Project-Lead-The-Way -- Principles of Engineering (3 s.h.)**

Prerequisite: EGT-400 Project-Lead-The-Way -- Introduction to Engineering Design is recommended, but not required. 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. (16-64-0-0)

**EGT-420 Project-Lead-The-Way -- Digital Electronics (3 s.h.)**

Prerequisite: EGT-400 Project-Lead-The-Way -- Introduction to Engineering Design and EGT-410 Project-Lead-The-Way -- Principles of Engineering are recommended, but not required. This course teaches applied logic through work with electronic circuitry, which students also construct and test for functionality. (16-64-0-0)

**EGT-450 Project-Lead-The-Way -- Computer Integrated Manufacturing (3 s.h.)**

Prerequisite: EGT-400 Project-Lead-The-Way -- Introduction to Engineering Design and EGT-410 Project-Lead-The-Way -- Principles of Engineering are recommended, but not required. This course enhances computer modeling skills by applying principles of robotics and manufacturing automation to the creation of models of three-dimensional designs. (16-64-0-0)

**EGT-460 Project-Lead-The-Way -- Civil Engineering and Architecture (3 s.h.)**

Prerequisite: EGT-400 Project-Lead-The-Way -- Introduction to Engineering Design or EGT-410 Project-Lead-The-Way -- Principles of Engineering. This course introduces students to the interdependent fields of civil engineering and architecture. Students learn project planning, site planning, and building design. (15-60-0-0)

**EGT-470 Project-Lead-The-Way -- Engineering Design and Development (3 s.h.)**

Prerequisite: EGT-400 Project-Lead-The-Way -- Introduction to Engineering Design and EGT-410 Project-Lead-The-Way -- Principles of Engineering, plus one of the following courses: EGT-420 Project-Lead-The-Way -- Digital Electronics or EGT-430 Project-Lead-The-Way -- Aerospace Engineering or EGT-440 Project-Lead-The-Way -- Biotechnical Engineering or EGT-450 Project-Lead-The-Way -- Computer Integrated Manufacturing or EGT-460 Project-Lead-The-Way -- Civil Engineering and Architecture. 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. (16-64-0-0)



**ELT-115 Electronic Concepts (3 s.h.)**

Electronic Concepts is an introductory survey of electricity and electronics suitable for students interested in pursuing a career in such technical fields as electronics, automotive, HVAC, and other fields that require knowledge of basic electrical/electronic concepts. Topics include safety, shop and lab practices, motors and controls, direct and alternating current, and semiconductor and digital electronics. Course work consists of problem solving, computer-assisted instruction, computer simulation, and hands-on exercises with industrial grade equipment. (30-30-0-0) *Equivalent to 96-132, INDU-701.*

**ELT-124 Advanced PLCs and System Integration (3 s.h.)**

Corequisite: ELT-170 Introduction to PLCs. Advanced topics in programmable logic controllers using the Allen-Bradley SLC500 and RSLogix 500 programming software including analog I/O and PID control. Application of RSLinx to establish communications and DH485 LAN networking. Controller Area Networking (CAN) using DeviceNET programming and integration using RSNetworkx. PanelView programming and integration using the Allen-Bradley PanelView 500 and PanelBuilder32. Projects involving practical field devices and program development. (30-45-0-0) *Equivalent to 91-203, EMST-803.*

**ELT-133 Electric Motor Drives (2 s.h.)**

Prerequisite: ELT-210 Motor Control Circuits. Study of AC general purpose variable speed drives, AC vector (spindle) drives, and AC servo drives. Hands-on exercises provide experience with typical components and interconnections needed to implement various control systems. Concepts of system stability, frequency response, feedback, damping, position and speed control are covered. System troubleshooting. (15-31-0-0) *Equivalent to 96-157, EMST-815.*

**ELT-170 Introduction to PLCs (3 s.h.)**

Introduction to programmable logic controllers (PLCs) using computer simulation of the Allen Bradley SLC500 and RSLogix 500 programming software, elementary ladder logic and discrete I/O instructions, counters, timers, program development techniques, and troubleshooting. Advanced topics in programmable logic controllers including program control instructions, math operations, sequencers, and data manipulation. This course is offered on campus as an instructor-supervised/student-paced format and is also offered online. Students enrolled in this course should expect to spend 75-90 hours (5-6 hours/week) to complete the course. If in an on-campus section, that time will be spent in the Industrial Systems Technology Lab. (30-45-0-0) *Equivalent to 91-202, EMST-802.*

**ELT-190 Introduction to Technical Computing & CAD (3 s.h.)**

Prerequisite/Corequisite: Ability to key-enter the equivalent of 25 words per minute at a computer keyboard. Introduction to basic computer hardware and software functions. Emphasis on using the computer as a tool to create personal and business documents. Introductory Windows, word processing, spreadsheets, presentation, and Internet units give students an opportunity to view software capabilities and use some of the features. Fundamentals of ACAD; layers, icons, pull-down menus, drawing and editing commands, object snaps, screen menu, filters, text, sketch, basic construction of 2D mechanical drawings. Use of computers in the generation of

mechanical drawings utilizing lettering, basic geometric construction, and sketching fundamentals. (15-60-0-0) *Equivalent to 91-104, EMST-701.*

**ELT-210 Motor Control Circuits (3 s.h.)**

Prerequisite: ELT-382 Electronic Circuit Analysis. Introduction to industrial electrical motor and control circuitry. Emphasis placed on AC single- and three-phase circuit and transformer theory and industrial applications. Applications include various types of control elements. Study of the National Electrical Code as it pertains to manufacturing/industrial environment. Fundamental skills in electrical wiring and raceway techniques are learned through lab and/or project exercises. This course is offered in an instructor-supervised/student-paced format. Students enrolled in this course should expect to spend 75-90 hours in the Industrial Systems Technology Lab to complete the course. (15-69-0-0) *Equivalent to 91-105, EMST-710.*

**ELT-333 Analog and Digital Electronics (4 s.h.)**

Prerequisite: ELT-382 Electronic Circuit Analysis. Digital: Study of number systems related to digital circuits, Boolean Algebra/Karnaugh Maps. Combinational logic including AND, OR, NAND, NOR, NOT, XOR. Combinational circuits decoders. Basic sequential elements including SR, D, JK, and Master-Slave flip-flops. Sequential circuits including registers and counters. Memory circuits and applications. Analog to digital (A/D) and digital to analog (D/A) conversion and elementary interfacing. Design, analysis, and computer simulation. Analog: Study of diodes, bipolar transistors and field effect transistors (JFETs and MOSFETs) as they are used in both AC and DC electronic circuits. Applications such as power supplies, switching circuits and amplifier circuits are covered. Advanced topics in electronic devices including operational amplifiers (op amps), active filters, thyristors, and voltage regulation are covered. Computer simulation of the devices under study is covered. Both circuit analysis and measurement techniques using meters and oscilloscopes are stressed. This course is offered in an instructor-supervised/student-paced format. Students enrolled in this course should expect to spend 25-35 hours in the Industrial Systems Technology Lab to complete the course. (15-90-0-0)

**ELT-382 Electronic Circuit Analysis (3 s.h.)**

Prerequisite/Corequisite: MAT-801 Applied Math A; MAT-802 Applied Math B; MAT-803 Applied Math C; and MAT-804 Applied Math D. Study of the nature of electricity involving both direct and alternating current. DC circuit analysis utilizing more advanced techniques such as: superposition, Thevenin's and Norton's theorems. AC circuit analysis involving RL, RC, and RLC circuits, inductive and capacitive reactances, resonance, and transformer fundamentals. Computer circuit simulation of both DC and AC circuits is stressed along with an application of electronic test equipment; oscilloscopes, meters, and power supplies. This course is offered in an instructor-supervised/student-paced format. Students enrolled in this course should expect to spend 75-95 hours in the Industrial Systems Technology Lab to complete the course. (15-60-0-0) *Equivalent to 91-175, EMST-702.*

**ELT-710 Computer Automated Manufacturing (3 s.h.)**

Prerequisites/Corequisites: ELT-790 Fluid Power and ELT-124 Advanced PLCs and System Integration. Capstone projects in Industrial Systems Technology: project identification, planning,

and implementation, as well as group dynamics, project structure, and troubleshooting techniques. Projects may include, but are not limited to automation, control, manufacturing, or educational hardware for program use. The integration of robots, instrumentation, computers, and programmable logic controllers, human/machine interface, communications, and other industrial systems. (15-65-0-0) *Equivalent to 91-206, EMST-816.*

**ELT-734 Industrial Instrumentation (4 s.h.)**

Prerequisites: ELT-170 Introduction to PLCs and ELT-333 Analog and Digital Electronics. The student studies modern instrumentation techniques as they apply to the manufacturing environment and uses industrial sensors, transducers, and related components. Instrumentation labs use a variety of control techniques used in the industrial instrumentation field. These labs and lessons are centered around the Amatrol process control simulator. Students meet weekly in lecture and have defined completion dates for each lab. Additional pressure, flow, level, and temperature instrument writing and testing labs are completed by the student in a group supervised session. (15-90-0-0) *Equivalent to 91-207, EMST-817.*

**ELT-745 Maintenance Shop Operations (3 s.h.)**

Introduction to shop equipment generally found in the industrial maintenance environment. Instruction and practice with metal saws, drills, grinders, elementary welding and cutting, thread repair, anchors and fasteners. Study of mechanical prints to identify parts in assembly and repair situations. Use of catalogs to find and order repair parts, study of bearings and seals, applications, and failure analysis. (30-30-0-0) *Equivalent to 96-156, EMST-805.*

**ELT-750 Facilities Maintenance (3 s.h.)**

Prerequisite: ELT-210 Motor Control Circuits. Covers force and motion, work and energy, and fluid mechanics as applied in industrial maintenance. Explains principles of operation for simple machines. Explains the basic elements of industrial machines, as well as common measurement tools used to monitor and adjust equipment. Covers hand tools, power tools and fasteners, ending with a discussion of ways to reduce friction and wear. Explains why industry has a need for preventive maintenance (PM) programs and how to set up such a program. Covers how to schedule a PM program and how to assure its quality. (45-0-0-0) *Equivalent to 96-155, EMST-820.*

**ELT-790 Fluid Power (3 s.h.)**

Prerequisite/Corequisite: MAT-801 Applied Math A, MAT-802 Applied Math B, MAT-803 Applied Math C, and MAT-804 Applied Math D, or permission of instructor. Students gain knowledge and hands-on experience with hydraulic and pneumatic components and circuits; the transmission of force through fluids; conversion of force to pressure; the control of power; and systematic methods of troubleshooting and testing hydraulic and pneumatic systems. (15-60-0-0) *Equivalent to 92-118, EMST-703.*

**ELT-895 Industrial Systems Internship (2 s.h.)**

Prerequisite: Complete first year of the Industrial Systems Technology program and permission of internship coordinator. Supervised work experience in a business or industry, which normally is four weeks in duration. Work must be related to the major field of study (i.e., electricity/electronics, industrial maintenance, installation or service of control systems, etc.). Instructor consent required. (0-0-0-160) *Equivalent to 91-110, EMST-801.*

**EMS-114 Emergency Medical Responder (2 s.h.)**

Prerequisites: Be at least 17 years of age at the time of enrollment; be able to speak, write and read English proficiently; be physically and emotionally capable of performing all functions and skills of an EMR; possess maturity of judgment and sound moral character. Must provide documentation of current certification in BLS for Healthcare Providers. 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 lectures and skill practice. An additional 6 hours is required to complete the psychomotor and cognitive examinations required for certification. (25-20-0-0)

**EMS-201 Emergency Medical Technician (7 s.h.)**

Prerequisites: Be at least 17 years of age at the time of enrollment. Must be able to speak, write and read English proficiently. Must be physically and emotionally capable of performing all functions and skills of an EMT, possess maturity of judgment and sound moral character. Must provide documentation of current certification in American Heart Association BLS for Healthcare Providers. A physical examination, immunization record and background check is required prior to beginning the hospital or field clinical portion of the course. This course provides the student with the necessary knowledge and skills to perform emergency care and transport. Course modules include preparatory, function and development of the human body, pharmacology, airway management, patient assessment, medical emergencies, shock, trauma, special patient populations, and EMS operations. Additional 18 hours of hospital based clinical and 12 hours of ambulance ride time is required. (70-60-30-0)

**EMS-237 Advanced Emergency Medical Technician (8 s.h.)**

Prerequisites: Be at least 17 years of age at the time of enrollment. Must be able to speak, write and read English proficiently. Must be physically and emotionally capable of performing all functions and skills of an AEMT, possess maturity of judgment and sound moral character. Must provide documentation of current certification in American Heart Association BLS for Healthcare Providers. Must provide documentation of current State of Iowa EMT certification. A physical examination, immunization record, and completed background check are required prior to beginning hospital clinical rotations or ambulance ride time portions of the course. Must be 17 years of age at time of enrollment. The course is 113 hours in length and utilizes a combination of classroom lectures and skill practice. An additional 52 hours of hospital based clinical and 48 hours of ambulance ride time is required. An additional 6 hours is required to complete the psychomotor and cognitive examinations required for certification. This course has been approved for 8.0 semester hours of credit. Upon successful completion of the course students will be eligible to test for AEMT certification. (68-45-100-0)

**ENG-014A-D Mastery Writing - Individualized (1-4 s.h.)**

Prerequisite: Recommendation of current/previous instructor, college recommendation, college placement or student request. The Mastery Writing course provides developmental writing instruction to students referred by orientation assessment or by instructor that require a competency-based approach to improving their writing skills or to meet student-initiated goals. Emphasis is on writing as a process; students will learn strategies for recognizing and compensating for individual writing problems. Completion of the course may

include achieving mastery in three areas: language (grammar and mechanics), conceptual aspects (planning, style, content), and/or structure (organization, development, and support). Students' ability to succeed in a self-management style course will be assessed prior to approving registration in the course. Learning objectives include achievement demonstrated by mastery through writing samples. Textbook requirements may include the purchase of a software access code or workbook. Credit earned will not satisfy the requirements for an Associate Degree and will not be used in calculating the cumulative grade point average for graduation. This course may be repeated. This course has been designated as pass/no pass. (5-20-0-0, 10-40-0-0, 15-60-0-0, or 20-80-0-0)

#### **ENG-015 Elements of Writing (4 s.h.)**

A developmental writing course designed for students referred by orientation assessment or by instructors. Emphasis is on writing; students will learn strategies for recognizing and compensating for individual writing problems. Students complete the course by meeting the minimum entrance requirements for Composition and Speech I. Credit earned will not satisfy the requirements for an Associate Degree and will not be used in calculating the cumulative grade point average for graduation. This course has been designated as a pass/no pass course. (60-0-0-0) *Equivalent to 30-090, ENGL-094.*

#### **ENG-016 A-D Mastery Writing – Co-Enroll (1-4 s.h.)**

Prerequisite: Recommendation of current/previous instructor, college recommendation, or student request, or placement based on student's writing assessment rubric score, ACT, or Accuplacer scores. Mastery Writing is a linked support for Composition I or Composition II and a partnership between the Composition instructor, the Mastery Writing instructor, and the student. The Mastery Writing instructor supports the student in developing the best writing he or she is capable of within the parameters of the Composition assignments, and may also include assignments determined by the Mastery Writing instructor. Students will have the opportunity to work on revisions of past work, prepare for upcoming papers, practice skills individual to his or her needs, or have assistance with writing required by another course. Textbook requirements may include the purchase of a software access code or workbook. Credit earned will not satisfy the requirements for an Associate Degree and will not be used in calculating the cumulative grade point average for graduation. This course may be repeated. This course has been designated as pass/no pass. (5-20-0-0, 10-40-0-0, 15-60-0-0, or 20-80-0-0)

#### **ENG-105 Composition I (3 s.h.)**

Development of skills in reading, writing, and listening with an emphasis on expository methods of development and personal experience as supporting material. Students may be requested to use computers and other technology. Students must meet minimum competency requirements in writing to receive a grade of 'C' or higher which is required to enroll in Composition II. (45-0-0-0) *Equivalent to 30-101, ENGL-101, ENGL-104, ENG-102.*

#### **ENG-106 Composition II (3 s.h.)**

Prerequisite: ENG-105 Composition I, with a grade of C or higher. A continuation of ENG-105 Composition I with emphasis on argumentative and persuasive writing, on research methods, and on language. Students may be requested to use word processors, Writer's Workbench analyses, Writer's Workbench STEPS,

and sentence structuring videos. Students must meet minimum competency requirements in writing to receive a grade of C or higher. (45-0-0-0) *Equivalent to 30-102, ENGL-102, ENGL-105, ENG-103.*

#### **ENG-221 Creative Writing (3 s.h.)**

Prerequisite: ENG-105 Composition I, or comparable course, or approval of instructor. A practical workshop in writing and rewriting manuscripts in preparation for submitting for publication. Emphasis on nonfiction and short stories, but also covers poetry, plays, and screenplays. (45-0-0-0) *Equivalent to 30-205, ENGL-205.*

#### **ENG-701 Communications I (3 s.h.)**

Study designed to assist students in improving and/or refining skills in the areas of reading, writing, listening, and speaking to help meet communication needs in college and for success and advancement in a career. Students who have an ACT Reading score of 15 or lower, a COMPASS Reading score of 70 or lower, or a Nelson Denny score below 13 will be required to take RDG-015 Power Reading as part of this class (student will not be charged tuition for RDG-015). (45-0-0-0) *Equivalent to 95-130, ENGL-701.*

#### **ENG-702 Communications II (3 s.h.)**

Prerequisite: ENG-701 Communications I. Study designed to assist students in improving and/or refining skills in the areas of reading, writing, listening, and speaking to help meet communication needs in college and for success and advancement in a career. Students who have an ACT Reading score of 15 or lower, a COMPASS Reading score of 70 or lower, or a Nelson Denny score below 13 will be required to take RDG-015 Power Reading as part of this class (student will not be charged tuition for RDG-015). (45-0-0-0) *Equivalent to 95-131, ENGL-702.*

#### **ENV-110 Environmental Science (3 s.h.)**

The study of ecological principles and the interrelationships among populations, resources, and pollution in developing a sustainable society. Lecture and laboratory-based topics include: population, ecology, soil, water, land, air, and energy resources, plus air, water, soil, and waste management. Environmental decision-making strategies to resolve current and future environmental issues are stressed. (30-30-0-0) *Equivalent to 70-104, ENVR-101.*

#### **ESL-034 Mastery ESL (English as a Second Language)(4 s.h.)**

Prerequisite: Recommendation of current/previous instructor, college recommendation, or student request. This Mastery ESL course is designed for English Language Learners (ELL) with limited conversational proficiency in English. Emphasis is on in-context vocabulary acquisition and the improvement of grammatical English skills. New vocabulary and grammar are then applied to spoken dialog and short written assignments. Writing will be introduced as speaking and listening skills are sufficient to comprehend and answer simple questions in an interview. Emphasis is on writing as a process; students will learn strategies for compensating for individual writing and language problems. The course is tailored to suit students' individual skill levels and needs. Learning objectives include achievement on vocabulary and grammar tests and demonstrated gains through writing samples. Performance on these exams and written assignments determine student placement. This course may be repeated. This course has been designated as a pass/no pass course. (20-80-0-0)

**ESL-036 Mastery ESL (English as a Second Language)(3 s.h.)**

Prerequisite: Recommendation of current/previous instructor, college recommendation, or student request. This Mastery ESL course is designed for English Language Learners (ELL) with conversational proficiency to further prepare for college-level coursework in English. Emphasis is on in-context vocabulary acquisition and the improvement of grammatical English skills. New vocabulary and grammar are then applied to spoken written assignments. Emphasis is on writing as a process; students will learn strategies for compensating for individual writing and language problems. The primary language skills addressed are writing and reading, but students will also practice speaking and listening with classmates and the instructor. The course is tailored to suit students' individual skill levels and needs. Learning objectives include achievement on vocabulary and grammar tests and demonstrated gains through writing samples. Performance on these exams and written assignments determines student placement in higher-level writing courses. Credit earned will not satisfy the requirements for an Associate Degree and will not be used in calculating the cumulative grade point average for graduation. This course may be repeated. This course has been designated as a pass/no pass course. (15-60-0-0)

**FIN-100 Introduction to Finance (3 s.h.)**

Prerequisite: ACC-111 Introduction to Accounting or ACC-121 Principles of Accounting I. This survey course provides an introduction to finance theory, methods and concerns of business finance. The focus is on how companies make sound investment and financing decisions, much of which is also relevant for individual decision making. Investment decision, time-value of money, security valuation, capital budgeting, and the tradeoff between risk and expected return are studied. (45-0-0-0)

**FIN-210 Analysis and Valuation of Stocks (1 s.h.)**

The Analysis and Valuation of Stocks is a comprehensive course designed to provide you with conventional and advanced techniques in researching and valuing stocks. Starting off with the basics, you will learn how to read financial statements and calculate financial ratios, and then move on to perform industrial comparisons, value stocks, and conduct economic and industrial research. This course is taught in a manner that uses everyday language, simple, yet insightful analogies, and a just-the-facts attitude that you will understand and appreciate. By the end of this course, you will have a strong foundation in the analysis and valuation of stocks. This course has been designated as a pass/no pass course. (5-20-0-0) *Equivalent to 15-272, BUSN-250.*

**FIN-214 Stocks, Bonds, and Investing: Oh My! (1 s.h.)**

This course emphasizes preemptive planning for a financial account by comprehending financial markets through identifying how financial markets operate. This course has been designated as a pass/no pass course. (5-20-0-0) *Equivalent to 15-247, BUSN-255.*

**FLS-141 Elementary Spanish I (4 s.h.)**

Designed for students with little or no previous study of Spanish. Focus is on acquainting the student with fundamentals, including pronunciation, basic grammar needed to express who, what, when, where, how and action in the present and near future. Basic vocabulary will be learned to enhance speaking, listening, writing, and reading skills. Increase global awareness by video shorts and short readings. (45-30-0-0) *Equivalent to 35-110, SPAN-101.*

**FLS-142 Elementary Spanish II (4 s.h.)**

Prerequisite: FLS-141 Elementary Spanish I or minimum of one year of high school Spanish. Designed as a continuation of Elementary Spanish I. Focus is on reinforcing students' knowledge in fundamentals, including pronunciation, basic grammar needed to express activities in the present and near future. Basic vocabulary will be learned to enhance speaking, listening, writing, and reading skills. New grammar includes being able to communicate in the past tenses and giving commands for common verbs. Students are expected to use as much Spanish as possible with classmates and the instructor. (45-30-0-0) *Equivalent to 35-111, SPAN-102.*

**FLS-241 Intermediate Spanish I (4 s.h.)**

Prerequisite: FLS-142 Elementary Spanish II or minimum of two years of high school Spanish. Designed as a comprehensive grammar review, composition, and speaking course. Builds on aural-oral skills, increased vocabulary, and reading short pedagogical (using vocabulary and grammar students are familiar with) stories and authentic language literature. (45-30-0-0) *Equivalent to 35-211, SPAN-201.*

**FLS-242 Intermediate Spanish II (4 s.h.)**

Prerequisite: FLS-241 Intermediate Spanish I or minimum of three years of high school Spanish with instructor approval. Designed as a comprehensive grammar review, composition, and speaking course. Builds on aural-oral skills, increased vocabulary, and reading short pedagogical (using vocabulary and grammar students are familiar with) stories and authentic language literature. Themes and associated vocabulary: business, religion and beliefs, U.S. Hispanics, Modern Life (vices, habits, drugs), Law. (45-30-0-0) *Equivalent to 35-212, SPAN-202.*

**FLS-261 Advanced Spanish I (3 s.h.)**

Prerequisite: FLS-242 Intermediate Spanish II or four years of high school Spanish with instructor approval. Students will become more comfortable speaking by Q & A, impromptu speaking. Reading skills will be enhanced by reading original short stories and cultural and historical selections from the text. Use of visual aids, video shorts, speaking, and reading will increase vocabulary competency. Grammar study and activities will increase language accuracy and expression. Use of exams will be limited; students will be graded on in-class discussion and homework completion. Students will at times use the Internet to find and interpret articles from Hispanic newspapers. Oral and written evaluations and classroom observation will measure the student's progress in the above-mentioned areas. (30-30-0-0) *Equivalent to 35-260, SPAN-260.*

**FLS-262 Advanced Spanish II (3 s.h.)**

Prerequisite: FLS-261 Advanced Spanish I or minimum of four years of high school Spanish or permission of instructor. Students will maximize their use of Spanish in the classroom. Original texts from various Hispanic countries will be used to gain cultural understanding, vocabulary, and provide topics for classroom discussion. By end of semester, students should be able to express themselves in speech and writing using all verb tenses. Articles from Hispanic countries will be used to expose students to a wide range of events and cultural differences. The use of contemporary music and videos will enhance student listening comprehension. This semester's reading will include one drama, "En la ardiente oscuridad." Spanish/Latin American movies will be viewed, for which students will demonstrate understanding by answering focus questions. Projects may include summarizing a video segment, or researching a topic of

a current event in a Hispanic country. Every student should demonstrate improvement in all four skills—reading, writing, listening, and speaking. (30-30-0-0) *Equivalent to 35-261, SPAN-261.*

**GEO-124 Regional Geography of the Nonwestern World (3 s.h.)**

A regional study of the physical and cultural spatial patterns of Middle America, South America, North Africa/Southwest Asia, South Asia, East Asia, Southeast Asia, and the Pacific World. (45-0-0-0) *Equivalent to 80-152, GEOG-103.*

**GEO-125 Regional Geography of the Developed World (3 s.h.)**

A regional study of the physical and cultural spatial patterns of Europe, Australia, Russia, and Anglo-American. (45-0-0-0) *Equivalent to 80-151, GEOG-102.*

**GEO-131 Physical Geography (3 s.h.)**

An introductory systems course in physical geography that acquaints the student with the spatial relationships that exist between man and his physical environment. (45-0-0-0) *Equivalent to 80-150, GEOG-101.*

**HCM-103 ServSafe Food Safety (1 s.h.)**

ServSafe is nationally recognized and accepted by more federal, state, and local jurisdictions than any other food safety training program. The course includes the latest science-based information and industry best practices. It incorporates new manager job task analysis--tasks that industry, academic and regulatory experts deem essential to the role of food service professionals who are responsible for ensuring an operation is serving safe food. It equips future managers with food safety knowledge they can share with their employees. (15-0-0-0) *Equivalent to 90-248, FOOD-703.*

**HCM-205 Dinner and Front of the House (3 s.h.)**

Prerequisite: HCM-135 Food Production. This is a Capstone project-driven course where all the students will complete the entire planning process and execution of a formal dinner event. (15-60-0-0)

**HCM-234 Introduction to Hospitality Management (3 s.h.)**

A detailed look at restaurant and institutional food service operations, hotel and motel management, travel, tourism and international hospitality. Students will learn to better evaluate career opportunities, learn the level of quality and service necessary in an ever-changing industry. (45-0-0-0)

**HCM-239 Customer Service (2 s.h.)**

The course will introduce students to all aspects of customer service in the hospitality industry. In addition, the course will assist each student in developing a proper customer service attitude, while taking them through activities to meet the high standards of customer service. (30-0-0-0)

**HCM-250 Purchasing (2 s.h.)**

Principles and methods of food purchasing with emphasis on specifications and grading of various food products. Includes financial procedures and controls used in the food service industry. This is a ManageFirst Program elective topic; students may take a National Restaurant Association certification test at the conclusion of the course. (30-0-0-0)

**HCM-283 Controlling Food Service Costs (2 s.h.)**

Provide students with a wide-ranging knowledge and specific solutions

they need to keep costs low and margins high. Provide instruction in food and beverage sanitation, production, and service methods. (30-0-0-0)

**HCM-304 Principles of Food and Beverage Management (2 s.h.)**

Prerequisite: HCM-234 Introduction to Hospitality Management. Focuses on the management of food and beverage operations. Emphasis on standardization of recipes; product purchasing, receiving, storing, and issuing; quality standards; facilitating staff production and performance; communicating with customers; managing buffets, banquets and catered events; and analysis and decision making in Food and Beverage Management. This is a ManageFirst Program elective topic, students may take a National Restaurant Association certification test at the conclusion of the course. (30-0-0-0)

**HCM-325 Human Resources Management and Supervision (2 s.h.)**

This course provides skills-based information in a clear and logical way, covering all of the essential topics and responses to the changing needs of the hospitality supervision industry today. (30-0-0-0) *Equivalent to 90-246, FOOD-701.*

**HCM-607 Hospitality and Restaurant Management (2 s.h.)**

Opportunities for careers in Restaurant Management come in many different venues: fine-dining restaurants, spas, cruise ships, hotels, casinos, and more! Restaurant managers are responsible for the daily operation of the facility, including coordinating communication between the kitchen and dining room. They are in charge of inventory, ordering food, equipment, and supplies, as well as handling employee relations and arranging schedules. This course prepares the student for all aspects of managing a restaurant or hospitality establishment. Let your talents in business and hospitality prepare you for a respected career. (30-0-0-0) *Equivalent to 90-251, FOOD-706.*

**HCM-612 Hospitality and Restaurant Marketing (2 s.h.)**

This course introduces the student to the world of Hospitality and Restaurant Marketing. Students will learn the marketing process, understand the marketing environment and customer service, prepare a marketing plan, learn to set menu prices and communicate the plan and evaluate the efforts of the marketing campaign. This is a ManageFirst Program elective topic, students may take a National Restaurant Association certification test at the conclusion of the course. (30-0-0-0)

**HCR-115 Residential Heating Systems (4 s.h.)**

Corequisite: HCR-155 Troubleshooting Heating Systems or instructor permission. The purpose of this course is to introduce the student to the various types of residential heating systems. Areas and concepts covered include combustion theory, basic air distribution, furnace construction, filters, humidifiers, installation techniques, and maintenance procedures. (30-60-0-0) *Equivalent to 96-128, HVAC-701.*

**HCR-150 Commercial Heating Systems (5 s.h.)**

Prerequisites: HCR-115 Residential Heating Systems, HCR-155 Troubleshooting Heating Systems, HCR-240 Troubleshooting Air-Conditioning Systems, HCR-210 Residential Air-Conditioning Systems. Corequisites: HCR-510 Sheet Metal Fabrication, HCR-802 Control Systems, or instructor permission. This course covers large heating systems used in commercial, institutional, and industrial applications. Types of equipment include hot water and low-pressure steam boilers and rooftop heating units. (30-90-0-0) *Equivalent to 96-230, HVAC-803.*



**HCR-155 Troubleshooting Heating Systems (3 s.h.)**

Corequisite: HCR-115 Residential Heating Systems or instructor permission. The purpose of this course is to introduce the student to the fundamentals of troubleshooting by utilizing a practical and systematic approach to locate and repair heating system malfunctions. The student will also have the opportunity to study, in detail, the motors and controls used in today's heating systems. Topics to be covered include basic electric circuits, electrical test meters, motors and controls, diagnosis of electrical and mechanical malfunctions, and special emphasis on writing diagrams. (15-60-0-0) *Equivalent to 96-129, HVAC-702.*

**HCR-205 Air-Conditioning Principles (2 s.h.)**

A study of the theory of air conditioning. Includes psychometrics, heat gain/loss problems, and equipment sizing. (15-45-0-0) *Equivalent to 96-134, HVAC-710.*

**HCR-210 Residential Air-Conditioning Systems (4 s.h.)**

Prerequisites: HCR-115 Residential Heating System, HCR-155 Troubleshooting Heating Systems, or instructor permission. The purpose of this course is to introduce the student to the various types of residential air-conditioning and heat pump systems. Areas and concepts covered include refrigeration, air conditioning, heat pump theory, air conditioning and heat pump construction, installation techniques, and maintenance procedures. (30-60-0-0) *Equivalent to 96-138, HVAC-711.*

**HCR-235 Commercial Air-Conditioning Systems (5 s.h.)**

Prerequisites: HCR-115 Residential Heating Systems, HCR-155 Troubleshooting Heating Systems, HCR-240 Troubleshooting Air-Conditioning Systems, HCR-150 Commercial Heating Systems, HCR-510 Sheet Metal Fabrication, HCR-802 Control Systems, HCR-210 Residential Air-Conditioning Systems. Corequisite: HCR-923 Systems Design, or instructor permission. This course covers large cooling systems used in commercial, institutional, and industrial applications. Types of equipment include water chillers, multistage reciprocating units, and an introduction to absorption systems. (30-90-0-0) *Equivalent to 96-234, HVAC-812.*

**HCR-240 Troubleshooting Air-Conditioning Systems (3 s.h.)**

Prerequisites: HCR-115 Residential Heating Systems, HCR-155 Troubleshooting Heating Systems. Corequisite: HCR-210 Residential Air-Conditioning Systems, or instructor permission. The purpose of this course is to introduce the student to the fundamentals of troubleshooting by utilizing a practical and systematic approach to locate and repair air-conditioning and heat pump system malfunctions. The student will also have the opportunity to study, in detail, the motors and controls used in today's air-conditioning and heat pump systems. Topics to be covered include basic electric circuits, electrical test meters, motors and controls, diagnosis of electrical and mechanical malfunctions, and special emphasis on wiring diagrams. (15-60-0-0) *Equivalent to 96-139, HVAC-712.*

**HCR-510 Sheet Metal Fabrication (2 s.h.)**

Prerequisites: HCR-115 Residential Heating Systems, HCR-155 Troubleshooting Heating Systems, HCR-240 Troubleshooting Air-Conditioning Systems, HCR-210 Residential Air-Conditioning Systems. Corequisite: HCR-802 Control Systems, or instructor permission. Use of selected sheet metal tools, layout, cutting, forming, and assembly of sheet metal. (15-30-0-0) *Equivalent to 96-140, HVAC-802.*

**HCR-705 Technical Graphics (2 s.h.)**

Prerequisite: HCR-150 Commercial Heating Systems. A development of blueprint skills students will need to interpret and sketch various drawings including construction, mechanical, pneumatic, electrical, plumbing, and duct patterns. Students will use simple sketching aids and appropriate templates to aid them in their development of drawings. The end result of these efforts will be the understanding of graphic drawings as a means of communicating information in their field of work. (30-0-0-0) *Equivalent to 91-124, HVAC-801.*

**HCR-802 Controls Systems for HVAC (4 s.h.)**

Prerequisites: HCR-115 Residential Heating Systems, HCR-155 Troubleshooting Heating Systems, HCR-240 Troubleshooting Air-Conditioning Systems, HCR-210 Residential Air-Conditioning Systems. Corequisite: HCR-150 Commercial Heating Systems, HCR-510 Sheet Metal Fabrication, or instructor permission. This course covers electrical symbols, transformers, single-phase motors, three-phase motors, motor starters, and electronic devices for the Heating, Ventilation, and Air Conditioning field (HVAC). It will also include pneumatic and building automation systems. (30-60-0-0)

**HCR-806 Controls I (3 s.h.)**

Prerequisite: HCR-115 Residential Heating Systems. Major emphasis is on four basic types of control systems: pneumatic, electronic, electromechanical, and digital as applied to residential and commercial heating and air-conditioning practices. (30-60-0-0)

**HCR-807 Controls II (3 s.h.)**

Prerequisite: HCR-806 Controls I. This course presents a more advanced study of electrical controls and their applications and an introduction to electronics and the controls used in HVAC systems. (30-60-0-0)

**HCR-923 Systems Design (3 s.h.)**

Prerequisites: HCR-115 Residential Heating Systems, HCR-155 Troubleshooting Heating Systems, HCR-240 Troubleshooting Air-Conditioning Systems, HCR-150 Commercial Heating Systems, HCR-510 Sheet Metal Fabrication, HCR-802 Control Systems, HCR-210 Residential Air-Conditioning Systems. Corequisite: HCR-235 Commercial Air-Conditioning Systems, or instructor permission. This course utilizes the knowledge base students have gained throughout the program to create a heating and cooling system at either the residential or commercial level. (15-60-0-0)

**HIS-112 Western Civilization: Ancient-Early Modern (4 s.h.)**

A study of the major social, political, economic, cultural, and philosophical movements in the Western World to 1648. (60-0-0-0) *Equivalent to 80-201, HIST-201.*

**HIS-113 Western Civilization: Early Modern to Present (4 s.h.)**

A study of the major social, political, economic, cultural, and philosophical movements in the Western World from 1648 to the present. (60-0-0-0) *Equivalent to 80-202, HIST-202.*

**HIS-151 U.S. History to 1877 (3 s.h.)**

A survey course covering the social, political, and economic history of American civilization from the Age of Discovery through Reconstruction. (45-0-0-0) *Equivalent to 80-140, HIST-101.*

**HIS-152 U.S. History Since 1877** (3 s.h.)  
A survey course covering the social, political, and economic history of the United States since 1877. (45-0-0-0) *Equivalent to 80-141, HIST-102.*

**HIS-254 American Indian History** (3 s.h.)  
American Indian History is an ethnographic and historical survey of the social, cultural, and political systems developed by Native Americans north of Mexico, and the developing relationship of these systems with those of the European-Americans. Native religion and world view, agricultural and hunting practices, materials culture, trade, diplomacy and political structures are examined, as are the mutual impact on both societies resulting from contact with and interaction between native North Americans and Europeans and their descendants. (45-0-0-0) *Equivalent to 80-144, HIST-110.*

**HIS-257 African American History** (3 s.h.)  
The course chronicles the experience of African Americans in the history of the United States. Topics include African heritage, the slave trade, slavery in the Antebellum South, the Civil War and emancipation, the Jim Crow era, the birth of racial advancement organizations, the development of twentieth-century urbanization and nationalism, and the struggle for civil rights, political power and cultural expression from mid century to the present. (45-0-0-0) *Equivalent to HIST-111.*

**HIS-260 Latin American History and Culture** (3 s.h.)  
A study of the major social, political, economic, and cultural events in Latin America since independence in the 1820s. The involvement of the United States in Latin America will be explored and the effects then and now of this involvement. There will be an emphasis on United States-Mexican relations, as well as United States-Cuban relations. Other areas of study will be Brazil, Argentina, Chile, Peru, Bolivia, Central American and Caribbean countries. (45-0-0-0)

**HIT-125 Essentials of Health Records** (2 s.h.)  
This course will introduce students to the origin, uses, content and format of health records, including both paper and electronic health records. Students will develop an understanding of required standards for health records, the organization of records, analysis of health record data as well as legal implications. (30-0-0-0)

**HIT-210 Basic Medical Insurance and Coding** (2 s.h.)  
Corequisite: HSC-120 Medical Terminology I or permission of instructor. This course will provide the students with an overview of medical health insurance claims submission guidelines and basic coding procedures. In addition, the student will work through a number of relevant case studies. (30-0-0-0) *Equivalent to 15-250, OFFC-851.*

**HIT-242 Coding I (ICD-10)** (3 s.h.)  
Prerequisite: None, however, HIT-210 Basic Medical Insurance and Coding, or experience in medical coding, is highly desirable. Corequisite: HSC-120 Medical Terminology I and HSC-150 Structure and Function. A study of the International Classification of Disease (ICD-10-CM) codes, using sample exercises and health records to develop skill and accuracy in coding guidelines required at health care settings. (45-0-0-0)

**HIT-247 Coding II (CPT)** (3 s.h.)  
Prerequisite: HSC-120 Medical Terminology I; HSC-150 Body Structure and Function; and HIT-242 Coding I (ICD-10) or experience in Medical Coding. This course is a continuation of the study of ICD-10 (Coding I), emphasizing its use for prospective payment. Course work focuses on acquiring advanced skills in coding disease and procedures and abstracting medical data. The study of CPT/HCPCS will be emphasized including advanced concepts of coding and payment methodologies. (45-0-0-0)

**HIT-420 Legal Aspects of Health Information** (2 s.h.)  
This course focuses on the legal aspects of health information and health records. It will address access and use of both paper and electronic information. Topics covered include confidentiality, release of health information, liability issues, and patient rights. (30-0-0-0)

**HSC-108 Introduction to Health Professions** (2 s.h.)  
This course provides a brief historical view of health care in addition to an overview of today's health care delivery system and related health care issues. Also addressed in this course are ethical/legal issues and desirable professional skills and behaviors associated with health care workers. An opportunity to explore specific health professions and the related educational requirements will also be included. Employment opportunities and related issues will also be explored in this course. (30-0-0-0)

**HSC-120 Medical Terminology I** (3 s.h.)  
Introduction of basic medical terminology utilizing a programmed, work-building system to learn word parts to construct and analyze new terms. Emphasis is placed on spelling, definition, usage, and pronunciation. (45-0-0-0) *Equivalent to 15-251, HEAL-110.*

**HSC-121 Medical Terminology II** (3 s.h.)  
Prerequisite: None, however, HSC-120 Medical Terminology I is highly desirable. A brief review of basic medical terminology followed by a systems approach to learning terms associated with the anatomical, physiological, and pathological aspects of the body. (45-0-0-0) *Equivalent to 15-252, HEAL-111.*

**HSC-144 Basic Pharmacology** (2 s.h.)  
Prerequisite: None. Medical Terminology knowledge recommended. Basic Pharmacology provides an introduction to the principles of pharmacology including drug terminology; drug origins, forms, and actions; routes of administration; as well as the use of generic name drugs, trade name drugs, and categories of drugs to treat various body systems. (30-0-0-0) *Equivalent to 90-134, HEAL-701.*

**HSC-150 Body Structure and Function** (4 s.h.)  
A basic study of the anatomy and physiology of the human body. Study progresses from the cell to tissues, organs, and systems with emphasis on their interrelatedness. Discussion includes some of the alterations that occur in illness. Usage of applicable medical terminology is stressed. (45-30-0-0) *Equivalent to 94-104, HEAL-704.*

**HSC-155 Laboratory Tests** (2 s.h.)  
To familiarize the student with clinical laboratory tests and their normal ranges in the areas of hematology, urology, and microbiology. The student will also learn basic surgical position terminology, instruments, and special organ studies. (30-0-0-0) *Equivalent to 90-140, HEAL-702.*

**HSC-171 Nurse Aide Theory (2 s.h.)**

Corequisite: HSC-174 Nurse Aide Clinical. Entrance Requirements: Must be 16 years or older; must have strength and endurance to meet the requirements in performing skills such as lifting and moving residents; high school diploma or GED required (if currently in high school, you must submit a letter of acknowledgement from your high school counselor); must complete the Health History Self-Assessment; current immunization records are required prior to beginning clinical (including a TB test and a Hepatitis B vaccine or signing a waiver for the Hepatitis vaccine); criminal and adult abuse checks are required and the cost is included in the tuition. This 75-hour nurse aide course has been revised to meet the training requirements of The Omnibus Budget 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 care. (30-0-0-0) *Equivalent to 89-164, CNAS-101.*

**HSC-174 Nurse Aide Clinical (1 s.h.)**

Corequisite: HSC-171 Nurse Aide Theory. Entrance Requirements: Must be 16 years or older; must have strength and endurance to meet the requirements in performing skills such as lifting and moving residents; high school diploma or GED required (if currently in high school, you must submit a letter of acknowledgement from your high school counselor); must complete the Health History Self-Assessment; current immunization records are required prior to beginning clinical (including a TB test and a Hepatitis B vaccine or signing a waiver for the Hepatitis vaccine); criminal and adult abuse checks are required and the cost is included in the tuition. The clinical experience includes 30 hours in a nursing facility. (0-0-45-0) *Equivalent to 89-165, CNAS-102.*

**HSC-179 Medication Aide (3 s.h.)**

Prerequisites: Must be employed in: (1) A certified nursing facility - minimum of 6 months employment by facility sponsor, must be on State of Iowa Direct Care Workers Registry, and must provide documentation from administrator of facility in which he/she is employed; OR (2) A residential or related type of licensed facility - minimum of 6 months employment by facility sponsor, must provide evidence of successful completion of residential attendant course, and must provide documentation from administrator of facility in which he/she is employed; OR (3) An assisted living program - minimum of 6 months employment by facility sponsor, must provide documentation from administrator of facility in which he/she is employed, and must have completed 75-hour Nurse Aide Course or Residential Attendant Course. Must also have an aptitude for reading, writing, and mathematics. This is a 60-hour course consisting of 40-42 hours of classroom lecture and 18-20 hours of clinical experience. This course prepares people to safely administer nonparenteral medications in nursing facilities and related areas. The emphasis is on safe administration of medications. It qualifies the aide to administer medications in long term care, residential care, nursing facilities, skilled nursing facilities, adult day care and assisted living facilities. Clinical and state final exam must be completed no later than 60 days after the end of classroom work. This course is designated as pass/no pass. (42-18-0-0)

**HSC-290 Supervising in Healthcare (3 s.h.)**

Prerequisite: Must be current RN or LPN. This program is designed to enable the nurse to gain knowledge and develop skills

necessary to manage personnel and clients in health care facilities. The program focuses on supervisory skills for nurses in long-term care. This course has been designated as a pass/no pass course. (45-0-0-0)

**HSV-152 Introduction to Counseling (3 s.h.)**

Prerequisite: PSY-111 Introduction to Psychology or permission of instructor. A survey of the basic theories and techniques of psychological counseling. This course is one of the recommended courses for students with a career interest in the human services area. (45-0-0-0)

**HSV-153 Professional Ethics (3 s.h.)**

Prerequisite: PSY-121 Developmental Psychology, SOC-110 Introduction to Sociology, and SOC-150 Introduction to Human Services. An in-depth study of ethical perspectives or a selected area of moral concern. Possible topics include bioethics; business and professional ethics; queer ethics; science, technology, and society; sexual ethics; and comparative religious ethics. This is one of the recommended courses for students with a career interest in the human services area. (45-0-0-0)

**HUM-115 Encounters in Humanities (2 s.h.)**

This course is designed to introduce students to the world of the humanities; describe the humanities genres and disciplines; provide a systematic method of assessing humanities artifacts; present opportunities to assess humanities artifacts; define methods of participating in the humanities. Four humanities genres are represented with their respective disciplines. (15-30-0-0) *Equivalent to 10-100, HUMA-100.*

**IND-190 Skills and Safety in Industry (1 s.h.)**

This course is designed to acquaint the student with the proper personal and shop safety procedures needed to function in an industrial lab setting. In addition to the safety, students will also receive instruction on first aid in an emergency situation, as well as computing skills needed to be successful in an industrial setting. (7.5-15-0-0)

**IND-220 Metal Processing/Metallurgy (2 s.h.)**

The student uses basic hand tools, drills, measuring tools, lathes, grinders, and welding equipment to build parts with practical applications in automotive service. (15-30-0-0) *Equivalent to 98-161, INDU-705.*

**JOU-115 Introduction to Journalism (3 s.h.)**

Introduction to Journalism is designed to help students understand the role of the media in a democracy and how that role is accomplished. Students will also improve communication skills because the course stresses the fundamentals of news gathering, news writing, editing, and publication design. Students will have the opportunity to gain practical experience in news writing and interviewing. The course will stress print media. (45-0-0-0) *Equivalent to 30-121, JOUR-101.*

**JOU-121 News Writing and Reporting (3 s.h.)**

Prerequisite: JOU-115 Introduction to Journalism and ability to type/keyboard. News Writing and Reporting serves as a class designed to help the student improve his or her news gathering and reporting skills. Students will be expected to write stories for publication in *Logos*, the student news publication. Students will be expected to

conduct interviews and utilize the computer programs used by the newspaper. (45-0-0-0) *Equivalent to 30-122, JOUR-102.*

**JOU-145 Logos (1 s.h.)**  
Students contribute to the college publication to showcase student work. Credit may be earned through practical experience in writing, reporting, photography, and other production-oriented work. Participants are required to attend weekly meetings and meet a minimum number of contributions for a passing grade. This course is repeatable one time. (0-30-0-0) *Equivalent to 30-113, JOUR-113.*

**JOU-245 Logos (1 s.h.)**  
Prerequisite: Must have completed 2 semesters of JOU-145 Logos. Students contribute to the college publication for showcasing student work. Credit may be earned through practical experience in writing, reporting, photography, and other production-oriented work. Participants are required to attend weekly meetings and meet a minimum number of contributions for a passing grade. Advanced techniques are emphasized. This course is repeatable one time. (0-30-0-0)

**LIT-101 Introduction to Literature (3 s.h.)**  
Prerequisite: ENG-105 Composition I, or comparable course, or approval of instructor. An introduction to literature through major genres such as poetry, drama, and fiction. This course will focus on helping students develop skills for reading, interpreting, and critique through group discussion, oral presentation and writing. (45-0-0-0)

**LIT-130 African American Literature (3 s.h.)**  
Prerequisite: ENG-105 Composition I, or comparable course, or approval of instructor. A study of the writings of major African Americans from 1900 to contemporary times. Short stories, poetry, plays, and novels will be studied as works of literature. Discussion and writing will focus on the critical analysis of the works. (45-0-0-0) *Equivalent to 30-203, LITS-103.*

**LIT-131 Native American Literature (3 s.h.)**  
Prerequisite: ENG-105 Composition I, or comparable course, or approval of instructor. A study of the writings of major American Indians from precontact with Europeans to contemporary times. Legends, autobiographies, letters, speeches, poetry, novels and short stories will be studied as works of literature. Discussion and writing will focus on the critical analysis of the works. (45-0-0-0) *Equivalent to 30-204, LITS-104.*

**LIT-132 Women of Color (3 s.h.)**  
Prerequisite: ENG-105 Composition I or comparable course or approval of instructor. A study of the writings of contemporary women of color from this country and around the world. Autobiographies, short stories, poetry, plays, essays, and novels will be studied. Discussion and writing will focus on the critical analysis of the works. (45-0-0-0) *Equivalent to 30-206, LITS-105.*

**LIT-150 World Literature I (3 s.h.)**  
Prerequisite: ENG-105 Composition I, or comparable course, or approval of instructor. Readings are drawn from several of the world's great civilizations up to the 18th Century. This course emphasizes prose and poetry from the religious and secular traditions of the Far East, South Asia, the Ancient Mediterranean, Northern Europe, and Ancient and Medieval I Near East. (45-0-0-0) *Equivalent to 30-201, LITS-201.*

**LIT-151 World Literature II (3 s.h.)**  
Prerequisite: ENG-105 Composition I, or comparable course, or approval of instructor. Readings are taken from various works of short story, poetry, novel, and drama from around the world. The course will primarily focus upon literature written from the early 18th Century to present. World Literature I is not required. (45-0-0-0) *Equivalent to 30-202, LITS-202.*

**LIT-160 Short Story/Novel (3 s.h.)**  
Prerequisite: ENG-105 Composition I, or comparable course, or approval of instructor. A study of selected works of fiction in the short story and novel as forms of literature. Discussion and writing emphasizing interpretation, critical analysis, and judgment/evaluation. (45-0-0-0) *Equivalent to 30-112, LITS-102.*

**LIT-170 Poetry/Drama (3 s.h.)**  
Prerequisite: ENG-105 Composition I, or comparable course, or approval of instructor. A study of selected works of poetry and drama as forms of literature. Discussion and writing emphasizing interpretation, critical analysis, and judgment/evaluation. (45-0-0-0) *Equivalent to 30-111, LITS-101.*

**LIT-230 Law Enforcement in Contemporary Literature (3 s.h.)**  
Corequisite: ENG-105 Composition I, or permission of instructor. This course will examine issues arising in the field of law enforcement as reflected in contemporary literature and its literary antecedents. The literature will include selected works of poetry, fiction, and drama. Discussion and writing will emphasize interpretation, critical analysis, and judgment/evaluation. (45-0-0-0)

**MAP-353 Clinical Procedures I (4 s.h.)**  
Assist physician with examinations and treatments, prepare patients for examinations and diagnostic procedures, administer first aid and CPR, maintain and use aseptic techniques, obtain and record patient data. Perform routine tests, sterilize instruments, and learn related terminology. If taking curriculum beyond a one-year period, this course should be taken during the final year of the curriculum. (45-30-0-0) *Equivalent to 90-141, MEDA-701.*

**MAP-359 Clinical Procedures II (6 s.h.)**  
Prerequisite: MAP-353 Clinical Procedures I. A continuation of Clinical Procedures I with emphasis on pharmacology, administration of medications, electrocardiography, principles of radiography, nutrition, and collection and testing of laboratory specimens including phlebotomy. Students are placed in a clinical setting for 1 semester hour (45 clock hours) for application of theory/skills. If taking curriculum beyond a one-year period, this course should be taken during the final year of the curriculum. (60-30-45-0)

**MAP-622 Medical Assistant Practicum (6 s.h.)**  
An eight-week term of practical experience in selected physicians' offices, clinics, or laboratories. The practicum offers the students an opportunity to perform various clinical and office procedures under the supervision of the physician, nurse, and the instructor/coordinator. 225 clock hours are completed in the clinical setting. An additional 15 clock hours (1 s.h.) are completed as a review for the national certification examination. This course has been designated as a pass/no pass course. (15-0-225-0) *Equivalent to 90-208, MEDA-720, MAP-616.*

**MAT-044A-D Mastery Math (1, 2, 3, or 4 s.h.)**

Prerequisite: Permission of course instructor or college recommendation. This course is intended for students who would benefit from a competency-based approach to increasing their math skills. Course may be taken in conjunction with other courses as support for success. Student's self-management will be assessed for suitability to the course format prior to approval for registration in the course. Learning objectives will include succeeding on a standardized test to meet placement requirements for a subsequent math enrollment or meeting goal plan. Credit will not satisfy the requirements for an Associate Degree and will not be used in calculating grade point average for graduation. This course may be repeated. This course has been designated as a pass/no pass course. (15-30-0-0, 30-60-0-0, 45-90-0-0, or 60-120-0-0)

**MAT-053 Pre-Algebra (4 s.h.)**

Prerequisite: A score of 15 or higher on the Pre-Algebra Pretest, or Accuplacer Arithmetic score of at least 23, or Accuplacer Elementary Algebra of at least 32, or ACT score of at least 12, or SAT of at least 240. This course is intended to prepare students for an entry-level math course such as Elementary Algebra or Applied Math. The course covers basic computational skills with whole numbers, fractions, decimals, percentages, and integers. Credit earned will not satisfy the requirements for an Associate Degree and will not be used in calculating the cumulative grade point average for graduation. Course is taught in various formats. (60-0-0-0) *Equivalent to 40-040, MATH-040.*

**MAT-063 Elementary Algebra (4 s.h.)**

Prerequisite: MAT-053 Pre-Algebra with a grade of C or higher, or Accuplacer Arithmetic score of at least 59, or Accuplacer Elementary Algebra score of at least 50, or ACT Math score of at least 16, or SAT Math score of at least 380. This course is intended for students who have had no previous experience in Algebra. Topics include: the real number system, linear and quadratic equations, exponents, factoring, rational expressions, graphing, systems of equations, radicals, the quadratic formula, square root manipulation, and application of concepts. Credit earned will not satisfy the requirements for an Associate Degree and will not be used in calculating the cumulative grade point average for graduation. Course is taught in various formats. (60-0-0-0) *Equivalent to 40-060, 40-119, MATH-060.*

**MAT-088 Math for Liberal Arts Supplement (1 s.h.)**

Prerequisite: Permission of instructor or college recommendation. This course is intended for students who would benefit from an individualized approach to increasing their math skills and successful completion of Math for Liberal Arts. Credit earned will not satisfy the requirements for an Associate Degree and will not be used in calculating the cumulative grade point average for graduation. This course has been designated as a pass/no pass course. This course is repeatable to a maximum of 12 credit hours. (15-0-0-0)

**MAT-089 Survey of Mathematics (3 s.h.)**

Prerequisite: Accuplacer Arithmetic score of at least 23, or Accuplacer Elementary Algebra of at least 32, or ACT score of at least 12, or SAT score of at least 240. This course is for students who are intending on taking Math for Liberal Arts. The course focuses on arithmetic skills without a calculator, college study skills,

and an overview of topics from Math for Liberal Arts that include: problem solving, sets, elementary logic, number theory, percentages, statistics, and geometry. Credit earned will not satisfy the requirements for an Associate Degree and will not be used in calculating the cumulative grade point average for graduation. Course is taught in various formats. (45-0-0-0)

**MAT-092 Intermediate Algebra (4 s.h.)**

Prerequisite: MAT-063 Elementary Algebra with a grade of C or higher, or Accuplacer Arithmetic score of at least 109, or Accuplacer Elementary Algebra score of at least 109, or Accuplacer College Math score of at least 42, or ACT Math score of at least 20, or SAT math score of 480. This course will prepare the student for college algebra and trigonometry or other course work that requires the same level of sophistication. Topics include properties of real numbers, linear and quadratic equations, graphs of linear and quadratic equations, systems of equations, polynomials and rational expressions, inequalities, integral and rational exponents, radicals, and complex numbers. Students may substitute successful completion of a high school algebra course for the prerequisite above. This course may not be used to satisfy core requirements. Course is taught in various formats. (60-0-0-0) *Equivalent to 40-120, MATH-102.*

**MAT-099 Combined Algebra (5 s.h.)**

Prerequisite: MAT-053 Pre-Algebra with a grade of B or higher, or Accuplacer Arithmetic score of at least 99, or Accuplacer Elementary Algebra score of at least 80, or Accuplacer College Math score of at least 40, or an ACT Math score of at least 18, or SAT math score of 430, or permission of instructor. This course will prepare the student for college algebra or equivalent course work. Topics include properties of real numbers, linear equations and inequalities, graphs of polynomial functions, exponents, factoring, system of equations and inequalities, polynomial and rational expressions, radicals, complex numbers and quadratic equations. This course may not be used to satisfy core requirements. Course is taught in various formats. (75-0-0-0)

**MAT-110 Math (for Liberal Arts) (3 s.h.)**

Prerequisites: MAT-089 Survey of Math with a grade of C or higher; or ALEKS score of at least 38 or ALEKS scores of at least 65% in Whole Numbers, Fractions and Decimals, and at least 50% in Percents, Proportions and Geometry. Math for Liberal Arts provides a survey of mathematics topics that includes sets, logic, statistics, number theory, geometry, the metric system, and consumer math. This course will fulfill 3 hours of Natural Science requirement for the A.A. Degree. (45-0-0-0) *Equivalent to 40-121, MATH-101.*

**MAT-120 College Algebra (for Liberal Arts) (3 s.h.)**

Prerequisite: MAT-092 Intermediate Algebra with a grade of C or higher, or ACT Math score of at least 21, or minimum score on a placement exam (for COMPASS, Algebra score of at least 76), or Accuplacer Elementary Algebra score of at least 116, or Accuplacer College Math score of at least 45. This course will satisfy a general education requirement in the Math/Science area. Topics include a study of various classes of functions, their graphs and their applications to problem-solving. Embedded in this study is the essential ability to solve linear, quadratic, rational, radical, exponential and logarithmic equations. This liberal arts course is not preparation for calculus. (45-0-0-0)



**MAT-121 College Algebra** (4 s.h.)  
Prerequisites: MAT-092 Intermediate Algebra with a C or better, or ALEKS score of at least 38. This is a college-level course for students majoring in business, science, math and pre-engineering that satisfies the general education requirement in the Math/Science area. Its purpose is to prepare the student for trigonometry and eventually calculus. The course examines functions in an analytic geometry setting, theories of equation-solving, matrices, the Fundamental Theorem of Algebra, and the Binomial Theorem. This course is considered preparation for calculus. (60-0-0-0) *Equivalent to MATH-121.*

**MAT-128 Precalculus** (4 s.h.)  
Prerequisite: MAT-121 College Algebra with a C or better; or an ALEKS score of at least 50. This course is intended to provide students with a summary of mathematics topics needed to study analytic geometry and calculus. The functional approach is emphasized. Topics covered include fundamentals of algebra, polynomial, rational, exponential, logarithmic, and trigonometric functions, analytic trigonometry, systems of equations, and analytic geometry of conics. (60-0-0-0) *Equivalent to 40-161, MATH-161.*

**MAT-134 Trigonometry and Analytic Geometry** (3 s.h.)  
Prerequisite: MAT-121 College Algebra with a grade of C or higher, or ALEKS score of at least 50. This course is a preparation course intended for students majoring in engineering, mathematics, physics, chemistry or certain vocational fields. The course is a study of both trigonometric and conic functions and equations. Both rectangular and polar coordinate systems are studied. (45-0-0-0) *Equivalent to MATH-134.*

**MAT-140 Finite Math** (3 s.h.)  
Prerequisites: MAT-121 College Algebra with a grade of C or higher, or an ALEKS score of at least 50. This course provides a sampling of applied mathematical topics primarily in a business setting. Some topics covered include elementary functions, linear systems, matrices, linear programming, set theory, probability, and expected value. (45-0-0-0) *Equivalent to 40-125, MATH-125.*

**MAT-153 Math for Elementary Teachers I** (4 s.h.)  
Prerequisite: MAT-092 Intermediate Algebra with a grade of C or higher, or an ACT Math score of at least 21, or a COMPASS Algebra Score of at least 56, or Accuplacer Elementary Algebra score of at least 116, or Accuplacer College Math score of at least 45. This course focuses on the fundamental concepts that K-6 teachers will teach. Students will develop mathematical tools of reasoning, problem solving, and communication. Specific topics include rational numbers, operations with rational numbers, fractions and decimals, probability, and statistics. (60-0-0-0).

**MAT-154 Math for Elementary Teachers II** (4 s.h.)  
Prerequisite: MAT-153 Math for Elementary Teachers I, with a grade of C or higher, or permission of instructor. This course focuses on the fundamental concepts that all K-6 teachers will teach. Students will develop mathematical tools of reasoning, problem solving, and communication. Specific topics include algebraic thinking, geometry, measurement, reasoning and proof, and technology in elementary classrooms. (60-0-0-0).

**MAT-156 Introduction to Statistics** (3 s.h.)  
Prerequisite: MAT-092 Intermediate Algebra with a grade of C or higher, or an ALEKS score of at least 38. This course is intended to introduce students to basic statistical concepts. It covers descriptive and inferential statistical methods, probability, hypothesis test-

ing on the mean and proportion, and linear regression. Students are also introduced to technology as it applies to introductory statistical methods. A graphing calculator is required. (45-0-0-0) *Equivalent to 40-140, STAT-104.*

**MAT-161 Business Statistics** (3 s.h.)  
Prerequisite: MAT-156 Introduction to Statistics or permission of instructor. Business Statistics looks at the use of statistical methods as an analytical tool in business situations. Data collection, sampling, data analysis, estimation, hypothesis testing, regression and correlation analysis, multinomial experiments and contingency tables, analysis of variance, and nonparametric statistics are covered. The use of calculators and statistical software is incorporated into the course. The course is intended to follow an introductory statistics course. A graphing calculator is required. (45-0-0-0) *Equivalent to 15-210, STAT-201.*

**MAT-165 Calculus (Business)** (3 s.h.)  
Prerequisite: MAT-128 Precalculus with a grade of C or higher; or MAT-121 College Algebra; or ALEKS score of at least 50. This course uses calculus techniques with an emphasis on applications to business, the social sciences, the life sciences, and also to certain career programs. Types of functions included in the course are polynomial, rational and root, exponential and logarithmic. Topics include derivatives and their uses, and integrals and their applications. Students who have successfully completed two years of algebra, one year of geometry, and at least one semester of pre-calculus in high school may register for this class. A graphing calculator is required. (45-0-0-0) *Equivalent to 40-240, MATH-240.*

**MAT-210 Calculus I** (4 s.h.)  
Prerequisite: MAT-128 Precalculus with a grade of C or higher; or MAT-121 College Algebra and MAT-134 Trigonometry and Analytic Geometry with grades of C or higher; or an ALEKS score of at least 70. Topics include analysis of functions, limits, derivatives and integrals of algebraic, logarithmic, exponential, and trigonometric functions, and applications of differentiation. (60-0-0-0) *Equivalent to 40-251, MATH-251.*

**MAT-216 Calculus II** (4 s.h.)  
Prerequisite: MAT-210 Calculus I, with a grade of C or higher. This course is a continuation of MAT-210. Topics include applications of the definite integral; principles of integration evaluation; improper integrals; modeling with differential equations; and infinite sequences and series. (60-0-0-0) *Equivalent to 40-252, MATH-252.*

**MAT-219 Calculus III** (4 s.h.)  
Prerequisite: MAT-216 Calculus II, with a grade of C or higher. This course is a continuation of MAT-216. Topics include graphs and analysis of the conic sections, polar coordinates and parametric equations, three dimensional space, vectors and vector-valued functions, partial derivatives, multiple integrals, and topics in vector calculus. (60-0-0-0) *Equivalent to 40-253, MATH-253.*

**MAT-226 Differential Equations with Laplace Transforms** (3 s.h.)  
Prerequisite: MAT-216 Calculus II, with a grade of C or higher. Topics include analytic methods for solving first and second order ordinary differential equations, higher order linear differential equations (including Laplace Transforms) and systems of differential equations, numerical methods for approximating solutions of differential equations, and applications using differential equations. (45-0-0-0) *Equivalent to 40-261, MATH-261.*

**MAT-801 Applied Math A (1 s.h.)**

Prerequisite: COMPASS Pre-Algebra score of at least 49, or ACT math score of at least 16, or MAT-063 Pre-Algebra with a grade of C or higher, or Accuplacer Arithmetic score of at least 59, or Accuplacer Elementary Algebra score of at least 50, or Accuplacer College Math score of at least 21. This course covers essential topics in algebra, including ratio and proportion, as well as unit conversions, and order of operations. (15-0-0-0)

**MAT-802 Applied Math B (1 s.h.)**

Prerequisite: COMPASS Pre-Algebra score of at least 49, or ACT math score of at least 16, or MAT-063 Pre-Algebra with a grade of C or higher, or Accuplacer Arithmetic score of at least 59, or Accuplacer Elementary Algebra score of at least 50, or Accuplacer College Math score of at least 21. This course covers essential topics in algebra, including solving equations and word problems, and basic statistics. (15-0-0-0)

**MAT-803 Applied Math C (1 s.h.)**

Prerequisite: MAT-801 Applied Math A and MAT-802 Applied Math B with a grade of C or higher, or Accuplacer Arithmetic score of at least 59, or Accuplacer Elementary Algebra score of at least 50, or Accuplacer College Math score of at least 21. This course covers essential topics in plane and solid geometry. (15-0-0-0)

**MAT-804 Applied Math D (1 s.h.)**

Prerequisite: MAT-801 Applied Math A and MAT-802 Applied Math B with a grade of C or higher, or Accuplacer Arithmetic score of at least 59, or Accuplacer Elementary Algebra score of at least 50, or Accuplacer College Math score of at least 21. This course covers essential topics in trigonometry. (15-0-0-0)

**MFG-108 Computer-Aided Drafting (2 s.h.)**

Prerequisite: MFG-120 Machine Trade Print Reading I; MFG-130 Machine Trade Print Reading II; or permission of instructor. Students are introduced to computer-aided drafting and design as an essential tool utilizing and enhancing the student's existing drafting skills. This is accomplished by utilizing ESPRIT through the generation of two- and three-dimensional orthographic drawings as well as pictorial techniques in the CAD environment. Operating systems commands, cursor manipulation, direct display interaction, geometry creation and manipulation, file storage and retrieval, entity manipulation such as rotation and mirroring, and the use of printers are just a few of the hardware and software capabilities to be covered. (15-30-0-0) *Equivalent to 96-270, TLDI-804.*

**MFG-110 3-D Modeling (2 s.h.)**

Prerequisite: MFG-108 Computer-Aided Drafting, or permission of instructor. Students are introduced to solid modeling as an essential tool, utilizing and enhancing designing skills. This is accomplished through the generation of 3-D drawings created in Solid Works. Operating systems commands, cursor manipulation, file storage and retrieval, entity manipulation, such as rotation, mirroring, editing, dimensioning, sections, sheet metal parts, and assemblies capabilities will be covered. (15-30-0-0) *Equivalent to 96-173, TLDI-805.*

**MFG-120 Machine Trade Print Reading I (1 s.h.)**

An introduction to the importance of prints in industry. Covers isometric drawings, orthographic projection, auxiliary views, detail and assembly drawing, dimensions and tolerances, and sectional views. Integrates the alphabet of lines and principles of sketching.

Other information covered includes title blocks, drawing change systems, drawing notes, and material lists. (0-30-0-0) *Equivalent to 96-163, TLDI-701.*

**MFG-130 Machine Trade Print Reading II (1 s.h.)**

Prerequisite/Corequisite: MFG-120 Machine Trade Print Reading I. Continues Machine Trade Print Reading I with emphasis on geometric dimensioning and tolerancing and the interpretation of more advanced prints used in the construction of tool and die and mold building. (0-30-0-0) *Equivalent to 96-164, TLDI-702.*

**MFG-137 Machinist Math I (2 s.h.)**

Covers practical vocational and technical applications of mathematical concepts necessary to excel in the machine, tool and die, and tool design industry. Topics are reinforced with realistic industry-related examples, illustrations, and actual applications. (30-0-0-0)

**MFG-138 Machinist Math II (2 s.h.)**

Prerequisite: MFG-137 Machinist Math I. Covers practical vocational and technical applications of mathematical concepts necessary to excel in the machine, tool and die, and tool design industry. Topics are reinforced with realistic industry-related examples, illustrations, and actual applications. (30-0-0-0)

**MFG-195 Manufacturing Processes I (2 s.h.)**

Knowledge and skills in manufacturing materials and the procedures used to produce products in today's modern industry. Introduction to measurement and quality assurance with an emphasis on tolerance, measurement, and calibration. The final project is to create a product using manual metal cutting processes. (15-30-0-0) *Equivalent to 91-120, INDU-715.*

**MFG-216 Survey of Machine Tool Practices I (4 s.h.)**

The student safely uses basic measuring tools, machine tools, and layout/inspection tools. Emphasis is on turning machines, drills, and hand tools. Safety is taught and enforced as it applies to each machine process. Proper terminology of the machinist trade is emphasized. The student follows blueprints to produce products within tolerances specified. (15-90-0-0) *Equivalent to 96-180, TLDI-760.*

**MFG-217 Survey of Machine Tool Practices II (4 s.h.)**

Prerequisite: MFG-216 Survey of Machine Tool Practices I. Continues Survey of Machine Tool Practices I. The student safely uses basic measuring tools, machine tools, and layout/inspection tools. Emphasis on basic milling machines. Safety is taught and enforced as it applies to each machine process. Proper terminology of the machinist trade is emphasized. The student follows blueprints to produce products within tolerances specified. (15-90-0-0) *Equivalent to 96-181, TLDI-761.*

**MFG-218 Survey of Machine Tool Practices III (4 s.h.)**

Prerequisite: MFG-216 Survey of Machine Tool Practices I and MFG-217 Survey of Machine Tool Practices II. The student safely performs cylindrical grinder and surface grinder operations. Using the grinders, the student makes round and flat surfaces to conform to the specified tolerances. Emphasis is placed on safety, proper use of tools, and using correct terminology of the machinist trade. (15-90-0-0) *Equivalent to 96-182, TLDI-762.*

**MFG-219 Capstone Manufacturing Project (4 s.h.)**

Prerequisite: MFG-216 Survey of Machine Tool Practices I, with a grade of C or higher; MFG-217 Survey of Machine Tool Practices II, with a grade of C or higher; MFG-218 Survey of Machine Tool Practices III, with a grade of C or higher; and MFG-302 CNC Fundamentals, with a grade of C or higher. The goal is for the learner to build an approved multiple-part project using machine tools and communicate the successes and difficulties encountered in the project-building process. (15-90-0-0) *Equivalent to 96-193, TLDI-763.*

**MFG-245 Machine Theory and Operations I (9 s.h.)**

Corequisites: MFG-120, Machine Trade Print Reading I; and MFG-137 Machinist Math or MAT-801 Applied Math A and MAT-802 Applied Math B. Covers theory and lab use of basic measuring and machining tools, layout inspection tools, as well as bench work. Safety is taught and enforced as it applies to each machine process. Proper terminology of the machinist trade is emphasized as well as following blueprints and holding tolerances through the use of a variety of machining processes to produce a product. (60-225-0-0) *Equivalent to 96-165, TLDI-703.*

**MFG-248 Machine Theory and Operations II (7 s.h.)**

Prerequisites: MFG-245, Machine Theory and Operations I; and MFG-137 Machinist Math I or MAT-801 Applied Math A and MAT-802 Applied Math B. Corequisites: MFG-130 Machine Trade Print Reading II; and MFG-138 Machinist Math II OR MAT-803 Applied Math C and MAT-804 Applied Math D. Continues Machine Theory and Operations I. Covers more advanced principles in setup and operation of mills, lathes, and grinders, with an introduction to carbide tooling along with a continued emphasis on shop safety, communication, and cooperation. Stresses the interrelationship of manufactured mating parts. (45-195-0-0) *Equivalent to 96-166, TLDI-704.*

**MFG-302 CNC Fundamentals (3 s.h.)**

Prerequisite: MFG-245 Machine Theory and Operations I. Students must obtain a grade of C or higher in MFG-248 Machine Theory and Operations II. Covers computer numerical control (CNC) as it relates to milling machines, turning lathes, microcomputers, and related software. Emphasis on input language, codes, machine set-up and operation, inspection of parts, and communication of peripherals. (30-30-0-0) *Equivalent to 96-167, TLDI-705.*

**MFG-312 Advanced CNC (2 s.h.)**

Prerequisite/Corequisite: MFG-459 Injection Mold Making. A continuation of CNC and EDM fundamentals, as well as mold making with additional instruction and practice in the use of CAD, wire, and ram electrical discharge machines in the construction of die and mold components. (15-45-0-0) *Equivalent to 96-275, TLDI-814*

**MFG-320 Computer-Aided Manufacturing (3 s.h.)**

Prerequisites/Corequisites: MFG-108 Computer-Aided Drafting, MFG-302 CNC Fundamentals; MFG-424 Jig and Fixtures; and MFG-380 EDM Fundamentals. Students must obtain a grade of C or higher in MFG-302 CNC Fundamentals. This program provides an introduction to (Process Modeling) utilizing the CNC graphics programming system. Using engineering drawings, students program various parts for CNC mills, CNC lathes, and CNC EDM. Related topics include job planning, tool selection, construction of

a process model, tool path verification, simulation, quality control, CAD, CAM data transfer, and CNC code generation. (15-60-0-0) *Equivalent to 96-272, TLDI-811.*

**MFG-380 EDM Fundamentals (2 s.h.)**

Prerequisites/Corequisites: MFG-302 CNC Fundamentals and MFG-424 Jig and Fixtures. Students must obtain a grade of C or higher in MFG-302 CNC Fundamentals. The students are introduced to the electrical discharge machines, both wire and ram-type. Emphasis on how these tools are used in the manufacturing of punch and die components and injection mold cores and cavities. (15-45-0-0) *Equivalent to 96-172, TLDI-803.*

**MFG-408 Basic Die Making (8 s.h.)**

Prerequisite/Corequisite: MFG-424 Jig and Fixtures. This course is a continuation of MFG-424 Jig and Fixtures, with instruction and practice in building a progressive or compound die. Emphasis is placed on the tool building procedures learned in MFG-424 Jig and Fixtures, and toward fabricating dies. Instruction is given on the considerations involved in developing die components, such as calculation of die clearances, bend allowance, cutting forces, press tonnage requirements, and practice in building a complete functional die. The National Institute for Metalworking Skills (NIMS) certification exam for Materials, Measurement and Safety will be administered during this course. (45-225-0-0) *Equivalent to 96-271, TLDI-810.*

**MFG-424 Jig and Fixtures (5 s.h.)**

Prerequisite/Corequisite: Students must obtain a grade of C or higher in MFG-302 CNC Fundamentals and MFG-248 Machine Theory and Operations II. This course is an introduction to the design of industrial tools and machining characteristics of tool components. The student is introduced to additional machining skills that will be encountered in typical machine shops in the building of molds, dies, jigs, fixtures, and precision machine parts. (30-160-0-0) *Equivalent to 96-171, TLDI-802.*

**MFG-459 Injection Mold Making (9 s.h.)**

Prerequisite/Corequisite: MFG-408 Basic Die Making and MFG-460 Plastic Materials. The student is introduced to the field of mold making for plastic injection molds, blow molds, compression and transfer molds, zinc and aluminum die casting molds. Focus is placed on mold theory, mold repair, identification and correction of mold problems, standardization of mold components, mold blueprint reading, and the machine shop skills necessary for mold making, as related to thermoplastic injection molds. In addition, the student develops necessary basic skills for gating, venting, heating, cooling, stoning and polishing, as well as other hands-on experiences necessary to manufacture mold plates, cores, cavities, and ejection systems. The student builds a prototype injection mold. (45-285-0-0) *Equivalent to 96-274, TLDI-813.*

**MFG-460 Plastic Materials (1 s.h.)**

This course is designed to introduce the student to the field of plastics. This overview includes thermoplastics and thermoset materials along with the major processing methods being utilized by industry today. (15-0-0-0) *Equivalent to 96-273, TLDI-812.*

**MFG-500 Statistical Process Control (1 s.h.)**

Covers the current transformation methods of industry and busi-

ness toward a complete quality control system. Management theory on quality, productivity, and controlled charting techniques are included. (15-0-0-0) *Equivalent to 96-170, TLDI-801.*

**MGT-101 Principles of Management (3 s.h.)**

Prerequisite: BUS-102 Introduction to Business is recommended. Provides students with a general introductory management learning experience. Role of management in today's business environment; management's influence on employee productivity, employee satisfaction and organizational effectiveness; major control devices of management. (45-0-0-0) *Equivalent to 15-142, BUSN-130.*

**MGT-130 Principles of Supervision (3 s.h.)**

This course is designed for individuals that hold or will hold supervisory positions. This course involves the study of the major supervisory functions of planning, organizing, staffing, directing, and controlling, and is augmented by other pervasive areas of supervision such as communication, motivation, decision making, and human relations. (45-0-0-0) *Equivalent to 15-144, BUSN-131.*

**MGT-170 Human Resource Management (3 s.h.)**

This course describes the transition from personnel management to human resources management. The focus is on the systematic process of recruitment, selection, development, and appraising employees. (45-0-0-0) *Equivalent to 15-149, BUSN-132.*

**MGT-220 Introduction to Sport Management (3 s.h.)**

For individuals entering into the sport and physical education profession, it is critical to understand the theory and practice of ethical management principles in sport/fitness organizations. Administrators need to understand marketing, financial and legal aspects regarding the management of facilities, events, and organizations. These principles are applied to organizations within interscholastic, intercollegiate, international and professional sport along with the health/fitness and community recreation industries. (45-0-0-0) *Equivalent to 15-126, SPOR-101.*

**MGT-221 Current Issues in Sport (3 s.h.)**

Prerequisite: MGT-220 Introduction to Sport Management. Sport, health/fitness, and recreation organizations have been facing many changes in recent years. These changes have exposed many problems that these organizations must solve in order to ensure future success. This class is designed to expose students to these issues in order to prepare them for management careers in the sport, health/fitness, and recreation fields. (45-0-0-0) *Equivalent to 15-127, SPOR-120.*

**MKT-110 Principles of Marketing (3 s.h.)**

A study of the role of marketing in society as well as a study of target market (customer) determination and selection, product strategy, channels of distribution, pricing concepts, and promotional activities that are used in business today. (45-0-0-0) *Equivalent to 15-221, MRKT-101.*

**MKT-140 Principles of Selling (3 s.h.)**

This course involves the study of concepts and practices used by successful professional salespeople in today's market-driven economy. The course also includes a study of selling as a promotional strategy used by marketers. (45-0-0-0) *Equivalent to 15-223, MRKT-103.*

**MKT-150 Principles of Advertising (3 s.h.)**

The study of advertising process and its place in business and society. The course involves learning about the planning, creating and placement of advertising. The course also covers the topic of integrated promotion. (45-0-0-0) *Equivalent to 15-222, MRKT-102.*

**MLT-101 Introduction to Lab Science (2 s.h.)**

This course introduces the basic concepts for education and career development in the field of laboratory science and the health care profession. Current health care systems and trends are emphasized along with the factors having current and future impact on medical laboratories. The organization and role of the clinical laboratory are explored, as well as medical ethics and conduct, employment opportunities, and professional organizations. (30-0-0-0) *Equivalent to 70-100, PHYS-100.*

**MLT-120 Urinalysis (3 s.h.)**

This course provides the foundation for the study of urine formation and its assessment along with the determination of the physical, chemical, and microscopic properties of urine in normal and abnormal states. Objectives also included are the development and evaluation of body fluids including cerebrospinal, synovial, serous, and amniotic fluids. (30-30-0-0) *Equivalent to 70-249, HEAL-105.*

**MUA-120 Applied Piano (1 s.h.)**

Individualized instruction in piano performance for students that are beginners. Instructional materials include a repertoire of basic piano literature. Students register for 1 credit hour (one 30-minute lesson per week). This course is repeatable one time. (7.5-15-0-0) *Equivalent to 50-195, MUSI-195.*

**MUA-130A-B Applied Voice (1-2 s.h.)**

Individual instruction in vocal performance through the development of strong technical foundation and well-rounded musicianship. Previous singing experience required. Instructional materials include a repertoire of traditional Aria and Art Song literature in English and Foreign Languages. Students may register for 1 credit hour (one 30-minute lesson per week) or 2 credit hours (two 30-minute lessons per week). This course is repeatable one time. Must have instructor consent for 2 credit hours (music majors for 2 hours only). (7.5-15-0-0 or 15-30-0-0) *Equivalent to MUA-285A-B.*

**MUA-131A-B Applied Voice II (1-2 s.h.)**

Individual instruction in vocal performance through the development of strong technical foundation and well-rounded musicianship. Previous singing experience required. Instructional materials include a repertoire of traditional Aria and Art Song literature in English and Foreign Languages. Students may register for 1 credit hour (one 30-minute lesson per week) or 2 credit hours (two 30-minute lessons per week). This course is repeatable one time. Must have instructor consent for 2 credit hours (music majors for 2 hours only). (7.5-15-0-0 or 15-30-0-0)

**MUA-132A-B Applied Voice III (1-2 s.h.)**

Individual instruction in vocal performance through the development of strong technical foundation and well-rounded musicianship. Previous singing experience required. Instructional materials include a repertoire of traditional Aria and Art Song literature in English and Foreign Languages. Students may register for 1 credit hour (one 30-minute lesson per week) or 2 credit hours (two

30-minute lessons per week). This course is repeatable one time. Must have instructor consent for 2 credit hours (music majors for 2 hours only). (7.5-15-0-0 or 15-30-0-0)

**MUA-184A-B Applied Saxophone I (1-2 s.h.)**

Individual instruction in saxophone performance through the development of strong technical foundation and well-rounded musicianship. Instructional materials include a repertoire of traditional and contemporary literature. Students may register for 1 credit hour (one 30-minute lesson per week) or 2 credit hours (one 60-minute lesson per week). This course is repeatable one time. Must have instructor consent for 2 credit hours. (7.5-15-0-0 or 15-30-0-0)

**MUA-186A-B Applied Flute I (1-2 s.h.)**

Individual instruction in flute performance through the development of strong technical foundation and well-rounded musicianship. Instructional materials include a repertoire of traditional and contemporary literature. Students may register for 1 credit hour (one 30-minute lesson per week) or 2 credit hours (one 60-minute lesson per week). This course is repeatable one time. Must have instructor consent for 2 credit hours. (7.5-15-0-0 or 15-30-0-0)

**MUA-187A-B Applied Oboe I (1-2 s.h.)**

Individual instruction in oboe performance through the development of strong technical foundation and well-rounded musicianship. Instructional materials include a repertoire of traditional and contemporary literature. Students may register for 1 credit hour (one 30-minute lesson per week) or 2 credit hours (one 60-minute lesson per week). This course is repeatable one time. Must have instructor consent for 2 credit hours. (7.5-15-0-0 or 15-30-0-0)

**MUA-188A-B Applied Clarinet I (1-2 s.h.)**

Individual instruction in clarinet performance through the development of strong technical foundation and well-rounded musicianship. Instructional materials include a repertoire of traditional and contemporary literature. Students may register for 1 credit hour (one 30-minute lesson per week) or 2 credit hours (one 60-minute lesson per week). This course is repeatable one time. Must have instructor consent for 2 credit hours. (7.5-15-0-0 or 15-30-0-0)

**MUA-189A-B Applied Bassoon I (1-2 s.h.)**

Individual instruction in bassoon performance through the development of strong technical foundation and well-rounded musicianship. Instructional materials include a repertoire of traditional and contemporary literature. Students may register for 1 credit hour (one 30-minute lesson per week) or 2 credit hours (one 60-minute lesson per week). This course is repeatable one time. Must have instructor consent for 2 credit hours. (7.5-15-0-0 or 15-30-0-0)

**MUA-191A-B Applied Trumpet I (1-2 s.h.)**

Individual instruction in trumpet performance through the development of strong technical foundation and well-rounded musicianship. Instructional materials include a repertoire of traditional and contemporary literature. Students may register for 1 credit hour (one 30-minute lesson per week) or 2 credit hours (one 60-minute lesson per week). This course is repeatable one time. Must have instructor consent for 2 credit hours. (7.5-15-0-0 or 15-30-0-0)

**MUA-192A-B Applied French Horn I (1-2 s.h.)**

Individual instruction in french horn performance through the devel-

opment of strong technical foundation and well-rounded musicianship. Instructional materials include a repertoire of traditional and contemporary literature. Students may register for 1 credit hour (one 30-minute lesson per week) or 2 credit hours (one 60-minute lesson per week). This course is repeatable one time. Must have instructor consent for 2 credit hours. (7.5-15-0-0 or 15-30-0-0)

**MUA-193A-B Applied Trombone I (1-2 s.h.)**

Individual instruction in trombone performance through the development of strong technical foundation and well-rounded musicianship. Instructional materials include a repertoire of traditional and contemporary literature. Students may register for 1 credit hour (one 30-minute lesson per week) or 2 credit hours (one 60-minute lesson per week). This course is repeatable one time. Must have instructor consent for 2 credit hours. (7.5-15-0-0 or 15-30-0-0)

**MUA-194A-B Applied Euphonium I (1-2 s.h.)**

Individual instruction in euphonium performance through the development of strong technical foundation and well-rounded musicianship. Instructional materials include a repertoire of traditional and contemporary literature. Students may register for 1 credit hour (one 30-minute lesson per week) or 2 credit hours (one 60-minute lesson per week). This course is repeatable one time. Must have instructor consent for 2 credit hours. (7.5-15-0-0 or 15-30-0-0)

**MUA-195A-B Applied Tuba I (1-2 s.h.)**

Individual instruction in tuba performance through the development of strong technical foundation and well-rounded musicianship. Instructional materials include a repertoire of traditional and contemporary literature. Students may register for 1 credit hour (one 30-minute lesson per week) or 2 credit hours (one 60-minute lesson per week). This course is repeatable one time. Must have instructor consent for 2 credit hours. (7.5-15-0-0 or 15-30-0-0)

**MUA-196A-B Applied Percussion I (1-2 s.h.)**

Individual instruction in percussion performance through the development of strong technical foundation and well-rounded musicianship. Instructional materials include a repertoire of traditional and contemporary literature. Students may register for 1 credit hour (one 30-minute lesson per week) or 2 credit hours (one 60-minute lesson per week). This course is repeatable one time. Must have instructor consent for 2 credit hours. (7.5-15-0-0 or 15-30-0-0)

**MUA-197A-B Applied Drum Set I (1-2 s.h.)**

Individual instruction in drum set performance through the development of strong technical foundation and well-rounded musicianship. Instructional materials include a repertoire of traditional and contemporary literature. Students may register for 1 credit hour (one 30-minute lesson per week) or 2 credit hours (one 60-minute lesson per week). This course is repeatable one time. Must have instructor consent for 2 credit hours. (7.5-15-0-0 or 15-30-0-0)

**MUA-198A-B Applied Guitar I (1-2 s.h.)**

Individual instruction in guitar performance through the development of strong technical foundation and well-rounded musicianship. Instructional materials include a repertoire of traditional and contemporary literature. Students may register for 1 credit hour (one 30-minute lesson per week) or 2 credit hours (one 60-minute lesson per week). This course is repeatable one time. Must have instructor consent for 2 credit hours. (7.5-15-0-0 or 15-30-0-0)



**MUA-286A-B Applied Flute II (1-2 s.h.)**

Prerequisite: Must have completed 2 semesters of MUA-186 Applied Flute I, with a final grade of C or higher. Continued instruction in flute performance through the development of strong technical foundation and well-rounded musicianship. Instructional materials include a repertoire of traditional and contemporary literature. Students may register for 1 credit hour (one 30-minute lesson per week) or 2 credit hours (one 60-minute lesson per week). This course is repeatable one time. Must have instructor consent for 2 credit hours. (7.5-15-0-0 or 15-30-0-0)

**MUA-287A-B Applied Oboe II (1-2 s.h.)**

Prerequisite: Must have completed 2 semesters of MUA-187 Applied Oboe I, with a final grade of C or higher. Continued instruction in oboe performance through the development of strong technical foundation and well-rounded musicianship. Instructional materials include a repertoire of traditional and contemporary literature. Students may register for 1 credit hour (one 30-minute lesson per week) or 2 credit hours (one 60-minute lesson per week). This course is repeatable one time. Must have instructor consent for 2 credit hours. (7.5-15-0-0 or 15-30-0-0)

**MUA-288A-B Applied Clarinet II (1-2 s.h.)**

Prerequisite: Must have completed 2 semesters of MUA-188 Applied Clarinet I, with a final grade of C or higher. Continued instruction in clarinet performance through the development of strong technical foundation and well-rounded musicianship. Instructional materials include a repertoire of traditional and contemporary literature. Students may register for 1 credit hour (one 30-minute lesson per week) or 2 credit hours (one 60-minute lesson per week). This course is repeatable one time. Must have instructor consent for 2 credit hours. (7.5-15-0-0 or 15-30-0-0)

**MUA-289A-B Applied Bassoon II (1-2 s.h.)**

Prerequisite: Must have completed 2 semesters of MUA-189 Applied Bassoon I, with a final grade of C or higher. Continued instruction in bassoon performance through the development of strong technical foundation and well-rounded musicianship. Instructional materials include a repertoire of traditional and contemporary literature. Students may register for 1 credit hour (one 30-minute lesson per week) or 2 credit hours (one 60-minute lesson per week). This course is repeatable one time. Must have instructor consent for 2 credit hours. (7.5-15-0-0 or 15-30-0-0)

**MUA-290A-B Applied Saxophone II (1-2 s.h.)**

Prerequisite: Must have completed 2 semesters of MUA-184 Applied Saxophone I, with a final grade of C or higher. Continued instruction in saxophone performance through the development of strong technical foundation and well-rounded musicianship. Instructional materials include a repertoire of traditional and contemporary literature. Students may register for 1 credit hour (one 30-minute lesson per week) or 2 credit hours (one 60-minute lesson per week). This course is repeatable one time. Must have instructor consent for 2 credit hours. (7.5-15-0-0 or 15-30-0-0)

**MUA-291A-B Applied Trumpet II (1-2 s.h.)**

Prerequisite: Must have completed 2 semesters of MUA-191 Applied Trumpet I, with a final grade of C or higher. Continued instruction in trumpet performance through the development of strong technical foundation and well-rounded musicianship. Instructional materi-

als include a repertoire of traditional and contemporary literature. Students may register for 1 credit hour (one 30-minute lesson per week) or 2 credit hours (one 60-minute lesson per week). This course is repeatable one time. Must have instructor consent for 2 credit hours. (7.5-15-0-0 or 15-30-0-0)

**MUA-292A-B Applied French Horn II (1-2 s.h.)**

Prerequisite: Must have completed 2 semesters of MUA-192 Applied French Horn I, with a final grade of C or higher. Continued instruction in french horn performance through the development of strong technical foundation and well-rounded musicianship. Instructional materials include a repertoire of traditional and contemporary literature. Students may register for 1 credit hour (one 30-minute lesson per week) or 2 credit hours (one 60-minute lesson per week). This course is repeatable one time. Must have instructor consent for 2 credit hours. (7.5-15-0-0 or 15-30-0-0)

**MUA-293A-B Applied Trombone II (1-2 s.h.)**

Prerequisite: Must have completed 2 semesters of MUA-193 Applied Trombone I, with a final grade of C or higher. Continued instruction in trombone performance through the development of strong technical foundation and well-rounded musicianship. Instructional materials include a repertoire of traditional and contemporary literature. Students may register for 1 credit hour (one 30-minute lesson per week) or 2 credit hours (one 60-minute lesson per week). This course is repeatable one time. Must have instructor consent for 2 credit hours. (7.5-15-0-0 or 15-30-0-0)

**MUA-294A-B Applied Euphonium II (1-2 s.h.)**

Prerequisite: Must have completed 2 semesters of MUA-194 Applied Euphonium I, with a final grade of C or higher. Continued instruction in euphonium performance through the development of strong technical foundation and well-rounded musicianship. Instructional materials include a repertoire of traditional and contemporary literature. Students may register for 1 credit hour (one 30-minute lesson per week) or 2 credit hours (one 60-minute lesson per week). This course is repeatable one time. Must have instructor consent for 2 credit hours. (7.5-15-0-0 or 15-30-0-0)

**MUA-295A-B Applied Tuba II (1-2 s.h.)**

Prerequisite: Must have completed 2 semesters of MUA-195 Applied Tuba I, with a final grade of C or higher. Continued instruction in tuba performance through the development of strong technical foundation and well-rounded musicianship. Instructional materials include a repertoire of traditional and contemporary literature. Students may register for 1 credit hour (one 30-minute lesson per week) or 2 credit hours (one 60-minute lesson per week). This course is repeatable one time. Must have instructor consent for 2 credit hours. (7.5-15-0-0 or 15-30-0-0)

**MUA-296A-B Applied Percussion II (1-2 s.h.)**

Prerequisite: Must have completed 2 semesters of MUA-196 Applied Percussion I, with a final grade of C or higher. Continued instruction in percussion performance through the development of strong technical foundation and well-rounded musicianship. Instructional materials include a repertoire of traditional and contemporary literature. Students may register for 1 credit hour (one 30-minute lesson per week) or 2 credit hours (one 60-minute lesson per week). This course is repeatable one time. Must have instructor consent for 2 credit hours. (7.5-15-0-0 or 15-30-0-0)

**MUA-297A-B Applied Drum Set II (1-2 s.h.)**

Prerequisite: Must have completed 2 semesters of MUA-197 Applied Drum Set I, with a final grade of C or higher. Continued instruction in drum set performance through the development of strong technical foundation and well-rounded musicianship. Instructional materials include a repertoire of traditional and contemporary literature. Students may register for 1 credit hour (one 30-minute lesson per week) or 2 credit hours (one 60-minute lesson per week). This course is repeatable one time. Must have instructor consent for 2 credit hours. (7.5-15-0-0 or 15-30-0-0)

**MUA-298A-B Applied Guitar II (1-2 s.h.)**

Prerequisite: Must have completed 2 semesters of MUA-198 Applied Guitar I, with a final grade of C or higher. Continued instruction in guitar performance through the development of strong technical foundation and well-rounded musicianship. Instructional materials include a repertoire of traditional and contemporary literature. Students may register for 1 credit hour (one 30-minute lesson per week) or 2 credit hours (one 60-minute lesson per week). This course is repeatable one time. Must have instructor consent for 2 credit hours. (7.5-15-0-0 or 15-30-0-0)

**MUA-299A-B Applied Piano II (1-2 s.h.)**

Prerequisite: 1 credit hour of MUA-120 Applied Piano or permission of instructor. Individualized instruction in piano performance through the development of strong technical foundation and well-rounded musicianship. Instructional materials include a repertoire of traditional and contemporary literature. Students may register for 1 credit hour (one 30-minute lesson per week) or 2 credit hours (one 60-minute lesson per week). This course is repeatable one time. Must have instructor consent for 2 credit hours. (7.5-15-0-0 or 15-30-0-0)

**MUA-399A-B Applied Piano III (1-2 s.h.)**

Prerequisite: MUA-299 Applied Piano II. Continued instruction in piano performance through the further development of strong technical foundation and well-rounded musicianship levels established in MUA-299. Instructional materials include a repertoire of traditional and contemporary literature. Students may register for 1 credit hour (one 30-minute lesson per week) or 2 credit hours (one 60-minute lesson per week). This course is repeatable one time. Must have instructor consent for 2 credit hours. (7.5-15-0-0 or 15-30-0-0)

**MUS-100 Music Appreciation (3 s.h.)**

Music Appreciation is concerned with the development of Western Classical Music that encompasses nearly 2500 years of history beginning in 400 BC and culminating in the 20th century. This course provides the student knowledge of six commonly recognized historical eras through lectures, recordings, videotapes, digital media, and possible guest speakers. (45-0-0-0) *Equivalent to 50-113, MUSI-101.*

**MUS-105 Introduction to Music Theory (2 s.h.)**

Prerequisite: Previous instrumental or vocal music experience. Introduction to Music Theory is designed as a precourse to any music theory sequence. The course work will emphasize the circle of fifths, major scales, all forms of the minor scales, parallel and relative scale relationships, and music vocabulary. This course will also introduce the aural skills of scale identification, rhythmic dictation, and interval identification. (22.5-15-0-0) *Equivalent to 50-120, MUSI-120.*

**MUS-120 Music Theory I (3 s.h.)**

Prerequisite: Previous instrumental or vocal experience. Music Theory I examines all the basic materials of music which include notation, scales, intervals, chords, melody, harmony, rhythm and texture. Other areas of analysis take in cadence types, chord inversions, figured bass harmonization and principles of part writing based on 18th century models. Students will meet three days a week for one hour. (45-0-0-0)

**MUS-121 Music Theory II (3 s.h.)**

Prerequisite: MUS-120 Music Theory I, with final grade of C or higher, or permission of instructor. This course will examine in more detail the harmonic element of music. Discussions will include the harmonic progression, modulation, and specific types of seventh chords as they relate to 18th century counterpoint. Students will meet three days a week for one hour. (45-0-0-0)

**MUS-130 Aural Skills I (2 s.h.)**

Prerequisite: Previous instrumental or vocal music experience. This course introduces fundamentals of the aural skills, ear training, and sight singing. Students will meet two days a week for one hour. (30-0-0-0)

**MUS-131 Aural Skills II (2 s.h.)**

Prerequisite: MUS-130 Aural Skills I with a final grade of C or higher. This course will provide continued development of ear training and sight singing skills. Students will meet two days a week for one hour. (30-0-0-0)

**MUS-132 Aural Skills III (2 s.h.)**

Prerequisite: MUS-131 Aural Skills II with a final grade of C or higher. This course will provide continued development of ear training and sight singing skills. Students will meet two days a week for one hour. (30-0-0-0)

**MUS-133 Aural Skills IV (2 s.h.)**

Prerequisite: MUS-132 Aural Skills III with a final grade of C or higher. This course will provide continued development of ear training and sight singing skills. Students will meet two days a week for one hour. (30-0-0-0)

**MUS-140 Concert Choir (1 s.h.)**

Concert Choir is open to all students interested in vocal music. If needed, auditions will be held to achieve proper ensemble balance. The group performs one formal concert on campus each semester, as well as community performances, area high school assemblies, and community meetings. (0-45-0-0) *Equivalent to 50-150, MUSI-150.*

**MUS-141 Concert Choir II (1 s.h.)**

Concert Choir II is open to all students interested in vocal music. If needed, auditions will be held to achieve proper ensemble balance. The group performs one formal concert on campus each semester, as well as community performances, area high school assemblies, and community meetings. (0-45-0-0)

**MUS-142 Concert Choir III (1 s.h.)**

Concert Choir III is open to all students interested in vocal music. If needed, auditions will be held to achieve proper ensemble balance. The group performs one formal concert on campus each semester, as well as community performances, area high school assemblies, and community meetings. (0-45-0-0)

**MUS-144 Orchestra (1 s.h.)**

The North Iowa Symphony Orchestra, sponsored by North Iowa Area Community College, rehearses one night each week in preparation for concerts and programs. Open to all interested NIACC students and adults in the North Iowa area. Some sections of the orchestra require an audition. This course is repeatable one time. (35-0-0-0) *Equivalent to 50-153, MUSI-153.*

**MUS-145 Concert Band (1 s.h.)**

Performance in the North Iowa Concert Band, sponsored by North Iowa Area Community College, with rehearsals one night each week in preparation for concerts and programs. Open to all interested NIACC students and adults in the North Iowa area. This course is repeatable one time. (35-0-0-0) *Equivalent to 50-152, MUSI-152.*

**MUS-150 Chamber Ensemble (1 s.h.)**

This course is designed to provide an opportunity to study and perform chamber literature of the last three centuries. Groups may vary in size from duets to sextets for brass, woodwind, string, or percussion instrumentalists. Also includes jazz combos. Time is arranged. This course is repeatable for credit to a maximum of 4 credit hours. (15-0-0-0) *Equivalent to 50-155, MUSI-155.*

**MUS-152 Vocal Ensemble--NIACC Singers (1 s.h.)**

Corequisite: MUS-140 Concert Choir. NIACC Singers is an auditioned group for students with a high level of competency in vocal music. Auditions may be completed individually by contacting the professor. The group performs one formal concert on campus each semester, as well as community performances, area high school assemblies, and community meetings. This course may be repeated one time. (0-45-0-0) *Equivalent to 50-151, MUSI-151.*

**MUS-174 North Iowa Choral Society (1 s.h.)**

Prerequisite: Audition or recommendation of Vocal Director. The North Iowa Choral Society, sponsored by North Iowa Area Community College, rehearses one night each week in preparation for concerts and programs. Open to all interested NIACC students and adults in the North Iowa Area. This course is repeatable one time. This course has been designated as a pass/no pass course.. (0-45-0-0)

**MUS-179 Jazz Band (1 s.h.)**

The NIACC Jazz Band rehearses twice each week in preparation for concerts on campus, for area high school assemblies, festivals, and community events. Concentration on jazz repertoire from 1930 to the present. Open to all interested NIACC students by audition. This course is repeatable one time. (45-0-0-0) *Equivalent to MUS-163)*

**MUS-220 Music Theory III (3 s.h.)**

Prerequisite: MUS-121 Music Theory II, with a final grade of C or higher; or permission of instructor. A continuation of Music Theory II, students will develop analytical and written skills in music covering the Renaissance through the early Classical period. (45-0-0-0)

**MUS-221 Music Theory IV (3 s.h.)**

Prerequisite: MUS-220, Music Theory III, with a final grade of C or higher, or permission of instructor. Students will develop analytical

and written skills in music covering the late Classical through the 20th Century. Students will meet three days a week for one hour. (45-0-0-0)

**MUS-244 Orchestra II (1 s.h.)**

Prerequisite: Must have completed 2 semesters of MUS-144, Orchestra, with a final grade of C or higher. Continued performance in the North Iowa Symphony Orchestra, sponsored by North Iowa Area Community College, rehearses one night each week in preparation for concerts and programs. Open to all interested NIACC students and adults in the North Iowa area. This course is repeatable one time. (35-0-0-0)

**MUS-245 Concert Band II (1 s.h.)**

Prerequisite: Must have completed 2 semesters of MUS-145, Concert Band, with a final grade of C or higher. Continued performance in the North Iowa Concert Band, sponsored by North Iowa Area Community College, with rehearsals one night each week in preparation for concerts and programs. Open to all interested NIACC students and adults in the North Iowa area. This course is repeatable one time. (35-0-0-0)

**MUS-252 Vocal Ensemble II--NIACC Singers (1 s.h.)**

Corequisite: MUS-141 Concert Choir II. NIACC Singers is an auditioned group for students with a high level of competency in vocal music. Auditions may be completed individually by contacting the professor. The group performs one formal concert on campus each semester, as well as community performances, area high school assemblies, and community meetings. (0-45-0-0)

**MUS-274 North Iowa Choral Society II (1 s.h.)**

Prerequisite: Audition or recommendation of Vocal Director. Continued performance in the North Iowa Choral Society, sponsored by North Iowa Area Community College, with rehearsals one night each week in preparation for concerts and programs. Open to all interested NIACC students and adults in the North Iowa area. This course is repeatable one time. This course has been designated as a pass/no pass course. (0-45-0-0)

**MUS-279 Jazz Band II (1 s.h.)**

Prerequisite: Must have completed 2 semesters of MUS-179 Jazz Band, with a final grade of C or higher. Continued performance in the NIACC Jazz Band, with rehearsals twice each week in preparation for concerts on campus, for area high school assemblies, festivals, and community events. Concentration on jazz repertoire from 1930 to the present. Open to all interested NIACC students by audition. This course is repeatable one time. (45-0-0-0)

**MUS-344 Orchestra III (1 s.h.)**

Prerequisite: Must have completed 2 semesters of MUS-244 Orchestra II with a final grade of C or higher. Continued performance in the North Iowa Symphony Orchestra, sponsored by North Iowa Area Community College, with rehearsals one night each week in preparation for concerts and programs. Open to all interested NIACC students and adults in the North Iowa area. This course is repeatable one time. (35-0-0-0)

**MUS-345 Concert Band III****(1 s.h.)**

Prerequisite: Must have completed 2 semesters of MUS-245 Concert Band II with a final grade of C or higher. Continued performance in the North Iowa Concert Band, sponsored by North Iowa Area Community College, with rehearsals one night each week in preparation for concerts and programs. Open to all interested NIACC students and adults in the North Iowa area. This course is repeatable one time. (35-0-0-0)

**MUS-379 Jazz Band III****(1 s.h.)**

Prerequisite: Must have completed 2 semesters of MUS-279 Jazz Band II with a grade of C or higher. Continued performance in the NIACC Jazz Band, with rehearsals twice each week in preparation for concerts on campus, area high school assemblies, festivals, and community events. Concentration on jazz repertoire from 1930 to the present. Open to all interested NIACC students by audition. This course is repeatable one time. (45-0-0-0)

**NET-113 IT Essentials I****(4 s.h.)**

Presents an in-depth exposure to computer hardware and operating systems. Students learn the functionality of hardware and software components as well as suggested best practices for maintenance and safety issues. Students learn how to assemble and configure a computer, install operating systems and software, and troubleshoot hardware and software problems. This course helps students prepare for CompTIA's A+ Certification Essentials exam (220-801) which covers the knowledge and skills essential for becoming a successful computer technician. (45-30-0-0)

**NET-133 IT Essentials II****(4 s.h.)**

Prerequisite: NET-113 IT Essentials I or permission of instructor. This course expands on concepts and skills learned in NET-113 IT Essentials I and provides the knowledge, skills, and abilities essential for a successful computer service technician at the advanced level. Students are provided theoretical information and hands-on experiences in advanced topics of computer troubleshooting and repair. Students will be presented with opportunities to identify and diagnose hardware and software problems; implement and test solutions; and prepare appropriate documentation. Introduction to the MAC OS X Operating System are also introduced with basic troubleshooting concepts for this operating system. Introduction to the MAC OSX operating system introduced with basic troubleshooting concepts for this operating system. (45-30-0-0) *Equivalent to 15-209, ISTS-131.*

**NET-136 Operating Systems II****(3 s.h.)**

Prerequisite: NET-113 IT Essentials I or permission of instructor. This course is a continuation of Operating Systems I. It addresses advanced topics such as file management, shell programming, security, network and service administration, fault tolerance, recovery, troubleshooting, and operating system structure. This will be accomplished by studying the Unix or Linux operating systems. (45-0-0-0) *Equivalent to 15-177, ISTS-111.*

**NET-200 Introduction to Networking****(3 s.h.)**

This course introduces the architecture, structure, functions, components, and models of the Internet and other computer networks. 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. By the end of the course, students will be able to build simple LANs, perform basic configurations for routers and switches, and implement IP addressing schemes. (45-0-0-0)

**NET-225 Routing and Switching Essentials****(4 s.h.)**

Pre-requisite: NET-200 Introduction to Networking. 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. (60-0-0-0)

**NET-226 Scaling Networks****(4 s.h.)**

Pre-requisite: NET-225 Routing and Switching Essentials. This course describes the architecture, components, and operations of routers and switches in larger and more complex networks. Students learn how to configure routers and switches for advanced functionality. By the end of this course, students will be able to configure and troubleshoot routers and switches and resolve common issues with OSPF, EIGRP, and STP in both IPv4 and IPv6 networks. Students will also develop the knowledge and skills needed to implement a WLAN in a small-to-medium network. (60-0-0-0)

**NET-227 Connecting Networks****(4 s.h.)**

Pre-requisite: NET-226 Scaling Networks. 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 virtual private network (VPN) operations in a complex network. (60-0-0-0)

**NET-261 Virtualization/Cloud Operations****(3 s.h.)**

Prerequisites: CFR-100 Computer Forensics I, NET-113 IT Essentials I, NET-304 Windows Workstation Operating Systems, NET-324 Windows Network Management, or permission of instructor. This course prepares the student to be able to implement, manage and troubleshoot virtualization concepts used for desktops and servers to reduce the hardware requirements as the means for computing changes. The student also is prepared to develop, manage and maintain cloud services that an organization may have or pay for from another source. The student also gains an understanding in Cloud Operations Concepts of SaaS, PaaS, and IaaS. Students will be prepared to implement and manage both virtualization and cloud capabilities for an organization. This course also leads the student to have the skills to pass COMPTIA Cloud Essentials and Virtualization Essentials certification exams. (30-30-0-0)

**NET-262 Hardening the Infrastructure****(4 s.h.)**

Prerequisites: NET-113 IT Essentials I, NET-136 Operating Systems II, NET-200 Introduction to Networking, NET-225 Routing and Switching Essentials, NET-304 Windows Workstation Operating Systems, or permission of the instructor. This course focuses on understanding security policies, risk analysis, penetration testing, patching and upgrading systems, capturing and analyzing packets, cryptography, and hardening operating systems focusing on internal systems, the interaction between them, and the pathways that lead them outside the security perimeter. This course prepares students to take the Strategic Infrastructure Security exam (SCO-471) for the Security Certified Network Professional (SCNP) certification. (30-60-0-0)

**NET-292 Information Technology Capstone (5 s.h.)**

Prerequisites: CFR-110 Ethics and the Information Age, CIS-125 Introduction to Programming Logic with Language, CIS-332 Database & SQL, NET-200 Introduction to Networking, NET-227 Connecting Networks, and NET-613 Information Data Assurance; and NET-133 IT Essentials II, NET-314 Windows Server, and NET-782 Computer Users Support OR CFR-150 Computer Forensics II, NET-324 Windows Network Management, and NET-609 Network Security. This course is the capstone for all the courses that are taught for the IT Specialist and Information Assurance and Security programs. The student will design, implement, monitor and fix any issues that arise during the course. The student is responsible to ensure that the network developed is properly protected, and remains functional for the duration of the semester. If an issue arises, the student must troubleshoot the problem, develop a viable solution and implement the solution to get the network back into operation. The student will work together with students from each program to ensure that proper hardening, identification of malicious activity and proper investigation is conducted to ensure that the issues are not caused by an intruder or that any data has been taken. The student will use an array of operating systems from Windows Server, Windows Workstation, Linux and Apple MAC Systems. (30-90-0-0)

**NET-304 Windows Workstation Operating Systems (4 s.h.)**

This course prepares the student to properly install, configure, upgrade, troubleshoot, and repair personal computer operating systems using Microsoft Windows 7. This course also addresses operating system interface controls, file system management, application management, network client configuration, and operating system security. Concepts learned in this course lead toward the Microsoft Certified Technology Specialist Exam 70-680 Windows 7 Configuration. (45-30-0-0) *Equivalent to 15-182, ISTS-120.*

**NET-314 Windows Server (4 s.h.)**

Prerequisite: NET-324 Windows Network Management or permission of instructor. This course applies the student's knowledge of computer networking, client operating systems, and server operating systems to the management of a complete Microsoft Windows network environment. Students will learn to manage client and server computers, including deployment methods, management of user and service accounts, maintenance of Active Directory, configuration and troubleshooting of the DNS, Remote Access and Network Policy Server roles, working with file services and file system security, and implementing update management. Concepts learned in this course lead toward the Microsoft certification. (45-30-0-0) *Equivalent to 15-163, ISTS-205.*

**NET-324 Windows Network Management (4 s.h.)**

Prerequisite: NET-304 Windows Workstation Operating Systems. This course goes into detail on topics of a network operating system such as design, planning, installation, configuration, security, performance, administration, troubleshooting, fault tolerance, and disaster recovery. Client setup, file and print sharing, directory services, remote access, Hyper-V virtualization, Active Directory implementation, and IPv4/IPv6 addressing. Concepts learned in this course lead toward obtaining Microsoft certification. (45-30-0-0) *Equivalent to 15-184, ISTS-121.*

**NET-609 Network Security (3 s.h.)**

Prerequisite: NET-225 Routing and Switching Essentials. Network Security (CCNA Security) equips students with knowledge and

skills that can be applied toward entry-level specialist careers in network security. CCNA Security is a blended curriculum with both online and classroom learning. CCNA Security aims to develop an in-depth understanding of network security principles as well as the tools and configurations available. The following tools are covered: • Protocol sniffers/analyzers; • TCP/IP and common desktop utilities; • Cisco IOS software, Cisco VPN client; • Packet Tracer (PT); • Web-based resources. The predominant lab types are procedural, skills integration challenges, troubleshooting, and model building. The course goal is prepare students to be able to implement, monitor and maintain a secure network. (45-0-0-0)

**NET-613 Information Data Assurance (3 s.h.)**

Prerequisite: NET-113 IT Essentials I, NET-304 Windows Workstation Operating System, or permission of instructor. This course offers in-depth coverage of the current risks and threats to an organization's data, combined with a structured way of addressing the safeguarding of these critical electronic assets. The course provides a foundation for those responsible for protecting network services, devices, traffic, and data. Additionally, the course provides the broad-based knowledge necessary to prepare students for further study in other specialized security fields. It is also intended to serve the needs of individuals seeking to pass the Computing Technology Industry Association's (CompTIA) Security+ certification exam. (30-30-0-0) *Equivalent to 15-167, ISTS-210.*

**NET-782 Computer Users Support (3 s.h.)**

Prerequisite: NET-113 IT Essentials I or permission of instructor. Introduces the concept of supporting personal computers as a career. Designed to help students target their customers and develop appropriate service skills. The course provides an introduction to end-user computing, computer user support, customer service skills, skills required to troubleshoot computer problems, common support problems, help desk operation user support management, product evaluation strategies and standards, user needs analysis and assessment, installing end-user computer systems, training computer users, technical writing skills, and computer facilities management. (30-30-0-0) *Equivalent to 15-193, ISTS-230.*

**PEA-107 Aerobic Circuit Training (1 s.h.)**

Aerobic Circuit Training is an activity course designed to improve personal physical fitness through a combination of aerobic exercises and weight training. Students will learn a variety of aerobic activities along with proper use of different weight machines. This course will cater to individuals of all ages and fitness levels. (0-30-0-0)

**PEA-113 Flatwater and River Canoeing (1 s.h.)**

This course is an introductory course to teach beginning paddlers to safely and enjoyably canoe on lakes and gentle rivers. The course will focus on three areas: paddling skills, safety awareness, and technical rescue skill. The course will include a required extended river trip on a weekend. (4-22-0-0)

**PEA-127 Beginning Jogging (1 s.h.)**

A self-paced physical conditioning course that emphasizes cardiovascular fitness through walking and jogging. The primary purpose is to introduce novice exercisers to the benefits of walking and jogging for the enhancement of health and fitness. Information on new trends and topics of fitness will be covered and a walking/jogging program will be performed throughout the term. This course is a physical activity-based course. By the end of the term, a student should be able to jog 30 minutes. (8-15-0-0)



**PEA-129 Spinning (1 s.h.)**

This course introduces students to a fun, low-impact, cardiovascular workout using spin bicycles to improve current health and fitness levels. Music will motivate you while you enjoy hills, flats, intervals, sprints, and more. Make sure to bring a towel and water bottle. This course is designed for men and women of all ages. (0-30-0-0)

**PEA-130 Downhill Skiing (1 s.h.)**

Fundamentals of downhill (alpine) skiing with a combination of classroom discussion, online assignments, demonstration, and on-the-slope skiing lessons and evaluation. Students will be required to sign up for two one-day, weekend ski trips with the class during the semester, and will ski with the class during the lesson time. Equipment rental may be required. This course will not cover snowboarding, nor cross country (Nordic) skiing. This course is repeatable up to 2 semester hours of credit. (9-12-0-0)

**PEA-146 Physical Fitness I (1 s.h.)**

Lecture and laboratory course designed to increase a person's interest of his/her own level of physical fitness. The course provides activities with which the student can improve his/her level of physical fitness in the areas of strength, flexibility, and cardiovascular endurance. (8-15-0-0) *Equivalent to 60-113, PHYE-113.*

**PEA-187 Weight Training I (1 s.h.)**

Hybrid course designed to cover the basic principles and skill techniques involved in weight training. This course will provide an overview of strength training principles, types of strength, systems of resistance training as well as training the five components of fitness, exercise prescription, and program design. (8-15-0-0)

**PEA-190 Yoga/Stretching I (1 s.h.)**

A lab course designed to increase the student's awareness and appreciation of yoga and its effect on physical and mental well being. The course provides a structured environment for the student to learn proper body alignment in the yoga poses and an awareness of the benefits associated with the different poses. This course is repeatable for up to 2 semester hours of credit. (0-30-0-0) *Equivalent to PHYE-133.*

**PEA-191 Pilates (1 s.h.)**

Pilates is an activity-based course designed to improve one's core strength, tone muscles, increase flexibility, and reduce stress. Mats and stability balls are provided. This course is designed for men and women of all ages. (0-30-0-0)

**PEA-287 Weight Training II (1 s.h.)**

Prerequisite: PEA-187 Weight Training I. Lecture and laboratory course designed to increase knowledge, understanding, and skill techniques involved in weight training. This course is a continuation of Weight Training I, and will incorporate flexibility training, balance and coordination, and speed and agility training. (8-15-0-0)

**PEC-101 Introduction to Coaching (1 s.h.)**

The course will address developing coaching philosophies, outcomes, and styles; principles of behavior; principles of teaching; principles of physical and mental training; and principles of team management. (45-0-0-0)

**PEC-110 Coaching Ethics, Techniques and Theory (1 s.h.)**

Guiding principles and techniques of coaching interscholastic ath-

letics. Discussion of theory, ethics, and professional responsibilities as they relate to coaching interscholastic athletes. (15-0-0-0) *Equivalent to 60-150, PHYE-150.*

**PEC-115 Athletic Development and Human Growth (1 s.h.)**

A one-semester course with emphasis on human growth and development and relationship to physical activity, with special attention to children and adolescents. (15-0-0-0) *Equivalent to 60-153, PHYE-153.*

**PEC-122 Introduction to Anatomy and Physiology for Coaching (1 s.h.)**

An introduction to anatomy and physiology with stress on the relationship to athletic actions. This course is designed as an introductory course for prospective coaches with little or no background in anatomy and physiology. (15-0-0-0) *Equivalent to 60-152, PHYE-152.*

**PEC-127 Care and Prevention of Athletic Injuries (2 s.h.)**

Introductory preparation in athletic training, injury recognition and treatment techniques, taping, wrapping, etc. Preventative measures to reduce injuries in physical activity/sport. Course may be used to fulfill partial requirement for Iowa Coaching Certification. (30-0-0-0) *Equivalent to 60-118; PHYE-151*

**PEC-161 Sports Officiating (3 s.h.)**

Designed to teach the student the rules of officiating interscholastic sports. Emphasis will be upon rule interpretation and proper mechanics of officiating. (45-0-0-0)

**PEH-111 Personal Wellness (3 s.h.)**

Concepts of exercise science, nutrition, stress management, contemporary health issues and decision making. Assessment, application, and participation in lifetime fitness and skill activities. (45-0-0-0)

**PEH-140 First Aid (1 s.h.)**

Lecture-type course designed to give the layperson adequate first aid knowledge and skills with emphasis on accident prevention and recognition and treatment of common medical emergencies. (15-0-0-0) *Equivalent to 60-232, PHYE-117.*

**PEH-144 Human Movement Science (3 s.h.)**

The content of this course is focused on the application of the skeletal and neuromuscular systems to human movement. Additionally, arthrology and basic mechanical principles will be considered. Special attention to the attachments and actions of the skeletal muscles will occur throughout the semester. (45-0-0-0)

**PEH-161 Introduction to Physical Education (2 s.h.)**

Designed to provide career information concerning opportunities in physical education, coaching, and recreational activities. (30-0-0-0) *Equivalent to 60-117, PHYE-101.*

**PEH-180 Rape Education and Self Defense (2 s.h.)**

Fundamental Self-Defense Theory is a course of study designed to introduce the participant to basic self-defense concepts and techniques, to heighten the participant's level of awareness and alertness in her environment, to provide the participant with information about violent contexts, and to provide the participant with basic physical methods of self-defense. In general, this course cannot offer absolutes; however, the theory behind such a course

rests in the concept that those armed with information and a few operational options stand a better chance of avoiding and, when avoidance fails, surviving violence. (30-0-0-0) *Equivalent to 60-175, PHYE-110.*

**PEH-191 Sports Nutrition (3 s.h.)**

This course will focus on basic human nutrition along with nutritional needs for athletes and/or physically active individuals. Areas of focus will be on carbohydrate loading, hydration, supplement use, fad diets, eating disorders, maintaining healthy body weight, and ergogenic aids. (45-0-0-0)

**PEH-221 Introduction to Leisure Services (3 s.h.)**

Introduction to leisure, youth, and human services professions. Examination of the components of LYHS delivery systems, focusing on programs and services, facilities, populations served, and sources of funding. (45-0-0-0)

**PEH-261 Physical Activity for Health and Fitness (3 s.h.)**

Prerequisite: PEH-111 Personal Wellness. Identification and programming of physical activities and nutrition lifestyle practices. Emphasis on the role of physical activity and nutrition in the enhancement of health and fitness in others. Integration of experiential learning activities with cognitive subject matter. (45-0-0-0)

**PEH-908A-C Cooperative Education Internship (1-3 s.h.)**

Prerequisite: Permission of Cooperative Education instructor. A Cooperative Education Internship provides work experience related to wellness, exercise science, leisure service, and/or physical education. This course is primarily designed to provide students with supervised work experience within their field of interest. Work experience hours are arranged, the number of hours are determined on the basis of one credit hour equals 60 hours of supervised work experience. (0-0-0-60, 0-0-0-120 or 0-0-0-180)

**PET-110 Introduction to Athletic Training (2 s.h.)**

Introduction to the field of athletic training with emphasis on the history of the National Athletic Training Association, certification guidelines, policies and procedures, risk management, roles and responsibilities of athletic trainers, and common illnesses and injuries. (30-0-0-0)

**PET-135 Personal Trainer (3 s.h.)**

Prerequisites: PEA-187 Weight Training I. Weight Training II. This course is designed to provide knowledge and prepare the student to become a nationally certified personal trainer. The focus of this course will be on the components of personal training. Students will also have the opportunity to train clients throughout the semester. Upon completion of this course, the student will have the necessary knowledge to apply for the ACE personal trainer certification exam. (45-0-0-0)

**PEV-115 Varsity Baseball (1 s.h.)**

Prerequisite: High school diploma or equivalent. Intercollegiate Baseball (Freshman Level). (40-160-0-0) *Equivalent to 60-120, PHYE-120.*

**PEV-120 Varsity Basketball (1 s.h.)**

Prerequisite: High school diploma or equivalent. Intercollegiate Basketball (Freshman Level). (40-160-0-0) *Equivalent to 60-121, PHYE-121.*

**PEV-130 Varsity Cross Country (1 s.h.)**

Prerequisite: High school diploma or equivalent. Intercollegiate Cross Country (Freshman Level). (40-160-0-0) *Equivalent to 60-124, PHYE-124.*

**PEV-133 Varsity Track and Field (1 s.h.)**

Prerequisite: High school diploma or equivalent. Intercollegiate Track and Field (Freshman Level). (40-160-0-0) *Equivalent to PHYE-134.*

**PEV-140 Varsity Golf (1 s.h.)**

Prerequisite: High school diploma or equivalent. Intercollegiate Golf (Freshman Level). (40-160-0-0) *Equivalent to 60-123, PHYE-123.*

**PEV-150 Varsity Soccer (1 s.h.)**

Prerequisite: High school diploma or equivalent. Intercollegiate Soccer (Freshman Level). (40-160-0-0) *Equivalent to 60-129, PHYE-129.*

**PEV-160 Varsity Softball (1 s.h.)**

Prerequisite: High school diploma or equivalent. Intercollegiate Softball (Freshman Level). (40-160-0-0) *Equivalent to 60-127, PHYE-127.*

**PEV-170 Varsity Volleyball (1 s.h.)**

Prerequisite: High school diploma or equivalent. Intercollegiate Volleyball (Freshman Level). (40-160-0-0) *Equivalent to 60-128, PHYE-128.*

**PEV-180 Varsity Wrestling (1 s.h.)**

Prerequisite: High school diploma or equivalent. Intercollegiate Wrestling (Freshman Level). (40-160-0-0)

**PEV-215 Varsity Baseball II (1 s.h.)**

Prerequisite: High school diploma or equivalent. Intercollegiate Baseball (Sophomore Level). (40-160-0-0)

**PEV-220 Varsity Basketball II (1 s.h.)**

Prerequisite: High school diploma or equivalent. Intercollegiate Basketball (Sophomore Level). (40-160-0-0)

**PEV-230 Varsity Cross Country II (1 s.h.)**

Prerequisite: High school diploma or equivalent. Intercollegiate Cross Country (Sophomore Level). (40-160-0-0)

**PEV-233 Varsity Track and Field II (1 s.h.)**

Prerequisite: High school diploma or equivalent. Intercollegiate Track and Field (Sophomore Level). (40-160-0-0)

**PEV-240 Varsity Golf II (1 s.h.)**

Prerequisite: High school diploma or equivalent. Intercollegiate Golf (Sophomore Level). (40-160-0-0)

**PEV-250 Varsity Soccer II (1 s.h.)**

Prerequisite: High school diploma or equivalent. Intercollegiate Soccer (Sophomore Level). (40-160-0-0)

**PEV-260 Varsity Softball II (1 s.h.)**

Prerequisite: High school diploma or equivalent. Intercollegiate Softball (Sophomore Level). (40-160-0-0)

**PEV-270 Varsity Volleyball II** (1 s.h.)  
Prerequisite: High school diploma or equivalent. Intercollegiate Volleyball (Sophomore Level). (40-160-0-0)

**PEV-280 Varsity Wrestling II** (1 s.h.)  
Prerequisite: High school diploma or equivalent. Intercollegiate Wrestling (Sophomore Level). (40-160-0-0)

**PHI-101 Introduction to Philosophy** (3 s.h.)  
Introduces the student to the study of philosophy and teaches skills of critical thinking. The course examines the meaning and value of philosophy; human nature and the self, axiology-ethics and values (In search of the Good Life); social philosophy; freedom; individualism; philosophy and art; epistemology - the nature of knowledge; truth; philosophy and religion; the meaning of suffering and death; examination of decision making and self-discovery. (45-0-0-0) *Equivalent to 80-210, PHIL-101.*

**PHI-105 Introduction to Ethics** (3 s.h.)  
This course is designed to develop objective thinking skills. The goal is to create a balance between moral principles when considering a variety of ethical issues. The emphasis will be on developing a moral stance that is workable in today's society. Issues include poverty, environment, animal rights, business, preferences in hiring, war, death penalty, abortion, euthanasia, parent-child relationships, sex, love, and marriage. (45-0-0-0) *Equivalent to 80-212, PHIL-102.*

**PHS-125 Physical Science** (4 s.h.)  
Prerequisite: High school Algebra or equivalent. An introductory, college-level, one-semester lab course intended to meet general education and elementary education certification requirements. Uses the Physical Science & Everyday Thinking curriculum and includes units on Energy, Forces, Systems, Behavior of Gases, and Physical and Chemical Changes. (45-30-0-0) *Equivalent to 70-114, PHYS-101.*

**PHS-142 Principles of Astronomy** (3 s.h.)  
There are no specific prerequisites for PHY-142, but the ability to read and comprehend college-level material is essential for student success. 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, and current theories on astrophysical phenomena. This course emphasizes amateur observation techniques. (30-30-0-0) *Equivalent to 70-182; PHYS-105.*

**PHY-106 Survey of Physics** (4 s.h.)  
Corequisite: MAT-092 Intermediate Algebra or equivalent. This is an introductory, one-semester course treating a selection of important topics in physics. The current offering emphasizes light, electricity, magnetism, the wave-particle duality of quantum mechanics, and the Special Theory of Relativity. In connection with these themes, topics such as force and the motion of particles; the concept of energy; the nature and properties of waves; and the history of physics, are also considered. This course addresses the general education skills of scientific literacy and critical thinking. A previous physics course is not required. (45-30-0-0) *Equivalent to 70-122, PHYS-110.*

**PHY-162 College Physics I** (4 s.h.)  
Prerequisite: MAT-134 Trigonometry and Analytic Geometry or equivalent. First semester of a two-semester physics sequence relying on algebra, trigonometry, and analytic geometry, but not employing calculus. Intended for students whose program requirements may be satisfied by a physics course of this level. Emphasizes kinematics, vectors, dynamics, conservation laws, simple harmonic motion, and rotational motion. This course, like other general education science division courses, addresses the general education skills of scientific literacy and critical thinking. A previous physics course may be helpful but is not required. (45-30-0-0) *Equivalent to 70-280, PHYS-120.*

**PHY-172 College Physics II** (4 s.h.)  
Prerequisite: PHY-162 College Physics I or equivalent, or permission of instructor. Second semester of a two-semester physics sequence relying on algebra, trigonometry, and analytic geometry, but not employing calculus. Intended for students whose program requirements may be satisfied by a physics course of this level. Emphasizes electric fields and electricity, electric circuits, and magnetic fields and magnetism; also includes material on waves and optics, and on additional topics as time allows. This course, like other general education science courses, addresses the general education skills of scientific literacy and critical thinking. (45-30-0-0) *Equivalent to 70-281, PHYS-121.*

**PHY-212 Classical Physics I** (5 s.h.)  
Corequisite: MAT-210 Calculus I, or prior completion of MAT-210 Calculus I, or high school physics, or permission of instructor. First semester of a two-semester calculus-based sequence intended for students majoring in engineering, physics, chemistry, or other sciences. Emphasizes kinematics, vectors, dynamics, conservation laws, simple harmonic motion, rotational motion, and thermodynamics. This course, like other general education science courses, addresses the general education skills of scientific literacy and critical thinking. (60-30-0-0) *Equivalent to 70-282, PHYS-220.*

**PHY-222 Classical Physics II** (5 s.h.)  
Prerequisite: PHY-212 Classical Physics I, with a grade of C or higher, or equivalent, or permission of instructor. Corequisite: MAT-216 Calculus II, or prior completion of MAT-216 Calculus II. Second semester of two-semester calculus-based sequence intended for students majoring in engineering, physics, chemistry, or other sciences. Emphasizes electric fields and electricity, electric circuits, and magnetic fields and magnetism. It also includes material on waves and optics, and on additional topics as time allows. This course, like other general education science courses, addresses the general education skills of scientific literacy and critical thinking. (60-30-0-0) *Equivalent to 70-283, PHYS-221.*

**PHY-720 Career Physics** (4 s.h.)  
Prerequisites: MAT-801 Applied Math A; MAT-802 Applied Math B; MAT-803 Applied Math C; and MAT-804 Applied Math D. An introduction to the physics of mechanical, fluid, electrical and thermal systems with emphasis on application in the technical careers. (45-30-0-0) *Equivalent to 96-150, PHYS-701.*

**PNN-603 Practical Nursing I** (4 s.h.)  
Corequisites: HSC-150 Body Structure and Function and ENG-105 Composition I. This course provides an orientation of the history

of nursing, ethical and legal principles, dosage calculation, and the role of the practical nurse in the health community. Introduction to basic nursing assessments relating to safety and comfort while utilizing the nursing process to identify and meet client needs throughout the life span. Students will be instructed in documentation and communication skills. Instruction in implementation of medical asepsis and safety when performing basic nursing skills. Students will apply, practice, and demonstrate the skills taught in the college laboratory. (45-30-0-0) *Equivalent to 94-101, LPNS-701.*

**PNN-604 Practical Nursing II (13 s.h.)**

Corequisite: PSY-111 Introduction to Psychology. A continuation of PNN-603 Practical Nursing I. Practical Nursing II continues to utilize the nursing process with emphasis on implementation in meeting client needs resulting from physical and psychological impairments. Pharmacology, diet modification, psychosocial concepts, disease process, and health maintenance are incorporated into the student's knowledge and skills. Introduction of concepts and care of the obstetric, newborn, and pediatric client. The student will continue to practice advanced skills in the college lab as well as clinical experiences in long-term care, pediatrics, medical-surgical, maternal-newborn, and community settings. (135-30-135-0) *Equivalent to LPNS-705.*

**PNN-607 Practical Nursing III (13 s.h.)**

Corequisite: PSY-121 Developmental Psychology. Practical Nursing III emphasizes utilization of all components of the nursing process to meet client needs resulting from impairments related to disease processes affecting physical and psychological status of the client. Student's knowledge and skills continue to be enhanced in areas of pharmacology, nutrition, mobility, psychosocial concepts, and health maintenance. Concepts of management, legal, and ethical aspects of the nursing profession are presented. A supervised management experience in the long-term care setting allows the student an opportunity to care for a group of clients and apply basic skills in leadership and conflict management. Clinical experiences include medical-surgical, long-term care, mental health, and community setting. (105-0-270-0) *Equivalent to 94-110, LPNS-704.*

**POL-111 American National Government (3 s.h.)**

A survey of the American federal system of government including a description and analysis of the Constitution; the legislative, executive, and judicial branches of government; and the American political process. (45-0-0-0) *Equivalent to 80-120, POLS-101.*

**POL-112 American State and Local Government (3 s.h.)**

A survey of state and local governments in the United States including an analysis of federal-state relations; state constitutions; state and local legislative, executive, and judicial systems; and major issues in state and local politics. (45-0-0-0) *Equivalent to 80-121, POLS-102.*

**POL-121 International Relations (3 s.h.)**

An introductory course in international relations which offers an analysis of the structure and processes of world politics. Topics covered include the study of foreign policies, a survey of major problems in contemporary world affairs, and an examination of selected global issues. (45-0-0-0) *Equivalent to 80-122, POLS-110.*

**PSY-102 Human and Work Relations (3 s.h.)**

Human and Work Relations is the study of self and social behavior. Emphasis is placed on the understanding and application of social theories and research for the development of effective and organizational relationships. Attention is also devoted to individual and group dynamics in context with feelings, attitudes, and perceptions of self along with the work organization. (45-0-0-0)

**PSY-111 Introduction to Psychology (3 s.h.)**

An introduction to the scientific study of behavior; a brief history of psychology as a science, and topics fundamental to human behavior including developmental issues, sensory abilities, cognitive performance, social and emotional factors in behavior, and abnormal behavior and therapies. (45-0-0-0) *Equivalent to 80-101, PSYC-101.*

**PSY-121 Developmental Psychology (3 s.h.)**

A topical approach to studying the physical, cognitive, social, and emotional domains of human development from conception to death. A variety of psychological issues including learning, personality, moral behavior, and psychological well-being and life satisfaction across the lifespan are discussed. Examining the research in these areas allows students to understand and appreciate different perspectives on cultural, ethnic, and gender issues. (45-0-0-0) *Equivalent to 80-230, PSYC-110.*

**PSY-211 Psychology of Adjustment (3 s.h.)**

This course will examine psychological theories and current research on positive mental health. Emphasis will be given to models of adjustment as they apply to the student's life. We all have to adjust to changes throughout the course of our lives, and this course will help students learn about and apply psychological concepts to help them meet such life challenges as time management, developing a self-identity, building and maintaining friendships and romantic relationships, adopting healthier behaviors and lifestyles, developing interpersonal skills, coping with stress, dealing with emotional problems, adjusting to the changes made in our lives as a result of technological advances, and dealing with psychological disorders. (45-0-0-0)

**PSY-223 Child and Adolescent Psychology (3 s.h.)**

This course covers information relevant to the development of humans from the prenatal stages through adolescence providing an introduction to and survey of behavioral characteristics of individual development. Interwoven into each stage of development (infancy/toddlerhood, early childhood, middle childhood, and adolescence) are the affects of community, family, and school in the development of children and adolescence. (45-0-0-0) *Equivalent to 80-104, PSYC-204.*

**PSY-241 Abnormal Psychology (3 s.h.)**

Prerequisite: PSY-111 Introduction to Psychology. An introduction to the study of psychological disorders, with an emphasis on anxiety, mood, schizophrenia, personality, and substance-related disorders. The course includes understanding the personal dynamics of mental disorders and biopsychosocial factors involved in the assessment, etiology, and treatment. (45-0-0-0)

**PSY-251 Social Psychology (3 s.h.)**  
Prerequisite: PSY-111 Introduction to Psychology. The study of interpersonal relations, which includes people's thoughts, feelings, attitudes, and attributions in social situations. In addition, the topics of person perception, prejudice, aggression, persuasion, interpersonal attraction, conformity, obedience, altruism and group processes will be covered. (45-0-0-0)

**PSY-281 Educational Psychology (3 s.h.)**  
Prerequisite: PSY-121 Developmental Psychology or PSY-223 Child and Adolescent Psychology, (Education students must take PSY-223). Educational psychology applies the accumulated knowledge of human cognition and behavior from the field of psychology to the theory and practice of teaching and learning. This course will be taught from a research perspective to facilitate student comprehension of teaching theories and how they can be applied in the classroom. (45-0-0-0) *Equivalent to 80-103, PSYC-205.*

**PTA-101 Introduction to PTA (2 s.h.)**  
Prerequisite: Acceptance into the PTA program. This course provides an overview of the physical therapy profession and the role of the physical therapist assistant, including legal and ethical aspects of practice. Students will be informed in how to research physical therapy topics, on the importance of confidentiality and patient's rights, and will have an understanding of how to report abuse in the workplace. Students will develop an understanding of the impact an illness or disability has on the individual, will be instructed in documentation, and given much opportunity to work on their communication skills. Includes a unit on managing stress, how culture impacts patient care, and an introduction to the Clinical Education component of the program. (30-0-0-0) *Equivalent to 90-149, PTAS-701.*

**PTA-110 Fundamentals for PTA (3 s.h.)**  
Prerequisite: Acceptance into the PTA program. This course provides a foundation in physical therapy interventions by covering techniques that the PTA can utilize to monitor patients as well as basic treatment interventions such as range of motion and transfers. Purposes of all skills, proper techniques, and safety considerations will be addressed. Students will have lab time to apply, practice, and demonstrate skills they are taught. (30-30-0-0) *Equivalent to 90-144, PTAS-702.*

**PTA-120 Kinesiology (3 s.h.)**  
Prerequisite: BIO-206 Anatomy and Physiology I (and lab) with a grade of "C" or higher. This course provides a basic understanding of normal human body movement as related to skeletal, articular, neurological, and muscular systems. Levers, torques, center of gravity, base of support, and their relationship to balance, posture, and movement will be addressed. The student will learn anatomical palpations and the basics of human gait. (30-30-0-0) *Equivalent to 70-149, BIOL-222.*

**PTA-141 Developmental Processes (3 s.h.)**  
Prerequisite: PTA-110 Fundamentals for PTA with a grade of C or higher. This course presents an overview of normal physical, cognitive, social, and emotional developmental processes which affect an individual throughout the life span. The course focus and emphasis is on normal physical development and the application of physical processes to the field of physical therapy. (45-0-0-0) *Equivalent to 90-146, PTAS-711.*

**PTA-150 Pathophysiology (3 s.h.)**  
Prerequisite: PTA-190 Physical Agents. This course presents clinical disorders and diseases commonly treated in physical therapy. Pathology, etiology, diagnosis, signs, symptoms, treatment, prognosis and implications for rehabilitation will be covered. (45-0-0-0) *Equivalent to 90-147, PTAS-801.*

**PTA-162 PTA Assessment Procedures (3 s.h.)**  
Prerequisites: PTA-190 Physical Agents. The course provides an in-depth look at various assessment skills performed and utilized by the PTA. Special emphasis will be on theory, application procedures, and documentation of findings when utilizing goniometry and manual muscle testing in the clinic setting. Students will have an opportunity in the lab portion to apply, practice, and demonstrate techniques they are taught. (30-30-0-0) *Equivalent to 90-150, PTAS-802.*

**PTA-190 Physical Agents (4 s.h.)**  
Prerequisite: PTA-110 Fundamentals for PTA. Prerequisite/Corequisite: PTA-120 Kinesiology. This course prepares the student to use physical agents for patient treatment. Mechanisms of action, indications, precautions, contraindications and treatment procedures will be covered for the following: superficial heat, deep heat, electromagnetic radiation, cold, external compression, massage, biofeedback, whirlpool, wound care, traction, and electrical stimulation. Pain rating and skin assessment procedures will also be included. Students will practice applications in lab. (37.5-45-0-0) *Equivalent to 90-159, PTAS-712.*

**PTA-210 Orthopedics (3 s.h.)**  
Prerequisite: PTA-500, PTA Clinic I. Principles of fracture and soft tissue healing are applied to musculoskeletal injuries and disorders. Injuries, disorders, and function specific to each joint are covered. Physical therapy treatment for specific joint injuries is presented. Students will practice techniques in lab. (30-30-0-0) *Equivalent to 90-213, PTAS-811.*

**PTA-231 Therapeutic Exercise for PTA (3 s.h.)**  
Prerequisite: PTA-500, PTA Clinic I. This course studies the physiological effect of exercise on the musculoskeletal, cardiovascular, and pulmonary systems. Physical therapy treatment techniques to improve strength, flexibility, cardiovascular and pulmonary function are presented. Special topics discussed are diabetes, pregnancy, amputation, women's health issues, and aquatic therapy. Students will practice techniques in lab. (30-30-0-0) *Equivalent to 90-212, PTAS-810.*

**PTA-241 Neurology for PTA (4 s.h.)**  
Prerequisite: PTA-500, PTA Clinic I. This course will provide information, discussion, and treatment considerations with neurologically-based diagnoses. Clinical manifestations and treatment considerations will be addressed with common neurological disorders with special emphasis on strokes or CVA. To enhance the students' understanding, typical treatment techniques, exercise programs, and treatment progression will be applied to lab scenarios with diagnoses covered. Students will have an opportunity in the lab portion to apply, practice, and demonstrate techniques they are taught. (45-30-0-0) *Equivalent to 90-214, PTAS-812.*



**PTA-250 PTA Career Essentials (2 s.h.)**

Prerequisite: PTA-500 PTA Clinic I. This course includes the basic principles of management including levels of authority and responsibility, supervisory process, performance appraisals, and policies and procedures. The process of quality assurance and chart audits are discussed. Varieties of reimbursement systems and their impact on health care delivery are discussed. Resume writing, interviewing, and employability skills will be covered. Ethical and legal issues in the practice of physical therapy will also be examined. (30-0-0-0) *Equivalent to 90-215, PTAS-813.*

**PTA-280 PTA Seminar (1 s.h.)**

Prerequisite: PTA-502 PTA Clinic III or permission of instructor. The course will address all aspects of patient care in a physical therapy setting, including what is expected of a PTA at entry level practice. Discussion based, this 15-hour course will incorporate students' experiences from Clinic III so that each student has time to process and consider these learning experiences. All aspects of patient care will be addressed and case studies will be reviewed to assist with problem solving skills. (15-0-0-0) *Equivalent to 90-217, PTAS-823.*

**PTA-500 PTA Clinic I (2 s.h.)**

Prerequisites: PTA-150 Pathophysiology and PTA-162 PTA Assessment Procedures. This clinical occurs in the final two weeks of the third term and extends one week outside the term (three week full-time clinical experience). Skills, knowledge, and attitudes learned in all completed PTA course work will be applied to direct patient care in selected clinical settings. Includes application/integration of current and previous PTA course work with goal of student providing quality care with uncomplicated to complex patients and a degree of supervision/guidance that will vary with the complexity of the patient or the environment. This course has been designated as a pass/no pass course. (0-0-112-0) *Equivalent to 90-138, PTAS-803.*

**PTA-501 PTA Clinic II (7 s.h.)**

Prerequisite: PTA-500 PTA Clinic I. Eight week, full-time clinical experience. Skills, knowledge, and attitudes learned in all completed PTA course work will be applied to direct patient care in selected clinical settings. Includes application/integration of all PTA course work with goal of student consistently and efficiently providing quality care with uncomplicated to complex patients and a moderate to low degree of supervision/guidance except when addressing new and highly complex situations. This course has been designated as a pass/no pass course. (0-0-320-0) *Equivalent to 90-218, PTAS-821.*

**PTA-502 PTA Clinic III (5 s.h.)**

Prerequisite: PTA-501 PTA Clinic II. Six week, full-time clinical experience. Skills, knowledge, and attitudes learned in all PTA courses will be applied to direct patient care in selected clinical settings. Includes application/integration of all PTA course work with goal of student consistently and efficiently providing quality care with uncomplicated to complex patients. The student usually needs no further guidance or supervision except when addressing new and highly complex situations. This course has been designated as a pass/no pass course. (0-0-240-0) *Equivalent to 90-219, PTAS-822.*

**RAD-573 Clinical V (6 s.h.)**

Prerequisites: RAD-764 Pharmacology for Radiographers, Radiographic Image Processing, Imaging Equipment and Quality Management, Radiographic Procedures IV with Lab, and Clinical IV. Corequisites: RAD-744 Radiographic Pathology, RAD-901 Registry Review, and RAD-767 Radiographic Procedures V. Clinical experiences throughout various Radiography rotations allow for the observation, development and application of topics covered in the classroom from previous and current terms including: radiographic examinations, technical concepts, image evaluation and safety processes. The student assists and provides patient care according to the competency-based JRCERT supervision policy. Observational rotations through various Imaging Modalities may occur during this term. (0-0-270-0)

**RAD-576 Clinical VI (5 s.h.)**

Prerequisites: RAD-573 Clinical V, RAD-744 Radiographic Pathology, RAD-767 Radiographic Procedures V, and RAD-901 Registry Review. Clinical experiences throughout various Radiography rotations allow for the observation, development and application of topics covered in the classroom from previous and current terms including: radiographic examinations, technical concepts, image evaluation and safety processes. The student assists and provides patient care according to the competency-based JRCERT supervision policy. Observational rotations through various Imaging Modalities may occur during this term. (0-0-225-0)

**RAD-744 Radiographic Pathology (2 s.h.)**

Prerequisites: RAD-764 Pharmacology for Radiographers, Radiographic Image Processing, Imaging Equipment and Quality Management, Radiographic Procedures IV with Lab, and Clinical IV. Corequisites: RAD-573 Clinical V, RAD-767 Radiographic Procedures V, and RAD-901 Registry Review. In this course, the student will review the anatomy and physiology of body systems, learn the signs and symptoms of diseases, and how the disease will affect acquisition of and resulting radiographic images. (30-0-0-0)

**RAD-764 Pharmacology for Radiographers (1 s.h.)**

Prerequisites: Medical Ethics and Legal Concerns, Radiation Production, Radiographic Procedures III with Lab, and Clinical III. Corequisites: Radiographic Image Processing, Imaging Equipment and Quality Management, Radiographic Procedures IV with Lab, and Clinical IV. An introductory course providing the basic drug classifications, venipuncture and administration of radiographic contrast agents, common reactions, interventions and intravenous medications. Though regulations regarding the administration of contrast media and intravenous medications vary between states and institutions, the official position of the American Society of Radiologic Technologists is that venipuncture falls within the radiologic technology profession's general scope of practice. (15-0-0-0)

**RAD-767 Radiographic Procedures V (2 s.h.)**

Prerequisites: RAD-764 Pharmacology for Radiographers, Radiographic Image Processing, Imaging Equipment and Quality Management, Radiographic Procedures IV with Lab, and Clinical IV. Corequisites: RAD-573 Clinical V, RAD-744 Radiographic Pathology, and RAD-901 Registry Review. This course is a continuation of prior Procedures courses, providing information on how to obtain diagnostic radiographs of the studies typically performed in a diagnostic Radiology department. Included will be a review

of anatomy and physiology of each system, anatomy as seen on the image and the evaluation of the finished radiograph. Common pathologies appropriate to each system are studied. Also covered is basic information of modalities utilizing ionizing radiation and more specialized procedures in Radiography. There is no laboratory component. (30-0-0-0)

**RAD-901 Registry Review (2 s.h.)**

Prerequisites: RAD-764 Pharmacology for Radiographers, Radiographic Image Processing, Imaging Equipment and Quality Management, Radiographic Procedures IV with Lab, and Clinical IV. Corequisites: RAD-573 Clinical V, RAD-744 Radiographic Pathology, and RAD-767 Radiographic Procedures V. This is a review of previous Radiologic Technology subjects to prepare the student for the American Registry of Radiologic Technology (ARRT) Registry Certification exam. (30-0-0-0)

**RDG-015 Power Reading (2 s.h.)**

Power Reading uses a unique program to increase each student's reading ability. Trained tutors will assess each student's incoming reading skills and will provide each student with appropriate reading material. This course has been designated as a pass/no pass course and can be repeated for continued reading gains. (30-0-0-0)

**RDG-125 College Reading Strategies (3 s.h.)**

Designed to help students become more efficient and effective in reading college textbooks, required materials, leisure articles, and books. Course adapts to the style and needs of each individual to improve vocabulary, comprehension, rate, and study skills. (45-0-0-0) *Equivalent to 30-120, ENGL-120.*

**RDG-161 Speed Reading (1 s.h.)**

Are you struggling to keep up with a flood of e-mail, articles, reports, books, and other printed matter? Save yourself oodles of time by learning to read faster and with better comprehension from acclaimed speed reading expert, Dr. Merrill Ream. This course is a complete speed reading experience. Topics are presented in a logical progression with plenty of time to help you master the skills and techniques you'll need for lasting proficiency as a speed reader. This course has been designated as a pass/no pass course. (5-20-0-0) *Equivalent to 89-146, SDEV-251.*

**SDV-111 Success Seminar (1 s.h.)**

Prerequisite/Corequisite: For participants in the TRiO Student Support Services program. Success Seminar cultivates a positive attitude and gives students the motivation to help themselves in a college setting. The goals are to instill confidence, eagerness, and enthusiasm toward obtaining a college degree. (15-0-0-0) *Equivalent to 89-153, SDEV-101.*

**SDV-113 Strategies for Academic Success (2 s.h.)**

This course is useful to any student in either semester. The focus is assisting in the development of effective study techniques and comprehensive skills necessary for independent learning and academic success. This course satisfies 2 credit hours of transferable elective credits toward an Associate Degree. (30-0-0-0) *Equivalent to 89-151, SDEV-105.*

**SDV-135 Job Seeking Skills (1 s.h.)**

Develop skills necessary to enter the job market and experience long-term career growth. Students learn basic job seeking techniques, job keeping skills, and strategies for continued growth. (15-0-0-0) *Equivalent to 89-150, SDEV-110.*

**SDV-144 Introduction to STEM Careers (1 s.h.)**

Introduction to STEM Careers is a one-hour seminar that gives students an opportunity to hear from professionals in Science, Technology, Engineering and Math (STEM) careers in North Iowa. The course will introduce students to different career options in the STEM fields and students will learn about various pathways to prepare for those professions. Students will also gain first hand experience by visiting a STEM industry. This course has been designated as a pass/no pass course. (15-0-0-0)

**SDV-160 Career Decision Making (2 s.h.)**

Introduction to a structured career decision-making process, including self-awareness, career and educational information, economic information, and related activities/projects. (30-0-0-0) *Equivalent to 89-152, SDEV-106.*

**SDV-177 Listen to Your Heart and Success Will Follow (1 s.h.)**

Intelligently facilitated and fast-paced, Listen to Your Heart and Success Will Follow will help you enjoy the rewards that come from doing what really makes you happy! Your instructor and a caring community of students will help you begin designing a life that really works for you. With a complete understanding of your own interests, values, needs and abilities, you'll learn how you can use work to express yourself and share your interests and talents. Your every day will be filled with joy and inspiration, and a greater depth of meaning will be added to everything you do. This course program is skillfully crafted to weave experiential learning with the conceptual presentation, giving you time to experience, understand, and implement each new strategy as it is introduced. This course has been designated as a pass/no pass course. (5-20-0-0) *Equivalent to 89-145, SDEV-250.*

**SDV-195 Student Senate (1 s.h.)**

Students will develop increased organizational, networking and leadership skills through involvement in planning campus activities and entertainment, participating in community service projects, organizing community college advocacy efforts, and helping to engage students at North Iowa Area Community College. Additional leadership opportunities may include attending a conference, becoming a Student Senate representative on a student or college committee, or assisting with campus events. This course is repeatable one time. (0-30-0-0) *Equivalent to 80-125, POLS-125.*

**SDV-199 College Essentials (1 s.h.)**

This course is designed for first-time college students and/or transfer students with less than 12 hours of credit. Areas included in this course are uses of Web Advisor, uses of NIACC e-mail, availability of campus resources, and strategies to deal with navigating the college experience. (15-0-0-0)

**SDV-210A-E Cooperative Education Internship (1-5 s.h.)**

All students who meet the admission standards set by the college and the following criteria are eligible to participate in the Cooperative Education Internship Program: (1) Students must have a clearly stated set of career goals or a high interest in explor-

ing a possible career related to the potential internship experience; (2) Students must have their proposed experience approved by the Office of Cooperative Education before they may begin; and (3) To register, students must be interviewed and approved by the Office of Cooperative Education. Practical training on the job under the cooperative supervision of the college and work supervisor. Designed primarily for the college transfer students to provide an experience that: (1) is directly related to their college program and career objectives; or (2) will help them test out career interest and/or discover new career possibilities. Credit is determined on the basis of one semester of credit for each 60 hours of approved employment to be completed in a term. Appropriateness of learning objectives is an essential factor in the approval process. (0-0-0-60, 0-0-0-120, 0-0-0-180, 0-0-0-240, or 0-0-0-300) *Equivalent to 89-100, SDEV-120A-E.*

**SDV-287 PTK Leadership Development Studies (2 s.h.)**

This course will help students develop the necessary skills to be an effective leader. Topics covered include developing a leadership philosophy, articulating a vision, decision making, time management, team building, empowering and delegating, initiating change, managing conflict, and ethics. Class time will primarily consist of discussion and small-group activities. (15-30-0-0) *Equivalent to 80-127, SDEV-111.*

**SDV-295 Student Senate II (1 s.h.)**

Students will continue to develop increased organizational, networking and leadership skills through involvement in planning campus activities and entertainment, participating in community service projects, organizing community college advocacy efforts and helping to engage students at North Iowa Area Community College. Additional leadership opportunities may include attending a conference, becoming a Student Senate representative on a student or college committee, or assisting with campus events. This course is repeatable one time. (0-30-0-0)

**SOC-110 Introduction to Sociology (3 s.h.)**

An introductory survey course, sociology is the scientific study of society. Inquires into what holds societies together, what causes societies to change, and how social forces affect our daily lives. Topics covered include: culture and society, socialization, social research, groups, organizations, institutions, deviance, gender, race, and ethnicity. An emphasis is placed on cultural diversity. (45-0-0-0) *Equivalent to 80-110, SOCS-101.*

**SOC-115 Social Problems (3 s.h.)**

Prerequisite: SOC-110 Introduction to Sociology is recommended. An introduction to the study of contemporary social problems. The course examines how social problems are identified, explores underlying conditions and causes of social problems, and considers possible solutions and policy implications. Emphasis is on sociological and critical thinking frameworks. Topics of exploration include: mental illness, substance abuse, crime, prejudice and discrimination, prostitution, poverty, and more. (45-0-0-0) *Equivalent to 80-111, SOCS-103.*

**SOC-120 Marriage and Family (3 s.h.)**

A survey of the family as a social unit in the modern American culture. A study is made regarding the creation of the American family from various cultures, as well as the problems the family is subjected to such as sex relations, social roles, communication, finance, and divorce. (45-0-0-0) *Equivalent to 80-112, SOCS-112.*

**SOC-150 Introduction to Human Services (3 s.h.)**

This course is designed to familiarize the student with the human services arena. Various employment opportunities are explored, as well as ethical, legal, political, and economic forces. (45-0-0-0) *Equivalent to 80-114, SOCS-100.*

**SOC-215 Prime for Life: Substance Abuse (1 s.h.)**

Prime for Life risk reduction program is a research-based curriculum that focuses on the reduction of problems associated with high risk drinking. The ultimate goal is to impact drinking choices by using a collection of strategies designed to facilitate behavior change. The program integrates knowledge from over 1,200 scientific studies from biological, psychological, and social research that supports the content of the program. Students will gain an increased knowledge regarding the subject matter, as well as gain personal knowledge about their own drinking patterns through a self reflection process. Knowledge of the subject matter and self knowledge are both critical prerequisites for those who are considering employment in the human services fields. Open to all students. Required for the Human Services Certificate. Students must be enrolled prior to the start of the first night of class. No late enrollments. Attendance is mandatory. Each lesson builds on the other, therefore, all 6 sessions must be attended or the student cannot satisfactorily complete the course. (15-0-0-0)

**SOC-881 Social Responsibility and Community Service (2 s.h.)**

This course is grounded in an appreciation for the health of the community and the potential of the individual to positively impact the well being of the community through direct and active participation. Socially responsible individuals initiate change by transforming their social interests into personal advocacy and social participation in their respective community. This advocacy and participation is actualized through a lifelong commitment to addressing social problems through community service. (15-30-0-0)

**SPC-112 Public Speaking (3 s.h.)**

Students will study the theory and practice of public speaking as an intellectual tool for use in argumentation and persuasion in a democratic society. This course prepares the student for a variety of speaking situations, both formal and informal, with an emphasis on speech preparation, organization, support, delivery, and audience analysis. (45-0-0-0)

**SPC-122 Interpersonal Communication (3 s.h.)**

Interpersonal Communication is the study of interaction between interdependent individuals with the focus on developing effective personal and professional communication skills. This course emphasizes a student's exploration of issues in relational development, verbal communication, non-verbal communication, listening, perception, semantics, cross-cultural communication, cross-gender communication, problem solving, and conflict resolution. (45-0-0-0)

**SPC-132 Group Communication (3 s.h.)**

Group Communication provides principles and techniques of group discussion methods and procedures. This course guides the student through development of leadership and group skills through frequent communication experiences in varying group sizes and situations. (45-0-0-0)

**SPC-140 Oral Interpretation (3 s.h.)**

Oral Interpretation involves the analysis, preparation, and oral presentation of prose, poetry and dramatic literature for public audiences as well as theoretical components of performance criticism. (45-0-0-0)

**WEL-108 Oxy-acetylene Welding and Cutting and Shielded Metal Arc Welding (2 s.h.)**

Fusion joining of mild steel and cutting processes. Selection of proper torch tip sizes, filler rods, angles, and travel speeds for O.A.W. processes. The set up and adjustment of oxyacetylene welding equipment, along with practical experience using both ferrous and non-ferrous metals. (15-30-0-0)

**WEL-109 Gas Metal Arc Welding and Gas Tungsten Arc Welding (2 s.h.)**

This is a basic gas metal arc welding course. The students will perform introductory skills in GTAW and GMAW welding, and plasma cutting. Students will learn proper joint fit up. The student learns safety procedures relating to welding subjects and general shop safety. (15-30-0-0)

**WEL-110 Welding Blueprint Reading (2 s.h.)**

This course provides instruction in the fundamentals of reading and interpreting blueprints. A student learns to interpret and apply welding symbols along with identifying proper assembly procedures. (30-0-0-0) *Equivalent to 98-110, WELD-701.*

**WEL-240 Welding Fabrication/Certification (3 s.h.)**

Prerequisites: WEL-244 Gas Metal Arc Welding Short Circuit Transfer: SENSE1; WEL-274 Shielded Metal Arc Welding I: SENSE1; WEL-280 Flux Cored Arc Welding (Self-Shielded): SENSE1; and WEL-281 Flux Cored Arc Welding (Gas-Shielded): SENSE1. This course is designed to allow students to incorporate all previous welding skills in an effort to fabricate a group project. The student will also utilize this course time to work towards AWS certification. (0-90-0-0)

**WEL-244 Gas Metal Arc Welding Short Circuit Transfer: SENSE1 (2 s.h.)**

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. (15-30-0-0)

**WEL-245 Gas Metal Arc Welding Spray Transfer: SENSE1 (2 s.h.)**

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. (15-30-0-0)

**WEL-250 Welding Automation (2 s.h.)**

Prerequisites: WEL-244 Gas Metal Arc Welding Short Circuit Transfer: SENSE1; WEL-274 Shielded Metal Arc Welding I: SENSE1; WEL-280 Flux Cored Arc Welding (Self-Shielded): SENSE1; and WEL-281 Flux Cored Arc Welding (Gas-Shielded): SENSE1. This course is designed to introduce individuals to the automation used in the welding industry. The student will learn the automation process through the use of a robotic welding arm and a CNC plasma CAM. (15-30-0-0)

**WEL-251 Gas Tungsten Arc Welding for Carbon Steel: SENSE1 (2 s.h.)**

Prerequisite: IND-190 Skills & Safety in Industry. 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. (15-30-0-0)

**WEL-252 Gas Tungsten Arc Welding for Aluminum: SENSE1 (1 s.h.)**

Prerequisite: IND-190 Skills and Safety in Industry. Co-requisites: WEL-251 Gas Tungsten Arc Welding for Carbon Steel: SENSE1 and WEL-253 Gas Tungsten Arc Welding for Austenitic Stainless Steel: SENSE1. 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. (0-30-0-0)

**WEL-253 Gas Tungsten Arc Welding for Austenitic Stainless Steel: SENSE1 (1 s.h.)**

Prerequisite: IND-190 Skills & Safety in Industry. Co-requisites: WEL-251 Gas Tungsten Arc Welding for Carbon Steel: SENSE1 and WEL-252 Gas Tungsten Arc Welding for Aluminum: SENSE1. 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. (0-30-0-0)

**WEL-262 Thermal Cutting Processes I – Manual and Mechanized OxyFuel Cutting: SENSE1 (2 s.h.)**

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. (15-30-0-0)

**WEL-274 Shielded Metal Arc Welding I: SENSE1 (3 s.h.)**

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. (15-60-0-0)

**WEL-275 Shielded Metal Arc Welding II: SENSE1 (3 s.h.)**

Prerequisite: WEL-274 Shielded Metal Arc Welding. 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. (15-60-0-0)

**WEL-280 Flux Cored Arc Welding – Self-Shielded: SENSE1 (2 s.h.)**

Prerequisites: IND-190 Skills & Safety in Industry, WEL-244 Gas Metal Arc Welding Short Circuit Transfer: SENSE1, and WEL-245 Gas Metal Arc Welding Spray Transfer: SENSE1. 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. (15-30-0-0)

**WEL-281 Flux Cored Arc Welding – Gas Shielded: SENSE1 (2 s.h.)**

Prerequisites: IND-190 Skills & Safety in Industry, WEL-244 Gas Metal Arc Welding Short Circuit Transfer: SENSE1, and WEL-245 Gas Metal Arc Welding Spray Transfer: SENSE1. 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. (15-30-0-0)

**WEL-335 Ag and Industry Welding (2 s.h.)**

This is a basic arc/oxy-fuel welding and cutting course. The students will perform introductory skills in SMAW, GTAW, and GMAW welding, oxy-acetylene welding, and oxy-fuel cutting. The student learns safety procedures relating to welding subjects and general shop safety. (15-30-0-0)

**WTT-103 Introduction to Wind Energy (3 s.h.)**

A basic study of the many facets of the wind industry. Study includes the history and development of the wind industry, wind industry terminology, types of wind turbines, economic and environmental impact of wind energy, future of wind energy, and relative tasks that a Wind Turbine Technician will be expected to perform. (45-0-0-0)

**IOWA COMMUNITY COLLEGE ONLINE CONSORTIUM (ICCOC)****GEO-121 World Regional Geography (3 s.h.)**

A geographic survey of nations and continents with emphasis on important physical characteristics of the major regions of the world. Attention is devoted to their demographic, economic, political, and cultural development with each other. The course covers physical and cultural geography as well as basic geographical literacy. The human impact on the environment and growing problems of resources are discussed. (45-0-0-0)

**HIS-266 Civil War (3 s.h.)**

A study of the United States during the Civil War. A study of the political, social, economic, military, and diplomatic history of the United States from 1850 to 1877. A look at the causes of the Civil War, the War and its impact on US society, and the aftermath of the war. (45-0-0-0)

**REL-101 Survey of World Religions (4 s.h.)**

Survey of World Religions provides insights into the nature of religious belief through the study of primitive religions, Hinduism, Buddhism, Taoism, Confucianism, Islam, Judaism, and Christianity. (45-0-0-0)







# Staff

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## PRESIDENT

**Steve Schulz**, *President*; 2013

B.A., Wartburg College; M.A., University of Northern Iowa; Ed Specialist, Drake University; Ph.D., Iowa State University

**Ronda Smith**, *Assistant to the President*; 1995

Diploma, Spencer School of Business; A.A., North Iowa Area Community College; additional course work at Mankato State University and Buena Vista University

## Performing Arts

**Elizabeth Gales**, *Director of Performing Arts and Leadership*

*Series*; 1990

B.A., College of St. Catherine

**Lindsay Dalrymple**, *Performing Arts and Leadership Series Assistant*; 2016

B.S., Waldorf

## ACADEMIC AFFAIRS

*Vice President for Academic Affairs; -Vacant*

**Jennifer Ryan**, *Administrative Assistant to the Vice President of Academic Affairs*; 2014

B.A., Northwest Missouri State University

## Academic Faculty

### Agricultural Technology

**Joel Morrical**, *Animal Science Instructor*; 2015

B.S., Iowa State University; M.S., Iowa State University

**Kevin Muhlenbruch**, *CPAg, Agriculture Instructor*; 1988

B.S., Iowa State University

### Business

**Laura Wood**, *Ag & Business Division Chair/Business Instructor/ Business Internship Coordinator*; 1990

A.A.S., North Iowa Area Community College; B.A., Buena Vista University; M.S., Drake University; additional course work at Iowa State University

**Wendy Demaray**, *Business Division Office Assistant*; 1991

Diploma, North Iowa Area Community College

**Michael Dirksen**, *Information Technology Instructor*; 1988

B.A., Augustana College; B.S. and M.S., University of Minnesota at Mankato

**Sheryl Fitzpatrick**, *CMA, Business Instructor*; 2010

A.A.S., Iowa Lakes Community College; B.A., Buena Vista University; M.B.A., University of Northern Iowa

**Diane Frank**, *Professional Administrative Services Instructor*; 2003

B.A., University of Northern Iowa; M.A., Morningside College; additional course work at Buena Vista University, University of Northern Iowa, Upper Iowa University, and American Military University

**Greg Lauer**, *Accounting Instructor*; 1999

A.A., North Iowa Area Community College; Diploma, Hamilton Business College; B.A., Upper Iowa University; M.S., Iowa State University; E.A., Internal Revenue Service; additional course work at University of Phoenix; Jones International University

**Jeanne McCurnin**, *Professional Administrative Services Instructor*; 1990

A.A., North Dakota State College of Science; B.S., Minnesota State University-Moorhead; M.A., Morningside College; additional course work at University of Iowa and Drake University

**Douglas Morse**, *Business Instructor*; 2010

B.A., Luther College; M.B.A., University of Iowa; M.A., University of Iowa; additional course work at University of Iowa

**Tracy Purchase**, *A+, MCP, MCDST, MCITP, MCTS, IC<sup>3</sup>, Information Technology Instructor*; 2003

B.S., Capella University; M.I.S.M., Keller Graduate School of Management; A.B.D., Capella University

**Linda "Toby" VanDenBosch**, *Business/Medical Office Instructor*; 2005

A.A., North Iowa Area Community College; A.D.N., North Iowa Area Community College; B.S.N., University of Iowa; M.A., Morningside College; additional course work at Buena Vista University and Drake University

### Communication

**Joe Davis**, *Communication Division Chair/Communication Instructor*; 2000

B.A., Mount Mercy College; M.A., Northern Michigan University; additional course work at Iowa State University

**Sally Becker**, *Writing Lab Specialist*; 1975

Course work at North Iowa Area Community College

**Sethanne DeGabriele**, *Composition and Speech Instructor/ Journalism/Logos Advisor*; 2001

A.A., North Iowa Area Community College; B.A., University of Northern Iowa; M.A., University of Northern Iowa

**Nancy Fallis**, *Reading and Education Media Instructor*; 1998

B.A. and M.A., University of Northern Iowa; additional course work at Mankato State University, University of Iowa, Drake University, and Indiana University

**Mark Messer**, *Composition and Speech Instructor*; 1988

B.A., Central College; M.A., University of Northern Iowa; additional course work at Iowa State University and Northwest Missouri State University

**Borden Plunkett**, *Composition and Speech Instructor*; 1993  
B.S., Southern Illinois University; M.S., Southern Illinois University

**Karen Regal**, *Composition and Speech/Children's Literature Instructor*; 1991

B.A., Central College; M.A., Mankato State University; additional course work at University of Iowa, Drake University, Minnesota State - Mankato, University of Northern Iowa, Iowa State University, and Western Michigan-Kalamazoo

**Arlo Stoltenberg**, *Composition and Speech/Literature Instructor*; 1967

B.A., Central College; M.A., Northeast Missouri State University; Ed.D., Nova University; additional course work at Drake University, University of Iowa, University of Northern Iowa, and Iowa State University

### **Fine Arts and Humanities**

**Joe Davis**, *Fine Arts and Humanities Division Chair*; 2000

B.A., Mount Mercy College; M.A., Northern Michigan University; additional course work at Iowa State University

**H. Wayne Allison**, *Visual Arts Instructor/Gallery Director*; 2005

B.A., Graceland College; M.F.A., Syracuse University; additional course work at University of Kansas, Kent State University, and University of Northern Iowa.

**John Klemas**, *Instrumental Music Instructor/Director*; 1987

B.M.E. and B.M., Drake University; M.A., Washington State University

**Jayson Ryner**, *Vocal Music Instructor/Director*; 2001

A.A., North Iowa Area Community College; B.M.E., University of Northern Iowa; M.A., University of Northern Iowa; M.B.A., Ellis College; additional course work at University of Northern Iowa

**Charles Schroeder**, *Spanish Instructor*; 2000

B.A. and M.A., University of Northern Iowa; additional course work at Iowa State University

**Timothy Slaven**, *Speech and Theatre Instructor*; 1992

A.A., Iowa Central Community College; B.A. and M.A., University of Northern Iowa

### **Health**

**Kristi Aschenbrenner**, *Associate Degree Nursing Instructor*; 2005  
B.S.N., Allen College; M.S.N., University of Phoenix; additional course work at University of Northern Iowa and Northwest Missouri State University

**Susan Callanan**, *Physical Therapist Assistant Instructor*; 2000

B.S., Iowa State University; D.P.T., Creighton University; additional course work at Iowa State University and University of Iowa

**Laurie DeGroot**, *Associate Degree Nursing Instructor*; 1988

A.A., North Iowa Area Community College; B.S.N., University of Iowa; M.S.N., Winona State University; Certified Clinical Nurse Specialist in Gerontological Nursing; A.R.N.P.; additional course work at University of Iowa and University of Northern Iowa

**Shannon Dodd**, *Associate Degree Nursing Instructor/Simulation Coordinator*; 2010

A.D.N., North Iowa Area Community College; B.S.N., University of Iowa; M.S.N., University of Iowa

**Jean Evenson**, *Associate Degree Nursing Instructor*; 1985

R.N., B.S.N., University of Iowa; F.N.P., M.S.N., Mankato State University; additional course work at Iowa State University, University of Iowa, and Mankato State University

**Holly Hendrikson**, *Practical Nursing Instructor*; 2014

A.A., A.S. and A.D.N., North Iowa Area Community College; B.S.N., Chamberlain College of Nursing

**Brandi Hiscocks**, *Practical Nursing Instructor*; 2004

A.D.N., North Iowa Area Community College; B.S.N., Winona State University; additional course work at University of Iowa and University of Northern Iowa

**Julie Kolker**, *Associate Degree Nursing Instructor*; 2004

A.D.N., North Iowa Area Community College; B.S., Iowa State University; M.S.N., University of Iowa; additional course work at University of Iowa and Iowa State University

**Amie Otto**, *Associate Degree Nursing Instructor*; 2013

A.D.N., North Iowa Area Community College; B.S.N., M.S.N., and Doctor of Nursing Practice, University of Iowa.

**Carol Patnode**, *Physical Therapist Assistant Instructor*; 1996

A.S., St. Mary's Junior College; P.T.A., B.A., Metropolitan State University; M.A., St. Mary's University of MN; additional course work at University of Iowa and University of Northern Iowa; Credentialed Clinical Instructor, American Physical Therapy Association

**Deb Stockberger**, *Medical Assistant and ADN Instructor*; 1997

Diploma, Medical Assistant and A.D.N., North Iowa Area Community College; B.S.N., University of Iowa; M.S.N., University of Phoenix; additional course work at Morningside College, Drake University, and University of Iowa

### **Industrial**

**Ryan Bochmann**, *Welding Instructor*; 2010

Diplomas, North Iowa Area Community College; B.A., University of Northern Iowa

**Randy Bonde**, *Tool and Die Technology Instructor*; 2008

Machine Shop Technology Certification, Iowa Central Community College; Journeyman Tool and Die Maker, U.S. DOL

**Robert Franken**, *Industrial Systems Technology Instructor*; 2008

Alloy Fusion, Machine, and Industrial Service Technology Training, Hawkeye Community College

**Robert Heimbuch**, *Automotive Services Technology Instructor*; 1999

A.A.S., North Iowa Area Community College; A.S.E. Certified Automobile Technician; additional course work at Iowa State University

**Gregg Helmich**, *Building Trades Instructor*; 2007

B.S., Murray State University; additional coursework at Western Kentucky University, Central Southeastern Missouri State University,

and Drake University

**Gerrott Jacobson**, *Automotive Services Technology Instructor*; 2013  
A.A.S., North Iowa Area Community College

**Kevin Losee**, *Tool and Die Technology Instructor*; 2006  
A.A.S., Southeastern Community College; A.A.S., North Iowa Area Community College; Journeyman Tool and Die Maker, U.S. DOL; additional course work at University of Northern Iowa.

**Brian Mason**, *Industrial Maintenance Instructor*; 2009  
Journeyman Tool and Die Maker, U.S. DOL; additional course work at Waldorf and North Iowa Area Community College

**Jason Ott**, *Heating and Air Conditioning Technology Instructor*; 2007  
A.A.S., North Iowa Area Community College; additional course work at University of Northern Iowa

**Dennis Salz**, *Diesel Technology Instructor*; 2015  
A.A., Lincoln Technical Institute

### Mathematics

**Kathy Rogotzke**, *Mathematics Division Chair/Mathematics Instructor*; 1994  
B.A., St. Olaf College; M.S., Iowa State University; Ph.D., Iowa State University; additional course work at Kansas State University

**David Bernemann**, *Engineering/Mathematics Instructor*; 1999  
B.S., University of Iowa; M.S., West Virginia University; additional course work at Iowa State University

**Christine Brandt**, *Developmental Math Instructor*; 2007  
B.A., University of Northern Iowa; M.A., Morningside College; additional course work at Drake University

**Brent Hamilton**, *Mathematics Instructor*; 1998  
B.S., University of Dubuque; M.S., Iowa State University; additional course work at Garrett-Evangelical Theological Seminary

**Paul Hertzel**, *Mathematics Instructor*; 1998  
B.S., Mankato State University; M.S., Iowa State University

### Natural Science

**Jason Friday**, *Natural Science/Biological Science Instructor*; 2003  
B.A., University of Iowa; M.A., Quinnipiac University; additional course work at Drake University, Harvard University, University of Montana, Iowa State University, and University of Texas.

**Patrick Gallart**, *Biological Science Instructor*; 1993  
B.S., Loras College; M.S. and Ph.D., Iowa State University; additional course work at University of Iowa, and University of Northern Iowa

**Timothy Harrington-Taber**, *Physics Instructor*; 2014  
B.C. Cornell College; M.S. University of Iowa; PhD University of Iowa

**Mark Kabele**, *Natural Science Associate*; 1998

B.S., University of Wisconsin; additional course work at North Iowa Area Community College

**Nikae Perkinson**, *Chemistry Instructor*; 2016  
A.B., Bryn Mawr College; M.A., University of Chapel Hill

**Paul Pistek**, *Biological Science Instructor*; 1996  
B.S. and M.S., Iowa State University.

**Heather Rissler**, *Biology Instructor*; 2015  
B.S., University of Arizona; Ph.D., Australian National University

**Jeff Stephens**, *Chemistry Instructor*; 2014  
B.S., Brigham Young University; M.S., University of Utah.

**Craig Zoellner**, *Biological Science Instructor*; 1992  
B.A., Wartburg College; M.A., University of Northern Iowa; additional course work at University of Iowa, Iowa State University, Drake University, Carleton College, University of Illinois, Northwest Missouri State, and University of Minnesota - Duluth.

### Social Science

**Joe Davis**, *Social Science Division Chair*; 2000  
B.A., Mount Mercy College; M.A., Northern Michigan University; additional course work at Iowa State University

**Nancy Fallis**, *Education Instructor*; 1998  
B.A. and M.A., University of Northern Iowa; additional course work at Mankato State University, University of Iowa, Drake University, and Indiana University

**Helen Karamitros**, *Sociology Instructor*; 1994  
A.A., North Iowa Area Community College; B.A. and M.A., University of Northern Iowa; M.A., Mankato State University, Ph.D., Capella University; additional course work at Keene State College, NH, University of Northern Iowa, Iowa State University, and Drake University

**Larry Kollman**, *Psychology Instructor*; 2005  
A.A., North Iowa Area Community College; B.A., Buena Vista University; M.S.W., Augsburg College; M.S., Capella University

**Kacy Larson**, *Education Instructor*; 1993  
A.A., North Iowa Area Community College; B.A., University of Northern Iowa; M.S., Winona State University

**Steven Long**, *Sociology/Marriage and Family Instructor*; 1990  
B.A. and M.A., University of South Dakota; additional course work at Kearney State College (Nebraska)

**Joseph (Fred) McCurnin**, *Economics Instructor*; 1990  
B.A., Augustana College; M.A., University of South Dakota; additional course work at North Dakota State University and University of Pennsylvania

**George O'Donnell**, *Criminal Justice Instructor*; 2010  
B.A., Mount Mercy College; M.S., University of Alabama

**Jeff Platt**, *Social Science and Psychology Instructor*; 1997  
B.A., St. Ambrose University; M.S., Iowa State University; Ph.D.,



## Iowa State University

**Bennett Smith**, *History/Political Science Instructor*; 2014  
B.S., Iowa State University; M.A., Colorado Christian University;  
additional course work at Dallas Theological Seminary, University  
of Iowa, and Iowa State University

**Wellness, Exercise Science and Leisure Services**

**Kathy Rogotzke**, *Wellness, Exercise Science and Leisure Services  
Division Chair*; 1994

B.A., St. Olaf College; M.S., Iowa State University; Ph.D., Iowa State  
University; additional course work at Kansas State University

**Heather DeWaard-Flickinger**, *Wellness, Exercise Science and  
Leisure Services Instructor*; 2010

B.A. and M.A., University of Northern Iowa

**Continuing Education**

**Terry Schumaker**, *Dean of Continuing Education and Economic  
Development*; 2000

A.A., North Iowa Area Community College; B.S., Mankato State  
University; M.B.A., Drake University; additional course work at  
Buena Vista University and Iowa State University

**Kristal Fritzsche**, *Office Manager*; 2015

B.A., University of Dubuque

**Business and Industry**

**Jody East**, *Sales/Program Director*; 1992

B.S., Iowa State University; M.S., Drake University; and Jonah, the  
Goldratt Institute

**Larry Haugen**, *Trade and Industry Program Manager*; 2013

B.A., Upper Iowa University

**Eric Neitzke**, *Business and Industry Program Manager*; 2010

B.S., James Madison University; M.A., Rocky Mountain College of  
Art and Design

**Community Education**

**Carol Peterson**, *Community Education Program Manager*; 2012

B.S., Westmar College; M.A.E., Iowa State University

**Pam Durrwachter**, *Program Coordinator/Charles City Center*;  
2011

A.A., Hill Junior College; B.A., Corpus Christi State University; M.A.,  
Texas A&M University; additional course work at Stephen F. Austin  
State University

**Darshini Jayawardena**, *Director of Lifelong Learning Institute*;  
2014

B.Sc. Economics, Tokyo University, Japan; M.A. International  
Economics, Sussex University, Brighton, UK; DPA (doctoral) can-  
didate, Capella University, Minneapolis, MN

**Health**

**Dena Ketelsen**, *American Health Association Training Center  
Coordinator/Health Program Specialist*; 2007  
Paraeducator Certification, Hawkeye Community College

**Adam Wedmore**, *Emergency Medical Services Program  
Manager*; 2012

A.A., North Iowa Area Community College; NREMT-P, Critical  
Care Paramedic, University of Iowa; B.S., Waldorf College; M.S.,  
Columbia Southern University

**Lorna Zrostlik**, *Long Term Care Program Manager*; 2010

A.A., North Iowa Area Community College; B.A., University of  
Northern Iowa

**Operations**

**Connie Glandon**, *Operations Director*; 2000

B.A., Wartburg College; M.S., Capella University

**Kathleen Bormann**, *Office Assistant*; 2010

A.A., Ellsworth Community College; Diploma, Hamilton Business College

**PACE**

**Heather Wright**, *Pathway Navigator*; 2000

B.A., University of Northern Iowa; National Career Readiness  
Certificate

**Kristy Molencamp**, *Pathway Navigator*; 2015

B.A., Buena Vista University; M.S. Capella University

**Retired Senior Volunteer Program**

**Molly Anderegg**, *RSVP Project Director*; 2008

B.A., University of Iowa; additional course work at Cottey College  
and North Iowa Area Community College

**Economic Development**

**Terry Schumaker**, *Dean of Continuing Education and Economic  
Development*; 2000

A.A., North Iowa Area Community College; B.S., Mankato State  
University; M.B.A., Drake University; additional course work at  
Buena Vista University and Iowa State University

**Learning Support**

**Cindy Eyberg**, *Library Interlibrary Loan/Government Documents  
Assistant*; 1999

A.A., North Iowa Area Community College

**Senora Gilley**, *Student Support Services Tutor/Supplemental  
Instruction Coordinator*; 2006

Diploma, Hawkeye Community College; A.A., Hamilton College;  
B.A., Hamilton College; additional course work at University of  
Phoenix and Capella University

**Karen Jorasek**, *Testing Center/ Assessment Specialist*; 2015  
A.S., North Iowa Area Community College; B.S., Iowa State University; M.S., Iowa State University

**Deborah Kolb-Jackson**, *Library Circulation Assistant*; 2007  
A.A., Bethany Lutheran Junior College; B.S., Mankato State College; M.S., Mankato State University

**Kim Kraus**, *Library Serials Associate*; 1984  
Clerical Diploma, Hamilton Business College; additional course work at North Iowa Area Community College

**Sandra Leake**, *Adult Education and Literacy Coordinator*; 2014  
A.A., North Iowa Area Community College; B.A. and M.A., University of Northern Iowa; additional course work at Minnesota State University

**Heather McCleary**, *Administrative Assistant, Adult Education and Literacy*; 2014  
A.A., North Iowa Area Community College; additional course work at University of Northern Iowa and University of Iowa

**Jordan Monahan**, *High School Equivalency Diploma Instructor*; 2016  
B.S. University of Iowa

**Mara Ouverson**, *Developmental Math Instructor*; 2015  
B.A. University of Iowa

**Lori Quinlan**, *Developmental Math Instructor*; 1985  
B.A., University of Northern Iowa; M.S., Iowa State University; additional course work at Drake University

**Michael Thompson**, *Developmental Reading/Writing Instructor*; 2015  
A.A. North Iowa Area Community College; B.A. University of Northern Iowa; M.A., Morningside College

**Rodney Zehr**, *Developmental Mathematics Instructor*; 2010  
A.A., Iowa Central Community College; B.A., University of Northern Iowa; M.A., University of Northern Iowa; additional course work at Portland State University, Viterbo University, Drake University, and Iowa State University

## ADMINISTRATIVE SERVICES

**Kathy Grove**, *Vice President for Administrative Services*; 1977  
A.A., North Iowa Area Community College; B.A., Buena Vista University; additional course work at Iowa State University

**Mary Cole**, *Administrative Services Office Manager*; 1988  
Diploma, American Institute of Business; additional course work at Des Moines Area Community College

**Lana Miller**, *Copy Center Supervisor*; 1986  
Course work at North Iowa Area Community College

## Bookstore

**Rhonda Nesheim-Kauffman**, *Bookstore Manager*; 1996

A.S.B., North Iowa Area Community College; B.A., Buena Vista University

## Business Office

**Mindy Eastman**, *Accountant/Business Office Manager*; 1990  
A.A., North Iowa Area Community College; B.A., Buena Vista University

**Denise Brooks**, *Business Office Clerk*; 1987  
Diploma, Hamilton Business College

**Beth Forbes**, *Payroll Clerk/Bookkeeper*; 1977  
A.A., North Iowa Area Community College.; additional course work at University of Northern Iowa

**Tammy Hain**, *Financial Aid/Bookkeeper*; 1985  
A.A., North Iowa Area Community College

**Shannon Love**, *Cashier*; 2009  
A.A.S., Legal Office Administration, Hamilton Business College

**Jamie Malek**, *Grant Accounting Assistant*; 2013  
A.A., North Iowa Area Community College; B.A., Buena Vista University

**Teresa Mathers**, *Accounts Receivable Clerk*; 2012  
A.A., North Iowa Area Community College

**Jennifer Rosauer**, *Office Assistant/Bookkeeper*; 2006  
A.A., North Iowa Area Community College; B.S., Iowa State University

## Dining Services

**Ken Webber**, *Food Service Director*; 2004

**Stephen Metz**, *Food Service Manager*; 2004

## Facilities Management

**Tony Pappas**, *Director of Facilities Management*; 1983  
Licensed Master Electrician, I.B.E.W.; A.A., North Iowa Area Community College; additional course work at Iowa State University

**John Alden**, *Custodian*; 2014

**Bill Beach**, *Custodian*; 1981

**Tom Curtis**, *Custodian*; 2014  
A.S.B North Iowa Area Community College; A.A.S. National College

**Kathy Foster**, *Facilities Event Manager*; 1998  
A.A., North Iowa Area Community College; B.A., Buena Vista University

**Dan Hicok**, *Building Maintenance*; 2003

**Roberta Hugi**, *Administrative Assistant*; 2010

A.A.S., Hamilton College

**Michael Julsen**, *Custodian*; 2015  
Coursework at NIACC

**Brandon "BJ" Krull**, *Building Maintenance*; 2011  
A.S.B., North Iowa Area Community College; B.A., Buena Vista University

**Marc Murray**, *Groundskeeper*; 2014  
A.A. North Iowa Area Community College,  
B.S Iowa State University

**Mitchell Olson**, *Buildings Supervisor*; 1995  
A.A.S., North Iowa Area Community College

**Kevin Petersen**, *Technical Maintenance*; 2001  
A.A., North Iowa Area Community College; B.S., Northwest Missouri State University; course work at Waldorf College

**David Pope**, *Mechanic*; 2008

**Stan Rick**, *Custodial Maintenance*; 2010

**Dylan Stromer**, *Ground keeper*; 2015  
B.A., University of Northern Iowa

**David Trunkhill**, *Custodial Supervisor*; 2009  
E.M.T. and National Certified Fire Fighter I, North Iowa Area Community College; Boiler Operator Level I and II, Iowa Central Community College

**Cheryl West**, *Custodial Maintenance-Student Housing*; 1976

**Denise Willshier**, *Custodian*; 2014

## HUMAN RESOURCES

**Shelly Schmit**, *Vice President of Organizational Development and Human Resources*; 1998  
A.A., Des Moines Area Community College; B.S., Iowa State University; M.S. and Ph.D., Iowa State University

**Tammie (TJ) Hirv**, *Human Resources Assistant*; 1991  
A.S.B. and A.A., North Iowa Area Community College; B.A., Buena Vista University; additional course work at University of Northern Iowa, University of Iowa, and Upper Iowa University

## INSTITUTIONAL ADVANCEMENT

**Molly Knoll**, *Director of Institutional Advancement*; 2003  
A.A., North Iowa Area Community College; B.A., University of Northern Iowa

**Andrea Mujica**, *Assistant Director of Institutional Advancement*; 2015  
A.A., North Iowa Area Community College; B.A., Buena Vista University

**Jana Barracks**, *Grant Writer/Fund Development Specialist*; 2010  
B.S., University of Colorado at Boulder; additional course work at

Metropolitan State College

**Kendra Shimak**, *Administrative Assistant for Institutional Advancement* 2015  
B.S., Iowa State University

## JOHN PAPPAJOHN ENTREPRENEURIAL CENTER

**Tim Putnam**, *Director of John Pappajohn Entrepreneurial Center*; 2000  
B.S., Kansas State University; M.P.A., Drake University

**Kelley Crane**, *School Partnership Entrepreneurial Coordinator*; 2006  
B.S., Northwest Missouri State University

**Mary Spitz**, *Administrative Assistant, John Pappajohn Entrepreneurial Center*; 2008  
B.A., Campbell University, NC

**Dan Winegarden**, *Director of Incubation and Acceleration Services*; 2012  
B.A., Iowa State University; J.D., University of Iowa College of Law

## Small Business Development Center

**Brook Boehmler**, *Director of Small Business Development Center*; 2013  
B.S., Missouri State University; M.B.A., University of New Mexico

**Mary Spitz**, *Administrative Assistant, John Pappajohn Entrepreneurial Center*; 2008  
B.A., Campbell University, NC

## MARKETING, PUBLIC RELATIONS AND GOVERNMENTAL AFFAIRS

**Valerie Zahorski-Schmidt**, *Director of Marketing and Community Relations* 2015  
B.S., University of Wisconsin-River Falls; M.S., St. Cloud State University

**Joan Estlund**, *Web Assistant/Customer Liaison*; 2012  
A.A.S., North Iowa Area Community College; A.S.B./I.S.T., North Iowa Area Community College

**Joshua Miller**, *Web Manager*; 2012  
B.A., Collins College

**James Zach**, *Graphic Artist*; 1995  
A.A., North Iowa Area Community College; B.A., Iowa State University

## STUDENT SERVICES

**Terri Bonner Ewers**, *Vice President for Student Services*; 1988  
A.A., North Iowa Area Community College; B.A., University of

Northern Iowa; M.S., Iowa State University; Ed.S., Ed.D., Drake University

**Sandra Harrington**, *Office Manager*; 1981  
Diploma, North Iowa Area Community College

## Athletics

**Dan Mason**, *Director of Athletics*; 2006  
B.A., North Park University; M.A., Minnesota State University-Mankato

**Christine Brandt**, *Head Volleyball Coach*; 2007  
B.A., University of Northern Iowa; M.A., Morningside College; additional course work at Drake University

**Todd Ciochetto**, *Head Women's Basketball Coach*; 2014  
B.S., University of Wisconsin-River Falls

**Chris Frenz**, *Head Men's and Women's Golf Coach*; 2006  
Broadcasting Certification, Brown Institute

**Kirk Hardcastle**, *Sports Information Director/Recreation Center Coordinator*; 2012  
B.S., Iowa State University

**Travis Hergert**, *Head Baseball Coach*; 2004  
A.A., Kirkwood Community College; B.A., Mount Mercy College

**Steve Kelly**, *Head Wrestling Coach*; 2009  
A.A., Iowa Central Community College; B.S., Iowa State University

**Mark Mohl**, *Head Men's Basketball Coach*; 2008  
A.A., Kirkwood Community College; B.S., Morningside College

**Jonathan Platt**, *Head Men's Soccer Coach*; 2003  
M.A., University of Manchester, UK

**Curtis Vais**, *Head Track and Cross Country Coach/Athletic Event Coordinator*; 2004  
B.A., Mount Saint Claire College

**Mark Vrba**, *Athletic Trainer*; 2008  
B.A., University of Northern Iowa; M.S., California University of Pennsylvania

**Christina Weiser**, *Head Softball Coach/Instructor*; 2014  
B.S. Regis University; M.S. California University of Pennsylvania

## Counseling/Academic Advising/Career Services

**Trudy LaBarr**, *Director of Student Development/Health Counselor*; 1998 B.S.E., Arkansas State University; M.R.C., Arkansas State University; Ed.S., Arkansas State University; additional course work at Peabody College and Vanderbilt University

**Jody Fink**, *Administrative Assistant-Disability and Career Services*; 1985  
A.S.B., North Iowa Area Community College

**Laura Holtz**, *Counseling/Advising Office Assistant*; 2012  
A.S.B., North Iowa Area Community College; Graduate of La James College

**Ryan Johnson**, *Academic Advisor*; 2015  
B.A., Ball State University; M.F.A., Minnesota State University; additional coursework at Texas Tech University

**Kathryn Long**, *Counselor/Student Conduct Liaison*; 2002  
B.A., Clarke College; M.P.S., Loyola University; L.M.S.W.; Global Career Development Facilitator Certificate

**Lisa Vance**, *Disability Services Counselor*; 2006  
A.A., Iowa Central Community College; B.S., University of Iowa; M.A., University of Iowa

## TRIO Student Support Services

**Jennifer Patterson**, *Director of TRIO Student Support Services/Counselor*; 2000  
A.A.S., North Iowa Area Community College; B.A., Buena Vista University; M.S., Capella University

**Senora Gilley**, *TRIO Student Support Services Tutor/Supplemental Instruction Coordinator and Success Coach*; 2006  
Diploma, Hawkeye Community College; A.A., Hamilton College; B.A., Hamilton College; additional course work at University of Phoenix and Capella University

**Gary Herrig**, *TRIO Student Support Services Counselor/Student Senate Advisor*; 2007  
B.S., University of Iowa; M.S., Drake University; additional course work at Iowa State University

**Andrea Schweizer**, *Administrative Office Assistant - TRIO Student Support Services*; 2007  
A.S., A.S.B., A.A., North Iowa Area Community College

## Enrollment Services

**Rachel McGuire**, *Director of Enrollment Services*; 1993  
A.A., North Iowa Area Community College; B.A., University of Northern Iowa; M.F.C.S., Iowa State University; additional course work at Mankato State University

**Tanya Dadisman**, *Administrative Assistant, Enrollment Services*; 2007  
A.A., North Iowa Area Community College; B.A., University of Northern Iowa

**Chris Frenz**, *Enrollment Advisor*; 2006  
Broadcasting Certification, Brown Institute; additional course work at North Iowa Area Community College

**Valeria Gonzalez**, *Enrollment Advisor*; 2013  
B.A., University of Northern Iowa; Culinary Arts Diploma, Western Culinary Institute

**Brittney Jost**, *Admission Representative*; 2014  
A.A., North Iowa Area Community College; B.A., University of Northern Iowa

**Steve Kelly**, *Enrollment Advisor*; 2009  
A.A., Iowa Central Community College; B.S., Iowa State University

**Cindy Lind**, *Financial Management/Enrollment Advisor*; 2005  
A.A., North Iowa Area Community College; B.A., Iowa State University; additional course work at Drake University, Iowa State University, and North Iowa Area Community College

**Mark Mohl**, *Enrollment Advisor*; 2008  
A.A., Kirkwood Community College; B.S., Morningside College

**Mary Jo Vrba**, *Enrollment Advisor*; 2003  
A.A. and A.S., North Iowa Area Community College; B.A., Wartburg College; additional course work at University of Northern Iowa

## Financial Aid

**Mary Bloomingdale**, *Director of Financial Aid*; 1991  
B.A., University of Iowa; additional course work at Iowa State University; additional course work at Iowa State University

**Rhonda Groshens**, *Office Assistant, Financial Aid*; 2007  
A.A., North Iowa Area Community College

**Dona Heimbuch**, *Financial Aid Advisor*; 2016  
A.S.B., North Iowa Area Community College

**Denise Petersen**, *Office Assistant*; 2010  
A.S. and Diploma, North Iowa Area Community College

**Abbie Steinberg**, *Associate Director of Financial Aid* 2013  
B.S., Iowa State University

**Jacob Nolton**, *Financial Aid Advisor*; 2014  
B.S. and M.A., University of South Dakota

## Housing

**Travis Hergert**, *Director of Housing/Head Baseball Coach*; 2004  
A.A., Kirkwood Community College; B.A., Mount Mercy College

**Deb Smith**, *Housing Office Assistant/Campus Facility-ICN Scheduler*; 1997  
Diploma, North Iowa Area Community College

**Kristin Brown**, *Housing Head Resident/C-Store Manager*; 2014  
B.A. Graceland University; Additional coursework at Buena Vista University

**Jeremy Winters**, *Housing Head Resident/ Intramural Coordinator/ Student Senate Co-advisor*; 2014  
A.A. Iowa Lakes Community College; B.A. Waldorf College

## Records and Registration

**Michelle Petznick**, *Registrar*; 1996  
A.A., North Iowa Area Community College; B.A., University of Northern Iowa

**Terri Beland**, *Records Office Assistant*; 2010

A.S. and Diploma, North Iowa Area Community College

**Angie DeVries**, *Registration/Course Scheduling Coordinator*; 1998  
A.S.B., North Iowa Area Community College

**Connie Notermann**, *Records Office Assistant*; 2010

**Mary Wendt**, *Assistant Registrar/Student Records Research Coordinator*; 1976  
A.A., North Iowa Area Community College

## School Partnerships

**Brian Wogen**, *Director of Secondary School Partnerships*, 2015  
B.A., Iowa State University; M.A., Iowa State University

**Barbara Erickson**, *Administrative Office Assistant*; 2007

**Mary Schultz**, *Career Connections Director*; 2010  
A.A., North Iowa Area Community College; B.A., Iowa State University

## Vocational Rehabilitation

**Colleen Dahle**, *Rehabilitation Associate*

## TITLE III

**Patti Hanson**, *Title III Director*; 2014  
A.A. North Iowa Area Community College; B.A. Buena Vista University; M.S. Drake; Additional coursework at University of the Rockies

**Erica McBride**, *Administrative Assistant*; 2015  
A.A. North Iowa Area Community College; L.P.N., Hawkeye Community College

## TECHNOLOGY SERVICES

**Chad Aderman**, *Computer Media Technician*; 2016  
A.S., North Iowa Area Community College; B.A., Carson-Newman College

**Greg Bailey**, *Director of Enterprise Applications (Ellucian)*; 2010

**Diane Bissig**, *Programmer-Analyst/Web System Administrator*; 1995  
Diploma, Indian Hills Community College

**Brian Charlton**, *Computer Lab Technician Supervisor*; 1999  
A.A.S. Degree, Hamilton Business College; A.A. Degree, Iowa Central Community College

**Tom Crowley**, *Technical Support Specialist & Coordinator*; 1993  
Electronics, Austin Vocational Technical Institute; additional course work at Iowa State University

**Jim Degen**, *Applications Programmer/Network Manager*; 1989  
A.A., North Iowa Area Community College; B.S., Iowa State University; additional course work at North Iowa Area Community College

**Mark Greenwood**, *Director IT Security and Infrastructure*; 1989  
B.A., Central College

**Dennis Klemas**, *Server Administrator/Desktop Management Technician*; 1998  
A.A.S., North Iowa Area Community College

**Lisa Ludwig**, *SQL Reporting/Application Analyst*; 1999  
A.A., Waldorf College; Microsoft Network Engineer Certificate, Hamilton College; B.A., Buena Vista University; additional course work at Mankato State University

**Bruce McKee**, *Instructional Technology Coordinator*; 1991  
B.F.A., University of Minnesota; M.A., University of Northern Iowa

**Beckie Minear**, *System Administrator/Programmer-Analyst*; 2007  
Diploma, A.S.B., and A.A., North Iowa Area Community College

**Michael Munshower**, *Technical Support Specialist*; 2013  
Course work at North Iowa Area Community College

**Lois Spieker**, *Help Desk/Media Technician*; 1989  
A.A., North Iowa Area Community College

**Heather DeGroote**, *Employment Training Youth Specialist*; 2011  
B.A., Waldorf College; National Career Readiness Certificate

**DeAnn Halligan**, *Employment Training Youth Specialist*; 2011  
A.A., North Iowa Area Community College; B.A., University of Northern Iowa; National Career Readiness Certificate

**Heather Stubbe**, *Employment Training Specialist/Employment Network Coordinator (Ticket to Work)*; 2007  
B.A., Morningside College; National Career Readiness Certificate

## WORKFORCE DEVELOPMENT PARTNERSHIP

**Chris Hannan**, *Regional Workforce Investment Act Director*; 2015  
B.S., Iowa State University; M.S., Iowa State University

**Kristi Dunn**, *Office Manager*; 2010  
Diploma, Anoka-Hennepin Technical College; additional course work at Kaplan University

### Iowa Advanced Manufacturing Grant

**Renee Anderson-Bartz**, *Project Coordinator*; 2014  
A.A., North Iowa Area Community College; B.A., University of Northern Iowa; SPHR/SHRM-SCP Certified Employment Specialist - University of Missouri-Columbia; National Career Readiness Certificate

### Workforce Investment Act

**Angela Backhaus**, *Employment Training Specialist*; 2009  
A.A., Waldorf College; B.A., Augustana College; additional course work at Riverland Community College and North Iowa Area Community College; National Career Readiness Certificate

**David Bird**, *Employment Training Specialist*; 2009  
B.A., University of Northern Iowa; National Career Readiness Certificate



# Index

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Accounting 34–36	DSL (Diesel) .....	126
Accounting - Certificate .....	ECE (Early Childhood Education) .....	127
Accounting - Degree .....	ECN (Economics) .....	128
Accounting - Diploma .....	EDU (Education) .....	128
Accreditation .....	EGR (Engineering) .....	129
ADN Option for Licensed Practical Nurses .....	EGT (Engineering Technology) .....	129
Agricultural Marketing and Finance - Degree .....	ELT (Electronics) .....	130
Agricultural Operations Management - Degree .....	EMS (Emergency Medical Services) .....	131
Agricultural Sales and Service - Degree .....	ENG (English Composition) .....	131
Agriculture Division .....	ENV (Environmental Science) .....	132
Agriculture Technology - Diploma .....	ESL (English as a Second Language) .....	132
Arts & Sciences Division .....	FIN (Finance) .....	133
Degree Requirements .....	FLS (Foreign Language - Spanish) .....	133
Placement .....	GEO (Geography) .....	134
Student Plan for Associate of Arts Degree .....	GEO (Geography - Online ICCOC) .....	160
Two-Year Plans .....	HCM (Hospitality, Culinary and Management) .....	134
Automotive Service Technology - Diploma/Degree .....	HCR (Heating and Air Conditioning) .....	134
Board of Directors .....	HIS (History) .....	135
Building Trades - Diploma .....	HIS (History - Online (ICCOC) .....	160
Business Division .....	HIT (Health Information Technology) .....	136
Career Academies .....	HSC (Health Sciences) .....	136
Career Link Programs and Classes .....	HSV (Human Services) .....	137
Career Programs .....	HUM (Humanities) .....	137
Coaching Authorization .....	IND (Industrial Technology) .....	137
College Transfer Programs .....	JOU (Journalism) .....	137
Continuing Education .....	LIT (Literature) .....	138
Business Management .....	MAP (Medical Assistant) .....	138
Community Education .....	MAT (Mathematics) .....	139
Computer Skills .....	MFG (Manufacturing) .....	141
Health and Wellness .....	MGT (Management) .....	143
Lean Enterprise .....	MKT (Marketing) .....	143
Lifelong Learning Institute .....	MLT (Medical Lab Tech) .....	143
Manufacturing Skills & Processes .....	MUA (Music - Applied) .....	143
Online, ICN & Facilities .....	MUS (General Music) .....	146
Retired Senior Volunteer Program .....	NET (Computer Networking) .....	148
State Funding Programs .....	PEA (Physical Education Activities) .....	149
Course Catalog Numbering System .....	PEC (Coaching Officiating) .....	150
Course Descriptions .....	PEH (General Physical Education and Health) .....	150
ACC (Accounting) .....	PET (Physical Education Training) .....	151
ADM (Administrative Assistant) .....	PEV (Intercollegiate Physical Education) .....	151
ADN (Nursing) .....	PHI (Philosophy) .....	152
AGA (Agriculture) .....	PHS (Physical Science) .....	152
AGB (Agriculture - Business) .....	PHY (Physics) .....	152
AGC (Agriculture-Comprehensive/Miscellaneous) .....	PNN (Practical Nursing) .....	152
AGM (Agriculture - Mechanics) .....	POL (Political Science) .....	153
AGP (Precision Agriculture) .....	PSY (Psychology) .....	153
AGS (Agriculture - Animal Science) .....	PTA (Physical Assistant) .....	154
ANT (Anthropology) .....	RAD (Radiology Technology) .....	155
ART (Art) .....	RDG (Reading) .....	156
ASL (American Sign Language) .....	REL (Religion - Online ICCOC) .....	160
AUT (Automotive Technology) .....	SDV (Student Development) .....	156
BCA (Business Computer Application) .....	SOC (Sociology) .....	157
BIO (Biology) .....	SPC (Speech) .....	157
BMA (Building Maintenance) .....	WEL (Welding) .....	158
BUS (Business) .....	WTT (Wind Turbine Technology) .....	159
CAD (Computer-Aided Drafting) .....	Degree Requirements .....	6–7, 101, 109
CFR (Computer Forensics) .....	Associate Degrees .....	6
CHM (Chemistry) .....	Associate in Applied Science .....	6
CIS (Computer Programming) .....	Associate in Arts (A.A.) .....	6, 101
CON (Construction) .....	Associate in General Studies .....	7
CRJ (Criminal Justice) .....	Associate in Science .....	6
DRA (Film and Theatre) .....	Certificates .....	7

Diplomas .....	7	Learning Support Division .....	16
Online Degree Requirements .....	109	Library .....	17
Diesel Technology - Degree .....	85	Location and History .....	4
Disability Services .....	10	Long Term Care .....	67
Emergency Medical Services .....	66	Majors .....	19
Enrollment Services .....	11–14	Marketing/Management .....	41–50
Admissions .....	12	Business Administration - Degree .....	43
Applying to the College .....	12	Entrepreneurship and Small Business Management .....	41
College Essentials .....	13	Foundations in Business - Certificate .....	43
High School Students .....	12	Fundamentals of Hospitality Management - Certificate .....	46
International Students .....	12	Graphic Design .....	44–45
New Student Registration .....	12	Graphic Design-Certificates .....	44
Summer School Students .....	12	Graphic Design-Degree .....	45
School Partnerships .....	13	Hospitality Management - Degree .....	46
Facilities/Services .....	7–9	Insurance and Financial Management - Degree .....	47
Agriculture Technology Lab .....	7	Management - Diploma .....	48
Athletic/Recreational Fields .....	7	Marketing and Sales - Degree .....	49
Business Training and Support .....	8	Pappajohn Entrepreneurial - Certificate .....	42
Career Counseling and Employment Center .....	7	Sport Management .....	50
Conference Center .....	8	Medical Assistant - Diploma .....	68
Laboratories .....	8	Medical Laboratory Technician - Degree .....	69
Library .....	8	Nondiscrimination Policy .....	10
North Iowa Community Auditorium .....	8	North Iowa Area Community College Foundation .....	10
On-Campus Housing .....	8	Nursing-Associate Degree (RN) .....	70
Recreation Center .....	8	Office Hours .....	10
Small Business Assistance .....	8	Online Courses Leading to an Associate Degree .....	108
Student Activity Center .....	8	Physical Fitness and Wellness - Diploma/Certificate .....	80
Student Learning Center .....	8	Physical Therapist Assistant - Degree .....	76
Tobacco-Free Campus .....	9	Post Secondary Enrollment Options (PSEO) .....	13
Family & Human Services .....	58–62	Practical Nursing (LPN)- Diploma .....	74
Early Childhood Education - Diploma .....	61	Professional Administrative Services .....	51–57
Human Services - Certificate .....	62	Administrative Office Associate - Diploma .....	51
Criminal Justice - Certificate/Degree .....	60	Administrative Office Specialist - Degree .....	52
Fundamentals of Hospitality Management - Certificate .....	46	Legal Office Associate - Diploma .....	53
General Education .....	5	Legal Office Specialist - Degree .....	54
Definition .....	5	Medical Administrative Assistant - Degree .....	56
General Education Program .....	5	Medical Administrative Assistant - Diploma .....	55
Philosophy .....	5	Software Applications Specialist - Certificate .....	57
General Education and Other Transfer Courses .....	96–100	Project Lead The Way (PLTW) .....	14
General Education Course Categories for Associate in Applied Science and Diploma Programs .....	92	Radiologic Technology - Degree .....	78
General Information .....	3	School Partnerships Division .....	13
General Machinist - Diploma .....	88	Staff .....	164–172
Health Division .....	64–81	Academic Affairs .....	164
Heating and Air Conditioning Technology - Diploma/Degree .....	87	Administrative Services .....	168
Industrial Division .....	82–91	Agricultural Technology .....	164
Industrial Systems Technology - Diploma/Degree .....	89	Athletics .....	170
Industrial Technology - Certificate/Diploma/Degree .....	90	Bookstore .....	168
Information Technology .....	37–40	Business .....	164
Business Technology Specialization - Degree .....	37	Business Office .....	168
Foundations of Technology - Certificate .....	38	Communication .....	164
Information Assurance and Security - Degree .....	39	Continuing Education .....	167
Information Technology Specialist - Degree .....	40	Counseling/Academic Advising/Career Services .....	170
Instructional Resources .....	15	Dining Services .....	168
Adult Education and Literacy .....	16	Economic Development .....	167
Learning Support Division .....	16	Enrollment Services .....	170
Library .....	17	Facilities Management .....	168
Mastery Math, Mastery Writing, and Mastery English as a Second Language (ESL) .....	16	Financial Aid .....	171
Prior Learning Assessment .....	16	Fine Arts and Humanities .....	165
Student Learning Center .....	16	Health .....	165
		Housing .....	171
		Human Resources .....	169

Industrial .....	165
Institutional Advancement .....	169
Iowa Advanced Manufacturing Grant .....	172
John Pappajohn Entrepreneurial Center .....	169
Learning Support .....	167
Marketing, Public Relations and Governmental Affairs ..	169
Mathematics .....	166
Natural Science .....	166
PACE .....	167
Performing Arts .....	164
President .....	164
Records and Registration .....	171
School Partnerships .....	171
Social Science .....	166
Student Services .....	169
Technology Services .....	171
TRiO Student Support Services .....	170
Workforce Development Partnership .....	172
Workforce Investment Act .....	172
Table of Contents .....	2
Technology Services .....	17
Iowa Communications Network (ICN) .....	17
Online Instruction and Support .....	17
Tool and Die Technology - Degree .....	88
Welding - Certificate/Diploma .....	91



# NORTH IOWA AREA COMMUNITY COLLEGE

