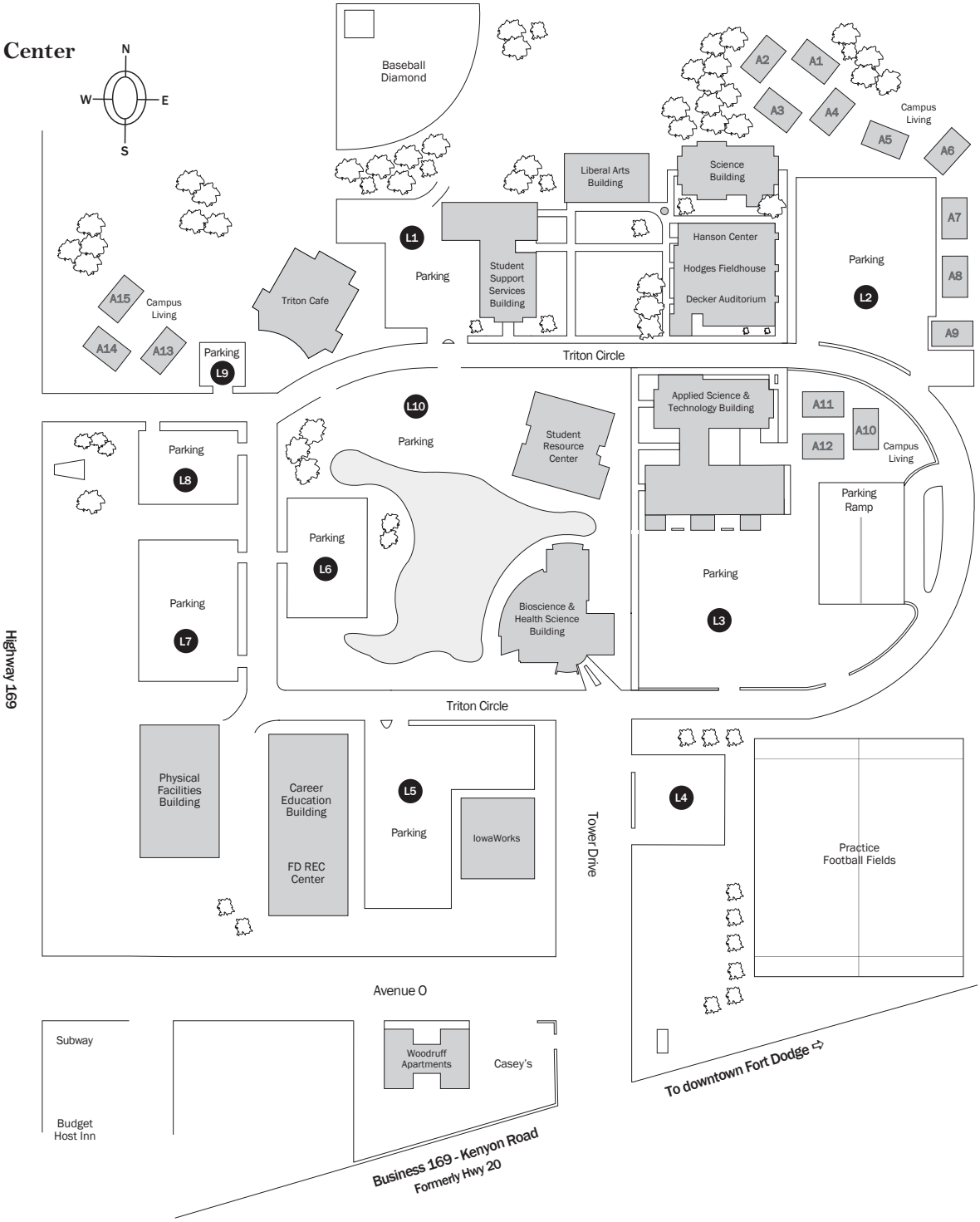
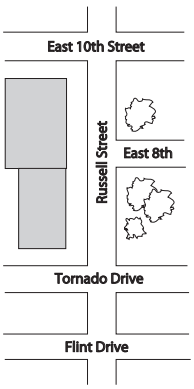
IOWA CENTRAL COMMUNITY COLLEGE

2013-2014 GENERAL CATALOG

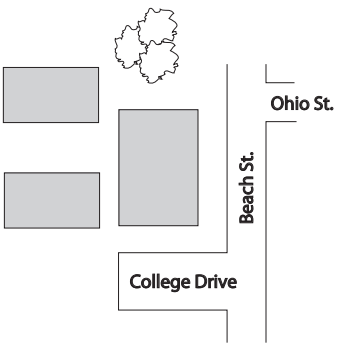
Fort Dodge Center



Storm Lake Center



Webster City Center



IOWA CENTRAL COMMUNITY COLLEGE

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Webster City Center
1725 Beach Street
Webster City, Iowa 50595
(515) 832-1632
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Table of Contents

2013-2014 Calendar

First Semester

Aug. 27	First Semester Classes Begin
Sept. 2	Labor Day Holiday
Sept. 3	Last Day to Register and/or Add a Course(s)
Nov. 22	Last Day to Withdraw from a Course(s)
Nov. 25-29	Thanksgiving Holiday and Break
Dec. 16-19	Final Examinations
Dec. 19	End of First Semester
Dec. 20-Jan. 8	Christmas Holiday, New Year's Holiday, and Break

Interim Session December 20, 23, 26, 27, 30, January 2, 3, 6, 7

Second Semester

Jan. 14	Second Semester Classes Begin
Jan. 20	Last Day to Register and/or Add a Course(s)
March 17-21	Spring Break
April 11	Last Day to Withdraw from a Course(s)
April 17-18	Good Friday Break
May 6-9	Final Examinations
May 9	End of Second Semester
May 9	Commencement

Summer Sessions

May 14	Summer Semester Classes Begin
May 26	Memorial Day Holiday - No Classes
June 11	34 Week Applied Science and Technologies Programs End
June 25	36 Week Applied Science and Technologies Programs End
July 4	Independence Day Holiday - No Classes
July 10	38 Week Applied Science and Technologies Programs End
July 17	39 Week Applied Science and Technologies Programs End

Key Extensions at Iowa Central

515-574-ext.# or 1-800-362-2793 or www.iowacentral.edu

Admissions ..... ext. 1008
Business & Industrial Technology Dean ..... ext. 1284
Business Office ..... ext. 1066, 1067, 1068, 1069, 1070
Distance Learning Dean ..... ext. 1097
Financial Aid ..... ext. 1030, 1031, 1032, 1033, 1034, 1035
Health Sciences Dean ..... ext. 1312
Housing ..... ext. 1086
Liberal Arts & Sciences Dean ..... ext. 1190
Registrar ..... ext. 1022, 1023, 1021, and 1020
Transportation Center ..... ext. 1967, 1964, 1965, and 1966
VP of Instruction ..... ext. 1149
VP of Enrollment Management ..... ext. 1050

GENERAL INFORMATION

Mission Statement
Iowa Central Community College provides quality educational opportunities.

Vision Statement
Innovation, excellence, and continuous improvement define our college where the focus is on the learner and on the appreciation of diversity.

Iowa Central Community College will:
- Promote instructional excellence
- Serve lifelong learning needs
- Meet the changing needs of our workforce
- Strengthen partnerships
- Enhance customer service
- Increase retention and completion
- Prepare students for workforce/transfer success
- Increase community awareness
- Increase efficiency
- Improve and enhance technology
- Maintain accessibility and affordability.

Philosophy
It is the philosophy of Iowa Central Community College, as a comprehensive community college, to aid in developing our citizens' capabilities to the maximum.

Iowa Central provides a flexible program to satisfy the needs of the individual and the needs of the community.

An educational environment is planned to provide experiences for those who desire pre-professional courses, improvement of educational or technical skills, or developmental programs for self-enrichment. This environment can be on campus or on-site.

In concert with this mission, Iowa Central offers
- college transfer courses,
- career and technical training,
- general education,
- recreation and personal enrichment programs,
- economic development,
- community service activities for people with diverse interests, needs, backgrounds and skills and
- adult basic education.

History
Iowa Central Community College was organized in 1966 with a broad mandate to offer a vast array of educational opportunities to the residents of its nine-county area. Iowa Central was built on the firm foundation of three area junior colleges which had been operating since the 1920s by the local public school systems. They were Fort Dodge, organized in 1921; Webster City, 1926; and Eagle Grove, 1928 (The Eagle Grove center was closed in 2004). Iowa Central came into being as a result of the Area School Act passed by Iowa's 61st General Assembly. The legislation authorized two or more county school systems to merge to form an area community college. Nine counties combined to create Iowa Central: Buena Vista, Calhoun, Greene, Hamilton, Humboldt, Pocahontas, Sac, Webster and Wright. The resulting Merged Area V has some 28,000 students in 29 public school districts.

In 1971, a fourth center was added with the completion of a new building in Storm Lake. The Storm Lake Center originally was established to serve 12 public and private school systems in Buena Vista County as a secondary career education center. In the ensuing years, the Storm Lake Center has been expanded so that now it offers the full range of community college programs.

In 1975, Iowa Central joined with Buena Vista College in Storm Lake in a cooperative venture whereby students can earn a bachelor's degree attending evening classes. The students' first two years are completed at Iowa Central and the final two years at Buena Vista at the Fort Dodge Center.

Accreditation
Accreditation: Accredited by the Higher Learning Commission and a member of the North Central Association, www.ncahigherlearningcommission.org, telephone (800) 621-7440.

August 1967	College granted Federal Fund Eligibility
August 1969	College granted Correspondent Status
March 1971	College granted Recognized Candidate for Accreditation Status
July 1973	College became Candidate for Accreditation under the new policy
March 1974	College granted Accredited Status
July 1979	Accreditation reaffirmed
June 1984	Accreditation reaffirmed
June 2001	Accreditation reaffirmed
September 2002	College granted Associate of Arts Degree Online
July 2005	College granted Associate of Science & Associate of Applied Sciences Degrees Online
November 2011	Accreditation reaffirmed for ten years

Compliances
Discrimination Complaint Procedures Policy Statement
It is the policy of Iowa Central Community College to provide for the prompt, fair and impartial consideration and disposition of complaints involving issues of discrimination on grounds of race, religion, sex, age, national origin or disability without fear of reprisal or sanctions. For this purpose, the following complaint procedures are instituted for all Iowa Central Community College employees, students and all persons who have submitted application for employment or admission. Iowa Central Community College assures that full cooperation will be provided to any individual who files a complaint of discrimination. Further, the College is committed to a program of Affirmative Action (AA) and will carry out, as appropriate in each individual case, the terms of the complaint adjustment. Persons wishing to file a complaint may decide to resolve the matter through the informal complaint procedure, the formal complaint procedure, or both, following the steps outlined in the Student Discrimination Complaint Process section. The complainant may contact the AA/EEO Officer at any time for advice. The AA/EEO Officer at Iowa Central is Kim Whitmore, Ext. 1138.

Family Education Right and Privacy Act (FERPA)
The Family Educational Rights and Privacy Act (FERPA) is a Federal law that protects the privacy of student education records. An "eligible" student under FERPA is a student who is 18 years of age or who attends a postsecondary institution. These rights begin on the day the student begins attending classes. Iowa Central Community College has defined directory information that is available to the public. The Student Records Office will provide a form to be completed by students who want their directory information held. Iowa Central also provides a form to be completed by students who want their non-directory information released to others. This form is available to students via WebAdvisor or via paper copy from the Student Records Office. Examples of the forms are included in this handbook on pages 53-54.

What is Directory Information?
Name, Address, Telephone, Personal e-mail address, Iowa Central E-mail address (cannot be excluded. Owned and operated by Iowa Central.), Major, Date of Birth, Degrees, Honors & Awards, Weight and Height of Athletic Team Members, Dates of attendance, Enrollment Status (e.g. Full time or Half time), Participation in recognized activities and sports, and Previous education institutions attended.

What is not Directory Information?
Grades—class attendance and progress, Grade Point Average (GPA), Race, Gender, Social Security Number, Student ID Number, Country of Citizenship, Business Office Billing Data, Class Schedules—courses and/or time of day, and Financial Aid Information.

Student Rights and Responsibilities
Students of the College have both rights and responsibilities as described in the Iowa Central Community College Student Handbook and in Board Policy. Iowa Central's mission is to promote intellectual discovery, physical development, social and ethical awareness, and economic opportunities for all through an education that transforms lives, strengthens community, and inspires progress. This can occur in an environment that fosters intellectual inquiry within a climate of academic freedom and integrity. Students and instructors are expected to promote these goals in the context of inclusiveness, mutual respect, and tolerance of others, as ideas are explored, facts gathered, opinions weighed, and conclusions drawn.

Process for Student to Express Academic Concerns and Complaints
From time to time, a student may have concerns about such issues as scholastic dishonesty, discrimination, disability accommodations, or grading grievance. If the student's concern relates to:

- Educational records, the student should follow the review/grievance procedures in Board Policy Number 404, Access to Educational Records;
- A finding of scholastic dishonesty, the student should follow the appeal process in Board Policy Number 407, Scholastic Dishonesty;
- A student grade, the student should follow the review procedure in Board Policy Number 408, Student Grade Appeal;
- Conduct by the instructor perceived by the student to be a violation of the College's non-discrimination/harassment policy, the student should follow the complaint procedure in Board Policy Number 414, Discrimination Process; or
- A student may have other academic concerns and complaints about a particular classroom experience, specific curricular matters, instructor conduct in the classroom or in another instructional setting that adversely affects the learning environment, misuse of instructor authority to promote a political or social course within an instructional setting, inequities in assignments, scheduling of examinations at other than published times. If such concerns arise, the student should follow the procedure in Board Policy 415 described below:
  1. Ordinarily, the student should first attempt to resolve the concern with the instructor.
  2. If after meeting with the instructor, the student believes his/her concern is not resolved, or, if the student does not feel, for whatever reason, he/she can directly approach the instructor, the student should meet with the division dean. This meeting shall be scheduled within 10 calendar days after meeting with the instructor. The division dean shall investigate the concern fully, including meeting with the instructor and the student and attempt to resolve the concern.
  3. If the concern is not resolved to the satisfaction of the student, the student may submit within five calendar days after the meeting with the division dean, a written summary of his/her concern to the Vice-President of Instruction. The Vice-President will confer with the division dean, the instructor, and the student in an attempt to resolve the concern.

Student Discrimination Complaint Process

Iowa Central Community College's policies concerning special accommodations, non-discrimination and prohibitions against sexual abuse and/or harassment are prescribed in Board of Director policies and in the Iowa Central Community College Student Handbook.

If the student's concern is one of perceived discrimination, abuse, and/or harassment based on sex, age, race, religion, national origin, sexual orientation, color, creed, or disability, the student may use the informal or formal complaint procedure described below:

Informal Complaint Procedures

1. An informal complaint regarding perceived discrimination, abuse, and/or harassment may be presented by the student to the Vice-President of Instruction or his/her designate. This informal discussion shall occur within 14 calendar days after the concern causing the student to believe discrimination has occurred or within 14 calendar days after he/she has discovered the concern, provided the discovery is within six months of the occurrence. At this informal discussion, the student and the Vice-President of Instruction may each request the presence of the College AA/EEO Officer.
2. Within three calendar days of receipt of the student's informal complaint, the Vice-President of Instruction and/or his/her designate shall investigate the complaint in accordance with Iowa Central policy and take corrective action as warranted.

Formal Complaint Procedures

1. A formal (written) complaint regarding perceived discrimination, abuse, and/or harassment may be presented by the student to the College's AA/EEO Officer. The student's written complaint must be delivered to the AA/EEO Officer's office within 30 calendar days following the occurrence of the concern which causes the student to believe discrimination, abuse, and/or harassment has occurred, or within 30 calendar days after he/she discovered the concern. The written complaint should contain the date of occurrence of the concern, location, party or parties involved, names of witnesses, and the facts forming the basis of the complaint.
2. The student will have an interview with the AA/EEO Officer to discuss the complaint. The AA/EEO Officer shall advise the student as appropriate of the following rights:
   a. The student may, at any time within the complaint procedure, but within 90 days of the occurrence of the concern, file a complaint with the Human Rights Commission in Fort Dodge;
   b. The student may file a complaint with the Iowa Civil Rights Commission in Des Moines within180 days of the occurrence of the concern, and with the U.S. Equal Employment Opportunity Commission in Kansas City within 360 days of said occurrence; and
   c. The student may file a complaint with any other appropriate agency (ies).
3. The AA/EEO Officer, within 21 calendar days after the first meeting with the student and review of the written complaint, shall conduct a complete investigation into the complaint. The AA/EEO Officer may conduct an investigation personally or through the use of a qualified fact-finder selected from a list of College employees trained by the AA/EEO Officer or an appropriate agency for this purpose. This inquiry will include a thorough and documented review of the circumstances under which the alleged complaint occurred. The inquirer shall be permitted access to relevant data and to all individuals identified by the student as having knowledge of the alleged complaint and all individuals who may be identified by the instructor to be interviewed.
4. The AA/EEO Officer will contact the student within 10 calendar days after the completion of the investigation and provide to the student a written finding of the investigation. The AA/EEO officer will thereafter recommend to the appropriate College official corrective action as warranted.
5. If the complaint is not resolved to the student's satisfaction, the student may within 10 calendar days of receipt of the AA/EEO officer's findings, request, in writing, that the College's President review the complaint. The President will review the complaint and take such action as he/she deems appropriate including, but not limited to, the recommendation of action to the Board of Directors.

These procedures will be regarded as minimum standards for furnishing any person an opportunity to be heard on complaints regarding suspected acts of discrimination, abuse, and/or harassment.

At every level of the informal or formal complaint procedure, Iowa Central personnel involved in the investigation and attempted resolution of the complaint, recognize and respect the student's need for confidentiality as to these types of concerns and will honor a student's request for confidentiality to the extent permissible recognizing also the rights of the instructor whose conduct is the subject of the complaint. The student may withdraw his/her complaint at any time during the informal or formal complaint procedures.

Sexual Harassment Prohibition

All members of Iowa Central Community College, including, but not limited to, the administration, the faculty, the staff, and students are expected to conduct themselves at all times so as to provide an atmosphere free from sexual harassment. This includes, but is not limited to, interaction between faculty and students. Any person who engages in sexual harassment as a member of Iowa Central Community College will be in violation of this policy and subject to disciplinary procedures, which may include termination. Sexual harassment is defined as any unwelcome sexual advance, request for sexual favors, or other verbal or physical contact of a sexual nature when

1. Submission to such conduct is made either explicitly or implicitly a term or condition of an individual's employment or educational development; or
2. Submission to or rejection of such conduct by an individual is used as the basis for either employment or education decisions affecting such individual; or
3. Such conduct has the purpose or effect of unreasonably interfering with an individual's work or educational performance or creating an intimidating, hostile, or offensive work or educational environment.

Sexual harassment is prohibited in any Iowa Central Community College activity or program, including academics, extracurricular activities, research related programs or activities, occupational training, or athletics, either intramural, interscholastic, or intercollegiate. Any member of the Iowa Central Community College community, i.e., faculty, students, or employees, who believe that he/she is being subjected to sexual harassment should notify the supervisor, department head, or administrator immediately. An investigation will be undertaken and appropriate sanctions and corrective measures will be instituted if the allegations warrant such action. Iowa Central Community College will not tolerate or condone any form of sexual harassment.

Alcohol, Tobacco, and Other Controlled Substances Usage

It is the goal of the College to provide a safe and healthy environment for students and employees. The College shall comply with all state and federal laws (Drug-Free Schools and Communities Act Amendments of 1989, Public Law 101-226, Section 22) by prohibiting the possession, use, and distribution of alcoholic beverages and illegal drugs on the campus, at college sponsored events, and in college-managed property. The College will take steps to educate its community regarding the health risks associated with alcohol and drug abuse. Appropriate referral to counseling and health agencies will be made for individuals as needed. The College will also impose sanctions on students and employees who violate this policy. Disciplinary action may include written reprimand, suspension or dismissal, and referral for prosecution under local, state, and federal law. Rehabilitation may become a condition of continuing association with the College. Because the College wishes to provide a safe and healthy environment for students and staff, the use of tobacco products will be prohibited in College facilities and College vehicles. It is the policy of the Board to prohibit the consumption or possession of alcohol at college-sponsored events and/or on College property.

Student Conduct Code

All Students

Students are expected to conduct themselves in a responsible manner. Students who enroll accept our policies, regulations and operational procedures. Student behavior, which after due process is found to be disruptive to classes or to destroy the rights of others or property, may result in disciplinary probation or suspension.

Iowa Central Athletes and Students

Each athlete and student participating in Iowa Central activities is expected to attend all classes, to stay free of drugs, and to conduct themselves in a mature and responsible manner while representing Iowa Central Community College. All athletes and activity students are required to sign a Conduct Code before participating in Iowa Central athletics and activities.

College Networking Policy

Students who are employed by Iowa Central are expected to comply with Iowa Central employee policies, including the College Networking and Social Networking policy, while so employed. A copy of that policy is found in the Board of Directors' Social Media Policy, Board Policy that can be obtained from the Board Secretary located in the Administrative Offices.

Photography and Film Rights Policy

Iowa Central Community College reserves the right to film or take photographs of faculty, staff, and students engaged in teaching, research, clinical practices, sports, and other activities, as well as casual and portrait photography or film. These photographs, films, video's, pod casts will be used in such promotions or publications as catalogs, brochures, posters, advertisements, recruitment, and development materials as well as on the national media for promotional purposes serving Iowa Central Community College. Classes will be photographed only with the permission of the faculty member and students. Release agreements will be produced in writing prior to filming. They will then be signed and kept on file by the Director, Public Information, Website Technology Specialist, Sports Information, or Communications for each respective production project. Such photographs and film—including digital media—which will be kept in the files and archives of Iowa Central Community College, will remain available for use by the College without time limitations or restrictions. Faculty, students, and staff are made aware by virtue of this policy that the College reserves the right to alter photography and film for creative purposes. Faculty, students, and staff who do not want their photographs used in the manner(s) described in this policy statement should contact the Director, Public Information. Faculty and students are advised that photographs taken in public places do not require signatures or authorization for publication. Iowa Central Community College has no control over the use of photographs or film taken by third parties, including without limitation the news media covering College activities.

Social Networking Policy

Academic studies have shown a positive relationship between the use of social networking websites and student engagement in course work, campus organizations, face-to-face interaction with close friends, and in the transition and adjustment to college. In contrast, using online technology at high rates and in certain ways has been shown to have a relationship to poor academic and psychosocial outcomes. Reported dangerous uses of social networking have arisen from miscommunication as it is not possible to perceive the "tone" in online communication, use of words that propagate rumors with a harassing content, and cyber bullying where someone purposely embarrasses, harasses, or torments another.

Iowa Central acknowledges the importance of students using technology to connect, collaborate, and communicate with each other and that online forms of expression are as important to student development as traditional oral and written expression. While engaging in social networking, students should conduct themselves in a respectful, responsible, and accountable manner and in compliance with the Technology at Iowa Central Community College policy, Statement of Nondiscrimination, and the Student Conduct Code published by Iowa Central. Bloggers and commenters can be held personally liable for commentary that is considered defamatory, obscene, proprietary, or libelous by any offended party and for conduct that violates federal, state, or local law such as laws against hate crimes.

Students enrolled in the Iowa Central Health Care Practicum also have the responsibility to safeguard the privacy, security, and confidentiality of all individually identifiable health information transmitted or received in connection participation in the Practicum in accordance with the applicable provisions of the Health Insurance portability and Accountability Act of 1996 ("HIPAA"), as amended, and in accordance with all applicable federal, state and local statutes, regulations and policies regarding the confidentiality of patient health information. Accordingly, students enrolled in that program should not post any confidential or legally protected information.

If a student's concern arising from another student's social networking communication is one of perceived discrimination, abuse, and/or harassment based on age, race, creed, color, sex, sexual orientation, gender identity, national origin, religion, disability, or military service, the student may use the informal or formal complaint procedure described in this Handbook.

Tobacco-Free Campus

The U.S. Surgeon General has named smoking Public Health Enemy #1 in light of its role as the leading cause of premature death and disability in our country. In addition, research has shown that passive cigarette smoke kills 53,000 nonsmokers every year, making it the third leading cause of death, surpassed only by alcohol abuse and active smoking. Because the College wishes to provide a safe and healthy environment for students and staff, the use of tobacco products (including chewing tobacco) will be prohibited in College facilities, College vehicles or on College grounds.

Campus Crime

Iowa Central Community College realizes and understands the importance of providing a safe and secure environment for students and employees. The College is supportive of the Federal Student-Right-To-Know and Campus Security Act, Public Law 101-542, and is committed to taking the necessary actions to increase safety on campus.

Under the Act, by September 1 of each year, institutions must publish and distribute to current and prospective students and employees an annual security report that includes statistics concerning the occurrence on campus of certain criminal offenses reported to campus officials. The Act also requires institutions to provide a timely warning to the campus community about crimes that are considered to represent a continuing threat to students and employees. This warning must be done in a manner that will aid in the prevention of similar crimes.

A Campus Security Report will be published annually for the College community and posted on the Campus Security webpage. The College is committed to reviewing these statistics annually and taking the necessary steps to develop and implement additional safety practices or procedures needed to ensure an optimum safe environment for its students and employees.

Other Iowa Central Compliance Information

Other compliance information can be found at the following websites:

Athletic participation rates and support data
http://ope.ed.gov/athletics

Financial Aid
www.studentaid.ed.gov

Graduation Rates
http://surveys.nces.ed.gov/ipeds
http://nces.ed.gov/IPEDS/COOL

Centers

Fort Dodge Center

Instructional services at the Fort Dodge Center include a comprehensive Arts and Science program and several Applied Science and Technology programs. Eighteen collegiate athletic programs and many extra-curricular programs are also offered.

The Fort Dodge Center houses complete library services, the Academic Resource Center, gymnasium, auditorium, student activities center, cafeteria, computer labs, and fifteen resident apartment buildings. The Fort Dodge Center is located on the southwest edge of Fort Dodge off Highways 20 & 169.

Storm Lake Center

Instructional services at the Storm Lake Center include a comprehensive Arts and Science transfer program and two Applied Science and Technology programs -- Practical Nursing and Associate Degree Nursing. Courses in the Career Option programs of Human Services, Business Administration and Criminal Justice are also offered at the Storm Lake Center. Support services are provided through the Academic Resource Center. The Storm Lake Center also offers a wide range of continuing education classes in such areas as real estate and insurance, cosmetology, computer technology, industry training, business management and recreation. The Storm Lake Center is located at 916 North Russell Street.

Webster City Center

Instructional services at the Webster City Campus include a comprehensive Arts and Science program and several Applied Science and Technology programs including Aviation Science/Professional Pilot, Practical Nursing and Associate Degree Nursing. Student Services and an Academic Resource Center provide supportive services. Student organizations and extracurricular activities are available.

The Campus is located on the west edge of Webster City at the corner of Beach and Ohio Streets. This location provides easy access to local eating establishments and recreational facilities, including a walking trail, fitness center, indoor/outdoor pools, tennis courts and ball diamonds. The small but personable campus consists of three buildings. An Administration/Academic center provides classrooms, student technology area, faculty offices and the administrative offices. The Science building provides classrooms and a conference/training room for local business and industry. The third building houses offices for Prairie Lakes AEA.

Other Services

Alternative Delivery Methods

Iowa Central Community College serves a diverse student population, with different needs regarding accessibility and convenience of college credit offerings. In an attempt to offer students a variety of methods by which to complete college credit coursework, Iowa Central offers internet, Triton Network, and hybrid classes. Students can take classes this way exclusively, or combine traditional and alternative deliveries.

Internet Courses

The college began offering internet courses during the Fall 1998 semester. Convenience to students and flexibility of scheduling are two benefits of distance learning courses. The College strongly recommends that only students with a 3.0 or higher GPA enroll in FlexNet or Online courses. The College has been approved by the Higher Learning Commission of the NCA to offer Associate Degrees via the internet.

FlexNet Courses

Students can enroll in FlexNet courses at any time throughout the term, except within the last three (3) weeks of the term and as long as there is space available in the course. Regardless of when they enroll in the term, all students must complete FlexNet coursework by the last day of the term.

Online Courses

Online courses are very structured in format design, meaning the courses begin and end with the semester dates. Assignments and discussion postings are required for each week of the course, and students must complete and submit work at the end of each week. Students must enroll, make payment for, and login to online courses by the end of the add/drop period (first five days of the semester) to avoid being administratively withdrawn.

8-Week Online Program

Iowa Central offers students the opportunity to enroll and complete Associate Degrees via the 8-Week Online program. In most programs, students enroll in two courses over an eight-week block. The programs are completed 100% via the Internet and offer the flexibility of "attending" class without traveling to campus. The courses are designed to allow students the convenience of working at a time that best fits the needs of the student. Discussion topics are required weekly along with assignments and activities. Each student is assigned to an Admissions Counselor with BEST (Barker Educational Services Team). This Admissions Counselor works closely with each student as he/she enrolls in one of the programs. Many of the services provided to students such as recruiting, advising, and billing are provided in partnership with BEST. The application process, tuition, and other processes may vary due to the nature of the delivery system. For tuition and various fees, please refer to section "Tuition and Fees" in the catalog.

Programs offered via 8-Week Online delivery:
Computer Networking Technology A.A.S Degree began in 2005
Criminal Justice A.S. Degree began in 2006
Associate in Arts Degree began in 2007
Health Care Administration A.S. Degree began in 2008
Human Services A.S. Degree began in 2008
Logistics & Transportation Managemant A.A.S. Degree began in 2011

Interactive Television

The Iowa Communications Network (ICN) is a state-wide fiber-optic network that Iowa Central utilizes with various locations throughout Area V and throughout Iowa.

Triton Network System

The Triton Network System is a Polycom system that allows courses to be offered via video conferencing. Students at receiving sites view the instruction on the network and interact live with faculty and other students.

Distance Learning Financial Aid Attendance Policy

The following information only applies to students who have financial aid (scholarships, grants, or loans). Federal regulations state that in order for a student to be eligible for financial aid, the student must be meeting the attendance policy to be eligible for financial aid and for the aid to be released. In a FlexNet course, attendance requirements are met by submitting work, such as an assignment, quiz, or test in each FlexNet course. The Financial Aid Office will verify established attendance in each student's course/s. This requirement does not require students to submit work each and every week in a FlexNet course.

Please note: In situations where a student unofficially withdraw from courses, Iowa Central may be required to return some financial aid to the Federal government. For financial aid purposes, a student unofficially withdraws when the student stops attending class and does not officially complete the withdraw process. The student who unofficially withdraws will have an "F" recorded on the student's transcript and the unofficial withdraw may adversely affect future financial aid eligibility. For questions regarding this policy, please contact the Financial Aid Office at 1-800-362-2793.

*Please do not confuse this with Online (OL) courses. Online courses have different attendance policies.

Flexlab Courses

The Flexlab is a computer lab located in AST 401 (Applied Science and Technology Building). The Flexlab offers 16-18 self-paced courses per semester. These courses are Business Department courses, and several are required for some of the programs in the Business Department. Students enrolled at the start of the term will have until the end of the term to complete a course. Students may enroll after the start of the term; however, they will only have the remainder of the term to complete coursework. Regardless of when a student enrolls, all coursework must be submitted by the last day of the term. Depending on the individual pace, students may complete a course in less than 15 weeks.

Students receive a Learning Packet with course information and assignments. Assignments can be completed on any computer with the required software or in the Flexlab. Testing must be done in the Flexlab. Instructors are available for assistance most hours that the Flexlab is open.

Iowa Central Community College Foundation

The Iowa Central Community College Foundation is a non-profit corporation. The purpose of the Foundation is to solicit, receive and manage bequests, gifts, donations, grants and contributions made or for the use or benefit of Iowa Central Community College, its educational and technical programs and its various services. The Foundation distributes funds, including but not limited to scholarships and grants, on the basis of equal opportunity.

The Iowa Central Community College Foundation is managed by its Board of Directors. The Board of Directors consists of 14 members, including one member of the College Board of Trustees and the President of the College. Members are elected for a term of three years.

Non-Credit Courses

Iowa Central Community College offers a comprehensive variety of non-credit courses, seminars and workshops that are designed to meet the needs and requests of the residents in Area V. Programs are provided to help students prepare for a specific job, upgrade skills for an existing job, meet certification and recertification requirements, learn basic skills, earn a high school diploma, and increase general knowledge.

A comprehensive program of non-credit courses is made possible through the cooperation of Iowa Central Community College, numerous agencies and organizations in Merged Area V. Courses are offered throughout the year for people of various ages and backgrounds.

Starting Dates for Non-Credit Courses

Courses vary according to the program and the length of instruction. Program literature will specify the cost for each individual program/course. Special rates are available for senior citizens for some courses.

Continuing Education

General adult courses can be customized to meet the needs of small groups of individuals to best serve a particular area of interest. This category includes many hobby, craft and recreational courses as well as a wide variety of general knowledge courses.

Economic Development Services

Iowa Central Community College's Economic Development Services mission is to enhance economic vitality and ensure a competent/competitive workforce for Area V. Iowa Central provides economic development and training services that assist businesses in growth and development, increasing productivity, and enhancing employee skills. The Iowa New Jobs Training Program (260 E) and the Iowa Jobs Training Program (260 F) provide financial assistance to train new or incumbent workers. Financial assisted programs provide customized industrial training for area businesses and industries. Customized training is developed and designed specifically to meet the training needs of Area V companies. Economic Development programs are also used to attract employers to our area and encourage the expansion of existing businesses.

EMS Training

Iowa Central Community College is an advanced provider of Emergency Medical Services (EMS) training, approved by the Iowa Department of Public Health Bureau of EMS section. Courses offered include Emergency Medical Responder, Emergency Medical Technician, Advanced EMT, and Paramedic. Skills taught will range from basic stabilizing techniques, patient assessment and examination to all advanced emergency medical care skills including cardiac evaluation and treatment, medication effects and treatment, and advanced airway management techniques.

Long-Term Care

The following courses are offered on a need basis throughout Area V: Supervising in Health Care, Medication Manager, 75-Hour Nurse Aide T9905, Certified Medication Aide, Rehabilitation Aide, and Advanced Nurse Aide.

Professional Semi-Truck Driving Program

ZST-206 - The PTDI Certified Course is 390 hours. Students will receive either a PTDI Certificate of Attainment or PTDI Seal of Attainment (placed on the Iowa Central certificate). A minimum of 47 Sessions (11 weeks) will be required. The program consists of classroom, pre- and post-trip inspections, cab familiarization, proper shifting techniques (RPM ranges), basic control of equipment, turning, backing, over the road trips. Classes are M-F, 7:00 am-3:30 pm, summer (evenings) session begins in April and operates M-F, 5:00 pm-9:00 pm. Most students average 3,000 miles of driving experience in the program.

ZST-207 - On the Job Training (OJT) consists of 210 hours (4 weeks) with the students new employer (pay will be provided during OJT).

Requirements for Admission:

1. Minimum of 18 years of age or older.
2. Must possess a valid driver license.
3. Must possess a social security card (metal version not accepted).
4. Must have no more than 5 moving violations in the last 3 years.*
5. Must have no suspensions or serious moving violations in the last 12 months.
6. Must meet all applicable requirements of Federal Motor Carrier Safety Regulations including physical, mental and vision.
7. No preventable accidents in the last 12 months.
8. No alcohol related offenses in the last 3 years.*
9. No drug related offenses in the last 3 years.*
10. Must be able to verify the last 10 years of work history (if applicable).
11. Criminal history must be reviewed and approved prior to starting.

**Must be approved prior to starting.*

Tuition is $5,450.00 plus $700 in fees (books/DOT physical & drug test/MVR/criminal background check & fuel). Housing is available for $500. Grants and financial aid are available for individuals meeting the financial aid requirements.

Course Description:

The classroom prepares the student for the concepts of operating a semi-tractor and trailer. The hands on operation applies the learned knowledge into practical application. This time will be spent on inspections (all types), basic control, serpentine driving (control of trailer), backing (all types), proper set ups, turns, shifting, coupling and uncoupling, along with driving (all types) rural, city and interstate conditions. Teaching a student to operate a truck safely at 80,000 pounds will include map reading, trip planning, logging, load securement and proper weight distribution.

Other Courses

Supplemental vocational education provides offerings designed for those already employed who need additional training to achieve stability or advancement in their current employment.

The major divisions of adult vocational education include: agricultural education, apprenticeship programs, business and office education, distributive education, home economics, health occupations, and trade and industrial education. Many courses in this area are certified to meet state and professional recertification requirements.

Adult Education/Literacy and High School Equivalency Preparation

Free classes are held throughout the Merged Area V for adults 16 years of age and older to improve basic skill level or study for the five sub-tests of the High School Eqivalency Diploma (HSED) Test. Adult students are assessed to determine beginning skill level and progress. Classes meet weekly and run continuously throughout the year. Practice tests must be taken in classes to qualify for official HSED testing at the Academic Resource Center. English as a Second Language (ESL) classes are also available for students whose first language is not English. ESL classes reinforce English skills in the areas of reading, writing, speaking, and listening. Contact the Adult Education/Literacy Coordinator for further class information.

Community Outreach

The Community Services phase of non-credit is available to the entire population of the nine counties served by Area V. Community Services include concerts, discussion groups, films, lectures and special seminars on many topics. The facilities of the College are available for use by community groups for meetings, conventions, and other activities. Interested groups are asked to contact the College for advanced scheduling.

Accommodations for Special Population Students

Special Needs was authorized by the Vocation Education Act of 1963 (Amendments of 1968 and 1973) to develop special vocational programs and supportive services for disabled youth and adults.

The main objective of Special Needs is to provide vocational education programs for persons who have academic, socio-economic, or other social disabilities that prevent them from succeeding in the regular vocational education program. Special Needs vocational funds are available for supportive services and promoting programs which help disabled individuals become vocationally prepared and gainfully employed.

a) Supportive Services: If disabled persons are in regular vocational programs, Special Needs will provide remedial help, extra counseling services and additional experiences supporting vocational preparation to help the students succeed in the programs of their choice.
b) Promoting Programs: When vocationally oriented programs are not available in schools, Special Needs funds can be used to develop programs for disabled persons.

Educational Opportunities

College Transfer

Iowa Central Community College offers the first two years of a baccalaureate program to students who intend to transfer to a four-year college. The courses are equivalent to those at four-year institutions. Students desiring to transfer should consult with their advisor prior to enrolling to meet the requirements of receiving institutions. The Associate in Arts Degree, the Associate in Science Degree, the Associate in Science-Career Option Degree and the Associate in General Studies Degree are awarded by Iowa Central Community College upon successful completion of a two-year program. Specific courses are required for the Associate in Arts and Associate in Science Degrees and include courses in Communications, Math, Science, Social Sciences, and Humanities. Specific requirements for the Associate Degrees are found in the degree requirements section of this catalog.

Graduation Requirements

An award will be granted to all students who:

1. Successfully complete hours required for program,
2. Complete an approved program,
3. Complete at least 12 hours from Iowa Central,
4. Maintain the required minimum grade-point average, and
5. Pay a graduation fee.

Associate in Arts

An Associate in Arts Degree is awarded to the student successfully completing 60 semester hours of course work with a minimum G.P.A. of 2.00. Requirements for the Associate in Arts selected from the general requirements are:

1. Nine (9) hours of Communications (Composition and Public Speaking);
2. Eight (8) hours of mathematics and science, at least one (1) course from each area;
3. Nine (9) hours of social sciences from any two of three areas;
4. Nine (9) hours of humanities from any two of four areas;
5. Five (5) hours of distributed courses from the four areas above; and
6. One (1) hour of instituional requirement.
7. Three (3) hours of computer literacy requirement.

An additional sixteen (16) catalog hours are required:

1. Sixteen (16) hours of electives from Arts & Science
2. Sixteen (16) hours from applied sciences and technologies courses, or
3. Sixteen (16) hours of combined electives from one (1) and two (2) above.
4. Developmental courses (numbered <100) do not count toward a degree.

Associate in Science

An Associate in Science Degree is awarded to the student successfully completing 60 semester hours of course work with a minimum G.P.A. of 2.00. Requirements for the Associate in Science selected from the general requirements are:

1. Nine (9) hours of Communications (Composition and Public Speaking);
2. Twenty (20) hours of mathematics and science, at least one (1) course from each area;
3. Six (6) hours of social sciences from any two of three areas;
4. Three (3) hours of humanities from any of the four areas;
5. Two (2) hours of distributed courses from the four areas above; and
6. One (1) hour of institutional requirement.
7. Three (3) hours of computer literacy requirement.

An additional sixteen (16) catalog hours are required:

1. Sixteen (16) hours of electives from Arts & Science
2. Sixteen (16) hours from applied sciences and technologies courses, or
3. Sixteen (16) hours of combined electives from one (1) and two (2) above.

Associate in Science-Career Option

An Associate in Science Degree-Career Option is awarded to the student successfully completing a specific career option program with a minimum G.P.A. of 2.00. Developmental education courses (numbered <100) do not count towards a degree. Students enrolled in career option programs are eligible to enter the job market or transfer to a four-year college or university.

Associate in Applied Science

An Associate in Applied Science Degree is awarded to the student successfully completing a specific applied science and technology curriculum of at least two years with a minimum G.P.A. of 2.00. Developmental education courses (numbered <100) do not count toward a degree.

Iowa Central Community College offers a wide variety of applied science and technology programs in the areas of Health Sciences, Business Technologies, and Industrial Technology. Placement services are available to students seeking employment. Graduates of two-year programs receive an Associate in Applied Science Degree; graduates in programs of less than two years receive a Diploma.

Associate in General Studies

An Associate in General Studies Degree is awarded to the student successfully completing any 60 semester hours with a minimum G.P.A. of 1.80. Developmental education courses (numbered <100) do not apply toward the 60 hours.

Diploma

A Diploma is awarded to the student successfully completing an applied science and technology or career option curriculum of less than two years with a minimum G.P.A. of 1.80. Developmental education courses (numbered <100) do not count towards a degree.

Military Service Policy

Enrolled students who receive orders from the Iowa National Guard or reserve forces of the United States, to active duty have the following options:

Withdraw: Withdraw (Drop) from all courses and receive a full refund of tuition and mandatory fees.
Complete Courses: Arrange with the instructor/s for course grades or incompletes that will be completed by a later date as per the Iowa Central Community College Incomplete Grade Agreement. In this case, the tuition and fees are assessed in full for the courses.
Combination of Withdraw and Completion: A mix of grades, incompletes, and dropped courses is possible depending on the dialog between the instructor and the student based on the timeframe of the course or semester. In this case there would be a mix of refunded tuition and fees for the dropped courses and full charges of tuition and fees for the graded and incomplete courses.

ADMISSIONS

Admission
International Student Admission
Residency Policy
Tuition and Fees
Financial Aid
Audit Policy
Advanced Placement, Credit by Examination and Advanced Standing
Placement Chart
Course Cancellation
Discontinued Programs/Courses
Developmental Education
Assessment of Student Academic Achievement
Enrollment and Assessment
Scholastic Dishonesty
Student ID's
Transfer of Credit into Iowa Central
Advisors
Academic Load
Academic Evaluation
Attendance
College Experience
Grades
Honors
Internal Articulation Policy
Orientation
Repeating Courses

Admission

Iowa Central Community College is a comprehensive college with an open-door admission policy. There is no application fee for admission to the College.

Ways to Apply

- Apply online at www.iowacentral.edu/admissions
- Request paper application by phone, 800-362-2793 ext. 1008 or 515-574-1008

A student may be accepted by the College, however, some academic programs have additional admissions requirements to be considered for acceptance into those programs including academic qualifications and other criteria. Academic programs that have additional requirements are Associate Degree Nursing, Dental Hygiene, Emergency Medical Services, Medical Assistant, Medical Laboratory Technician, Practical Nursing, Radiologic Technology, and Professional Semi-Truck Driving program. To learn about these additional requirements, refer to the Applied Science and Technology Programs section of this catalog.

To Complete Enrollment Process:

1. **Submit Placement Test Scores**
   Iowa Central uses exam results to determine placement in reading, writing and math courses. Iowa Central will accept test scores from ACT, SAT, COMPASS, ASSET, and ACCUPLACER. The COMPASS test may be taken free of charge (first time) at all Iowa Central centers. Call 800-362-2793 for testing times.
2. **Submit Official College Transcripts**
   Send official college transcript(s) from prior Colleges (including College credit courses taken while attending high school) to the Student Records Office to be evaluated. Official transcripts are important to the advising process and should be mailed as soon as possible.
3. **Apply for Financial Aid**
   Start early - the financial aid process can take time. Submit the Free Application for Federal Student Aid (FAFSA) as soon as possible after January 1. File online at www.fafsa.ed.gov with Iowa Central's school code (004597). It is necessary to reapply each year.
4. **Apply for Scholarships**
   Iowa Central Community College and Iowa Central Community College Foundation offer a variety of scholarships to students. These scholarships are based on academic achievement, program interest, or activity involvement. Scholarships available can be viewed at http://www.iowacentral.edu/financial_aid/scholarships.asp.
5. **Apply for Housing**
   Fully furnished apartment living is provided at Iowa Central. Students can fill out the housing application online at www.iowacentral.edu/housing. This application will not be processed until the Housing Office receives the non-refundable application fee ($100 Iowa Resident/$300 Non-Resident). Send application fee to Director of Housing or contact the Housing Office at 800-362-2793 ext. 1086 to pay by phone.
6. **Enroll for Classes and Complete Registration**
   Students may enroll by phone, 800-362-2793, in person, or fill out the enrollment form on our website at www.iowacentral.edu/admissions/admissions_application.asp. Confirm intent to attend by completing the registration form. Registration will not be final until the student's minimum balance due is zero.

International Student Admissions

Prospective international students applying for Admission to Iowa Central must:

1. Complete an International Student Application,
2. Show evidence of their English proficiency by providing one of the following:
   a. TOEFL Score of 450 or higher (CBT 133 or higher), or
   b. An official transcript showing a satisfactory grade (C or better) of a freshman level English course at an approved U.S. college or university, or
   c. A high school transcript from a country where English language is the basic language taught, and
3. Submit a Statement of Financial Support to provide evidence of ability to meet educational and living expenses while a student.

International Students are not eligible for Federal or State-of-Iowa Financial Aid. Note: All F-1 international students must be enrolled full-time (12 hours or more) to be in compliance with Federal Immigration Laws.

TOEFL

1. Iowa Central Community College requires all prospective international students from non-English speaking countries to submit a TOEFL (Test of English as a Foreign Language) score.
2. International students are expected to score at least 450 for acceptance.
3. Students who score below 500 in the TOEFL must enroll in English as a Second Language or Fundamentals of Writing.
4. International students must stay enrolled in English as a Second Language until they pass the course with a C grade or better.

Residency Policy Guidelines

Determination of Residency Status

In determining a community college resident or non-resident classification, the primary determination is the reason a person is in the state of Iowa. The second determination will be the length of time a person has resided in Iowa. If a person is in the state primarily for educational purposes, he/she will be considered a non-resident. The burden of establishing the reason a person is in Iowa for other than educational purposes rests with the student.

A. The Enrollment Services Office may require written documents, affidavits, or other related evidence deemed necessary to determine why a student is in Iowa. The burden of proof is upon the student.
   A student will be required to file at least three documents to determine his/her residency status. The following are examples of acceptable documentation.
   1. Written and notarized documentation from an employer that the student is employed in Iowa or a signed and notarized statement from the student describing employment and sources of support.
   2. Iowa state income tax return.
   3. Iowa driver's license.
   4. Iowa vehicle registration card.
   5. Iowa voter registration card.
   6. Proof of Iowa Homestead credit on property taxes.

   In all events to be determined a resident of Iowa, the student must document residing in the state of Iowa for at least 90 days prior to the beginning of the term for which he/she is enrolling.
B. If a student gives misleading or incorrect information for the purpose of evading payment of non-resident fees, he or she must pay the non-resident fees for each term the student was not officially classified as a non-resident.
C. These regulations shall be administered by the Enrollment Services Office.

Note: Classification of residency status may be obtained by students who are not of majority age (at the time of application) through evidence submitted by the student's parent(s) or legal guardian(s).

Tuition and Fees

Tuition and Fees*

Iowa Resident Tuition	$137.00 per hour
Non-Resident Tuition	$205.50 per hour
Student Fee per hour	$14.00
Graduation Fee (per degree, diploma, cert.)	$25.00
Deferred Payment Charge	$25.00

The student fee is the only fee that is refundable on a pro-rated basis.

8-Week Online Programs*

Application Fee	$25
Tuition/credit hour	$315
Tuition/credit hour for military students	$250

(*Subject to change. Individual courses may also have additional fees.)

Refunds

Tuition and applicable fee adjustments are made for drops/withdrawals according to the following schedule:

15-week semester refund

Session days 1-5	100%
Session days 6-10	75%
Session days 11-15	50%

Session days are defined as Monday through Friday. Session day count begins with the beginning date of the College term.

Tuition and applicable fee refunds for courses or sessions shorter than fifteen weeks will have proportionally shorter refund periods.

Financial Aid

The purpose of the Financial Aid Program is to provide assistance to students who might find it difficult to attend college. The need for financial assistance is determined by subtracting the expected family contribution from the estimated cost of attending Iowa Central Community College. The dollar amount of the expected family contribution is determined by the Federal Government through the Financial Aid application process. The Financial Aid Office then subtracts the expected contribution from the total estimated cost for the year and the difference is the financial need. Available financial aid is then awarded to the student. The total financial aid award may not exceed the total estimated cost.

Financial aid is awarded to students contingent of the student attending and successfully completing coursework. Therefore, if a student decides withdraw or to stop attending, students may be required to repay part of the financial aid to Iowa Central or the Department of Education. This policy applies to recipients who are receiving Federal Title IV funds which consist of Pell Grant, SEOG Grant, and Direct Loans. Students may obtain information on this policy from the Financial Aid Office.

For information on our Return of Title IV Funds Policy (R2T4) policy, visit www.iowacentral.edu/financial_aid/forms_docs/R2T4Policy.pdf

Sources of Financial Aid at Iowa Central Community College:

Federal Pell Grant

- Federally funded gift aid.
- Students must demonstrate need.
- Student must be an undergraduate.

Federal Supplemental Educational Opportunity Grant (SEOG)

- Federally funded gift aid administered by Iowa Central.
- Students must demonstrate need.
- Students must be undergraduate.
- Awards limited to funds available.

Work Study

- Part-time work opportunities.
- Federally or State funded, Iowa Central administered.
- Students must demonstrate need.
- Awards limited to funds available.

Iowa Vocational-Technical Grant

- Iowa resident students.
- Enrollment in Career or Career Option programs.
- Students must demonstrate need.

Iowa Grant

- Iowa resident students with very low expected family contribution.
- Maximum award is $1,000.00

Federal Direct Student Loan

- Fixed interest loans
- Students must demonstrate need for subsidized Direct loan.
- Maximum loan $5,500 for first year, $6,500 for second year (dependent student).

Federal Plus Loan

- Loans available to parents of dependent students.
- Financial need is not required.

Kibbie Grant

- Iowa resident students.
- Enrollment in Career technical or career option programs.
- Students must demonstrate need.
- Awards limited to funds available.

Scholarships

Various businesses, organizations and individuals donate money to Iowa Central for the purpose of Financial Aid to students. These awards are made by Iowa Central or the donating organizations. Some awards may be based on need or specific donor criteria. The scholarship application process begins in January/ February for fall term enrollment. Inquiries about specific awards may be made to the Financial Aid Office.

Veterans' Benefits

Most areas of study at Iowa Central have been approved for veterans education benefits. Veterans who wish to make use of these benefits should contact Student Records for assistance in establishing their eligibility and certification.

Additional Aid

Students are encouraged to seek information on financial aid in their own communities. Local service clubs and organizations, as well as national and state organizations may have financial aid to offer. The Financial Aid Office is available to assist students in identifying these sources. Non-resident students should check with their home state higher education agency for information about their home state's aid.

Applications and Award Procedures

To be considered for financial assistance at Iowa Central students must

1. Apply and be accepted by the college.
2. Complete a free application for Federal Student Aid (school code is 004597). Students may apply online at www.fafsa.ed.gov
3. Complete any additional documentation requested by Iowa Central. This may include a copy of your/parent's IRS Tax Transcript.
4. Financial Aid Awards are made on a first-come, first-serve basis as students' files are completed. Award notifications are usually made to students in the late spring and early summer.

When to Apply for Financial Aid

Applications are available after January 1 each year. It is necessary to reapply each year. For best considerations of all types of aid, the application must be submitted by April 1. Pell Grants, Stafford Loans, and PLUS Loans are available after April 1, but other aid may already be committed.

General Eligibility Requirements

All students seeking Financial Aid must

1. Be enrolled or accepted for enrollment in a program at least six months in length,
2. Intend to complete the program and receive a degree related to the educational objective,
3. Be a United States citizen or eligible non-citizen,
4. Not be in default for any previous loans disbursed,
5. Not owe a refund on any previous Federal Student Aid, and
6. Maintain satisfactory academic progress.

Financial Aid Satisfactory Academic Progress Policy

Iowa Central Community College is required to establish academic progress standards for students who are federal and state financial aid applicants or recipients. This policy ensures that any student who receives or applies for financial aid is making progress toward a degree. The student's total academic history is monitored regardless of whether he/she has previously received financial aid.

In order to maintain eligibility for financial aid, a student must meet the "Standards Requirements" listed below. Failure to meet these requirements results in the loss of aid. Programs affected by "Standards Requirements" include, but are not limited to:

Federal Pell Grant	Federal Direct Loan
IA Voc Tech Grant	Federal PLUS Loan
Federal SEOG	IA National Guard Program
Federal Work Study	Other State Programs
IA Kibby Grant	

Standards Requirements

1. Pace: Successfully complete 67% of attempted credit hours. This will be measured on a cumulative basis. Example: If the student attempts a total of 24 credit hours the first academic year, the student must satisfactorily complete 16 credit hours. (Example: 24 credit hours x .67 (67%) = 16 credit hours.)
2. Maximum Time Frame: Completion of the academic program in 150% of the published credits. Example: Associate in Arts degree = 60 credit hours. Maximum attempted credit hours permitted to complete this program would be 90. (Example: 60 credit hours x 1.5 (150%) = 90 credit hours.)
3. Minimum Cumulative Grade Point Average:
   - A cumulative GPA of 2.00 must be met.

Additional Information

1. Credit/no credit, course repeats, withdrawals, incompletes, and developmental courses will be included as part of the student's cumulative credit hours attempted for pace and maximum time frame purposes.
2. In computing the cumulative GPA for graduation, only the most recent grade earned in a course, that has been repeated, will be used.
3. Transfer Students are considered to be making satisfactory academic progress for financial aid purposes upon initial enrollment. Upon enrollment, relevant transfer credits and GPA that become part of the student's academic record at Iowa Central will be included in the student's satisfactory academic progress calculation. Students must send all official college transcripts in order to determine eligibility.
4. Courses taken for audit, hours via Institutional Proficiency Exams, Advanced Placement and hours via the College Level Examination Program will not be included as a part of the student's cumulative credit hours enrolled for maximum time frame purposes.

Monitoring Process
1. Academic progress will be monitored at the end of each term to determine if the "Standards Requirements" have been met.
2. Financial Aid Warning - The first term the student fails to meet the "Standards Requirements" the student will be placed on Financial Aid Warning. This warning period should be utilized by the student to meet the "Satisfactory Academic Progress Standards Requirements." The student will only be given one Warning term at Iowa Central.
3. Academically Ineligible - Students failing to show satisfactory progress during their warning period will be Academically Ineligible. A student may not receive any aid listed above while they are Academically Ineligible.

Reinstatement of Eligibility
1. Complete the number of credit hours necessary to achieve the 67% requirement and/or minimum cumulative GPA needed for their grade level. This will be at the student's own expense. When these hours have been completed, the Financial Aid Office must be notified so eligibility for aid can be reinstated.
2. If special circumstances exist (including but not limited to: death of family member, personal or family illness, family crisis), the student may appeal by submitting a letter stating the reasons the "Standards Requirements" were not met and completing the Appeal Form. Appropriate third-party professional documentation may be required. The Appeals Committee will review the appeal. If the appeal is approved, eligibility for financial aid will be reinstated on a probationary status for one term.
3. If the student fails to meet the "Satisfactory Academic Progress Standards Requirements" after the probationary term, the student will be academically ineligible. The student has the option of completing an Academic Plan that will ensure the student meets the "Satisfactory Academic Progress Standards Requirements" at a specific point in time. If the student is not successfully following the Academic Plan they will no longer be eligible for financial aid at Iowa Central.

Submission Deadlines
Appeals: Fall Term: October 1; Spring Term: February 12; Summer Term: July 6; 8 Week Online: 2 weeks after start of term.
Academic Plans: Fall Term: 5th day of the term; Spring Term: 5th day of the term; Summer Term: June 1; 8 Week Online: 2 weeks after start of term
All Appeals or Academic Plan Worksheets must be turned in prior to the submission deadline to be considered for that term. If the deadline date falls on a weekend/holiday, the Appeal or Academic Plan Worksheet must be turned in prior to the weekend/holiday.

Additional Regulations Affect Veterans Benefit Status
For satisfactory academic progress, the following academic performance criteria apply to all veterans or other students eligible for VA benefits. The Veterans Administration requires that all students receiving VA education benefits maintain satisfactory academic progress. Iowa Central defines satisfactory academic progress as achieving a cumulative 2.00 GPA. If a veteran does not make at least a "C" average (2.00) on all hours pursued, a warning period of one term will be granted. At the end of the warning term a cumulative GPA of 2.00 must be reached. If a 2.00 is not attained, the VA benefits will be withdrawn and the student will be academically ineligible to receive VA education benefits. Reinstatement of eligibility is obtained by either reaching the 2.00 cumulative GPA or a student can submit a letter of appeal. If the appeal is approved, eligibility for the VA benefits will be reinstated on a term probationary status.

Audit Policy
Students may be allowed to audit certain courses. Students who audit will not be held responsible for lesson assignments or tests and will not receive credit for the course. The audit fee is the regular course fee. A course may be audited before or after it is taken for credit. The decision to audit must precede registration. The audit grade is "N".

Advanced Placement, Credit by Examination and Advanced Standing
Students at Iowa Central Community College may be admitted to courses above the introductory level on the basis of the Advanced Placement Examination (AP), the College Level Examination Program (CLEP) and the Iowa Central Community College Proficiency Examination (ICCCPE) for career programs.

Advanced Placement Program
Credit is granted for successfully completing the Advanced Placement Program of the College Board with a score of 3.00 or better.

College Level Examination Program (CLEP)
Credit is granted for successfully completing Subject and General Examinations of the CLEP program. The Academic Resource Center has the information pertaining to CLEP testing and the guidelines for taking the tests.

Transfer of Credit Earned by Examination through the College Level Examination Program (CLEP)
The Regents' universities accept credit earned through CLEP general and subject examinations as indicated on the participating community college transcript provided certain minimum scores are achieved. For this credit to be validated at the Regents' university, it must be accompanied by at least 12 semester credit hours of course work completed in residence at the community college.

Advanced Standing
Advanced Standing credit allows for students to earn credit for skills they bring into Iowa Central. Iowa Central has approved articulated credit from some training programs, such as the State of Iowa, Department of Corrections. Iowa Central also awards credit to those who hold certain licenses, and other courses may be tested-out for credit. Fees charged for articulation and test-out vary depending on the credit-hour equivalent of the applicable course. $25 is charged for courses of less than 2 semester hours of credit, $50 is charged for courses of 2-4 semester hours, and $75 is charged for courses greater than 4 semester hours. Some tests may also have a materials fee. Fees must be paid prior to testing, and students must test within the first five days of the semester if they are currently enrolled in the course and want to test out. Students cannot test out if they were currently enrolled in the course and withdrew or received a grade. Program Coordinators and Deans work in conjunction with the Registrar in approving credit. Advanced Standing credit is placed on the transcript after the student has completed 12 hours of credit at Iowa Central and the appropriate fees have been paid. See below for the list of Advanced Standing credit.

CC#	Course Title	Sem. Hrs	Requirements
ADM-105	Intro to Keyboarding	1	Obtain 35 words a minute on a 3-minute timed writing with 3 or fewer errors
ADM-108	Keyboarding Skills Development	1	Obtain 65 words a minute on a 5-minute timed writing with 5 or fewer errors
ADM-131	Office Calculators	1	Pass all three components of the advanced standing test in one sitting.
AGA-380	Integrated Pest Management	4	Present Department of Agriculture and Land Stewardship (IDALS) Pesticide Applicators License, Commercial or Private
AVI-170	Flight Lab 1 Lesson 1-26	1.8	Hold Private Pilot License
AVI-211	Instrument Ground School	3	Have passed Commercial and Instrument
AVI-240	Flight Lab 2 Lessons 1-38	1.9	Hold Private Pilot License
AVI-260	Commercial Pilot Ground School	2	Have passed Commercial and Instrument
AVI-300	Flight Instructor Ground School	3	Federal Aviation Administration written exam, Fundamentals of Instruction, Flight Ground Instructor
AVI-242	Flight Lab 4 Lessons 64-85	1.4	Hold Commercial Instrument
AVI-249	General Aviation Operations Management	3	Pass final written test
AVI-275	Aviation Regulations	2	Pass final written test
AVI-124	Maintenance for Pilots	2	Pass final written test
AVI-272	Flight Lab 6 Lessons 1-10	0.3	Obtain Multi Engine Rating
AVI-130	Private Pilot Ground School	3	Complete Progress Check
AVI-131	Private Pilot II	3	Federal Aviation Administration written exam
AVI-273	Flight Lab 7 Lessons 11-15	0.2	Obtain Multi Engine 1 Rating
AVI-271	Flight Lab 5 Lessons 1-15	0.8	Obtain Federal Aviation Administration Certificate, Certified Flight Instructor

CC#	Course Title	Sem. Hrs	Requirements
BUS-112	Business Mathematics	3	Complete written test with 80% accuracy
CAD-101	Introduction to CAD	3	Pass exam
CAD-155	Engineering Graphics I	2	Pass exam
CAD-164	Solid Modeling I	2	Pass written test with 80% accuracy
CAD-166	Solid Modeling II	2	Pass exam
CRJ-133	Consitutional Criminal Procedure	3	Present a certificate of completion from the
CRJ-110	Patrol Procedures	3	**State of Arkansas** 115 hour part-time Auxiliary Police Course for a total of 6 credit hours
CRJ-133	Constitutional Criminal Procedure	3	Present a certificate of completion from a
CRJ-110	Patrol Procedures	3	law enforcement academy endorced by the
CRJ-141	Criminal Investigation	3	**California** Commission on Peace Officer
CRJ-152	Defensive Tactics	3	Standards and Training for a total of 12 credit hours
CRJ-133	Constitutional Criminal Procedure	3	Present Certificate of completion from a
CRJ-152	Defensive Tactics	3	**State of California** Department of Corrections Training Academy for a total of 6 credit hours
CRJ-120	Introduction to Corrections	3	Present a certificate of completion from the
CRJ-152	Defensive Tactics	3	Corrections Coporation of America Pre-Service Orientation & Basic Training for a total of 6 credit hours
CRJ-133	Constitutional Criminal Procedure	3	Present **State of Florida** Basic Police
CRJ-110	Patrol Procedures	3	Recruit Training Certification
CRJ-141	Criminal Investigation	3	for a total of 12 credit hours
CRJ-152	Defensive Tactics	3	
CRJ-133	Constitutional Criminal Procedure	3	Present **State of Illinois** Law Enforcement
CRJ-110	Patrol Procedures	3	Training and Standards Board Certification
CRJ-141	Criminal Investigation	3	for a total of 12 credit hours
CRJ-152	Defensive Tactics	3	
CRJ-120	Introduction to Corrections	3	Present **State of Iowa** Department
CRJ-152	Defensive Tactics	3	of Corrections Certification for a total of 6 credit hours
CRJ-100	Introduction to Criminal Justice	3	Present **Iowa** Law Enforcement Academy
CRJ-132	Judicial Process	3	Certification for a total of 18 credit hours
CRJ-133	Constitutional Criminal Procedure	3	
CRJ-152	Defensive Tactics	3	
CRJ-141	Criminal Investigation	3	
CRJ-110	Patrol Procedures	3	
CRJ-133	Consitutional Criminal Procedure	3	Present **State of Maryland**
CRJ-110	Patrol Procedures	3	Basic Police Academy Certification
CRJ-141	Criminal Investigation	3	for a total of 18 credit hours
CRJ-152	Defensive Tactics	3	
CRJ-100	Introduction to Criminal Justice	3	
CRJ-160	Introduction to Forensic Investigation	3	
CRJ-133	Consitutional Criminal Procedure	3	Present Certification of Police Academy
CRJ-110	Patrol Procedures	3	Training sanctioned by the State of Nebraska
CRJ-141	Criminal Investigation	3	Peace Officers Education and Training
CRJ-152	Defensive Tactics	3	for a total of 15 credit hours
CRJ-132	Constitutional Law	3	
CRJ-133	Consitutional Criminal Procedure	3	Present **State of New Jersey**
CRJ-110	Patrol Procedures	3	Basic Police Academy Certification
CRJ-141	Criminal Investigation	3	for a total of 15 credit hours
CRJ-152	Defensive Tactics	3	
CRJ-100	Introduction to Criminal Justice	3	

CC#	Course Title	Sem. Hrs	Requirements
CRJ-133	Consitutional Criminal Procedure	3	Present **State of Oregon** Department of
CRJ-110	Patrol Procedures	3	Public Safety Standards and Training
CRJ-141	Criminal Investigation	3	Certification for a total of 12 credit hours
CRJ-152	Defensive Tactics	3	
CRJ-133	Consitutional Criminal Procedure	3	Present **Commonwealth of Pennsylvania**
CRJ-110	Patrol Procedures	3	Police Officers Education & Training
CRJ-141	Criminal Investigation	3	Commission Certification
CRJ-152	Defensive Tactics	3	for a total of 15 credit hours
CRJ-100	Introduction to Criminal Justice	3	
CRJ-120	Corrections	3	Present **State of Pennsylvania** Department of Corrections Training Academy Certification for a total of 3 credit hours
CRJ-133	Constitutional Criminal Procedure	3	Present **State of Tennessee** Basic Training
CRJ-110	Patrol Procedures	3	Academy Certification or State of Tennessee
CRJ-141	Criminal Investigation	3	Basic Police Academy Certification for a
CRJ-152	Defensive Tactics	3	total of 12 credit hours
CRJ-110	Patrol Procedures	3	Present **State of Utah** Certificate of Completion
CRJ-141	Criminal Investigation	3	from a Law Enforcement Academy endorsed
CRJ-152	Defensive Tactics	3	by the Utah Department of Public Safety for a total of 9 credits.
CRJ-100	Introduction to Criminal Justice	3	Present **Virginia** State Police Academy
CRJ-152	Defensive Tactics	3	Certification or Virginia State Police
CRJ-133	Constitutional Criminal Procedure	3	Department Certification for
CRJ-160	Intro to Forensic Investigation	3	a total of 18 credit hours
CRJ-141	Criminal Investigation	3	
CRJ-110	Patrol Procedures	3	
CRJ-133	Consitutional Criminal Procedure	3	Present a certificate of completion from a
CRJ-110	Patrol Procedures	3	law enforcement academy endorsed by the
CRJ-141	Criminal Investigation	3	Washington State Criminal Justice Training
CRJ-152	Defensive Tactics	3	Commission for a total of 18 credit hours
CRJ-132	Constitutional Law	3	
DSL-835	Commercial Drivers License	2	Present Commercial Drivers License ID Card
EGT-400	Intro to Engineering Design	3	Pass written exam
EGT-410	Principles of Engineering	3	Pass written exam
ELE-124	Tools/Adapters/In	2	Pass written exam
ELE-155	National El. Code 1	2	Pass written exam
ELE-114	DC Fundamentals	3	Pass written exam
ELE-111	AC Fundamentals	3	Pass written exam
ELE-164	Res. Wiring	2	Pass written exam
ELE-167	Ind. Electrical Systems	3	Pass written exam
ELE-195	Motor Controls	3	Pass written exam
ELE-156	National Electrical Code II	2	Pass written exam
ELE-170	Power Distribution	2	Pass written exam
ELE-932	Internship	4	Must meet previous experience criteria per Coordinator
ELE-932	Internship	4	Present Journeyman's/Union Card: Proof of Apprenticeship
ELE-198	Solid State Motor Controls	2	Pass written exam
ELE-204	Programmable Logic Theory	2	Pass written exam
ELE-205	Advanced Programmable Controllers	2	Pass written exam
ELE-187	Advanced Industrial Electical Systems	4	Pass written exam
ELE-221	Instrumentation & Control	3	Pass written exam

CC#	Course Title	Sem. Hrs	Requirements
ELE-206	Networking PLC's	2	Pass written exam
ELE-158	National Electrical Code III	2	Pass written exam
ELE-104	Print, Reading & Estimating	1	Pass written exam
ELE-149	UL & Electrical Safety	2	Pass written exam
ELE-124	Tools/Adapters/Instrument.	2	Individuals with a valid state electrical license: which includes Electrical Journeyman's License and/or Electrical Masters License will receive advanced standing credit (with the program coordinators approval) for one or more of the listed courses.
ELE-114	DC Fundamentals	3	
ELE-111	AC Fundamentals	3	
ELE-164	Residential Wiring	2	
ELE-155	National Electical Code 1	2	
ELE-170	Power Distribution	2	
ELE-932	Internship	4	
ELE-156	National Electrical Code 2	2	
ELE-158	National Electrical Code 3	2	
ELE-104	Print Reading & Estimating	1	
ELE-149	UL & Electrical Safety	2	
EMS-200	EMT	8	Submit an official non-credit transcript to Student Records showing proof of EMT Basic or EMT and present a current certification card for EMT-B or EMT to the EMS Coordinator
EMS-760	NCS Paramedic 1	43	Submit an official non-credit transcript to Student Records showing proof of Paramedic Specialist (PS) or Paramedic and present a current certification card for PS or Paramedic to the EMS Coordinator
EMS-761	NCS Paramedic 2		
EMS-762	NCS-Paramedic 3		
EMS-763	NCS-Paramedic 4		
EMS-764	NCS-Paramedic 5		
EMS-810	Advanced Cardiac Life Support - ACLS		Submit an official non-credit transcript to Student Records showing proof of completion of ACLS, PALS, or PHTLS and present a current course completion card for ACLS, PALS, or PHTLS to the EMS Coordinator.
EMS-815	Pediatric Advanced Life Support - PALS		
EMS-820	Prehospital Trauma Life Support - PHTLS		
FIR-144	Fundamentals of Fire Fighting	4.5	Present original certificate(s) of Nationally Certified Fire Fighter I with National Certification number from either International Fire Service Accreditation Congress or from National Board on Fire Science Professional Qualifications
HSC-113	Medical Terminology	2	Pass final written exam
HCM-108	Safety and Sanitation	3	Pass ServSafe exam
HCM-143	Food Preparation Lecture	3	Pass written exam
HCM-144	Food Preparation Lab	3	Pass cooking and knife skills exam
HCM-148	Food Fundamentals	3	Pass written exam
IND-110	CPR, First Aid, and Safety	1	Present certification cards for OSHA and CPR/First Aid
IND-126	Precision Measurements	1	Pass written test with 80% accuracy
IND-127	Shop Operations	1	Pass written test with 80% accuracy Pass lab exercise with 80% proficiency
IND-128	Blueprint Reading	1	Pass written test with 80% accuracy
IND-182	Boiler Maintenance Fundamentals	2	Obtain Boiler Operator II Certification from the Iowa Association of Custodians and Assistants
IND-184	Mechanical Process	2	Pass exam
MAT-743	Technical Mathematics	3	Pass written test with 80% accuracy
MFG-256	Introduction to Lathe Operations	2	Pass exam
MFG-266	Introduction to Mill Operations	2	Pass exam
MFG-932	Internship	4	Present Journeyman's/Union Card: Proof of Apprenticeship

CC#	Course Title	Sem. Hrs	Requirements
MLT-111	Fund. of Laboratory Science	4	Pass final written exam and lab competency exam

Certification will be considered if the test was taken within a three year time period prior to the first time enrolling for the CNT Program at Iowa Central

NET-314	Microsoft Windows Server	4	Microsoft Certified Systems Administrator (MCSA) is 4 tests.
NET-152	Adv. Networking Technology	3	Microsoft Certified Systems Engineer (MCSE) is 7 tests.
NET-343	Windows Directory Services	3	
NET-790	PC Support I	3	Provide A+ Certification.
NET-791	PC Support II	3	Provide A+ Certification.
NET-483	Network + Certification	3	N+ is 1 test.
NET-612	Fundamentals of Network Security	3	Provide Security + Certification.
NET-191	Network Cabling	2	INTRO 640-821 is 1 test.
NET-211	Cisco Networking	2	
NET-222	Cisco Routers	3	
NET-232	Cisco Switches	3	ICND 640-811 is 1 test.
NET-242	Cisco Wide Area Networks (WAN)	3	
RAD-320	Imaging 1	2	Pass final written exam
RAD-122	Radiographic Procedures 1	4	Pass final written exam and lab competency exam
RAD-430	Radiographic Physics	3	Pass final written exam
RAD-360	Imaging 2	3	Pass final written exam
RAD-142	Radiographic Procedures 2	4	Pass final written exam and lab competency exam
RAD-162	Radiographic Procedures 3	3	Pass final written exam and lab competency exam
RAD-895	Quality Assurance	2	Pass final written exam
RAD-740	Radiologic Pathology	2	Pass final written exam
RAD-850	Radiobiology	3	Pass final written exam
RAD-149	Cross Sectional Anatomy	1	Pass final written exam
WEL-122	Beginning Welding	2	Pass exam
WEL-213	Fabrication, Layout, Est. & Repair	2	Pass exam
WEL-170	Shielded Metal Arc Welding	2	Pass exam
WEL-181	Gas Metal Arc Welding	2	Pass exam
WEL-171	Adv. Shielded Metal Arc Welding	2	Pass exam
WEL-178	Adv. Gas Metal Arc Welding	2	Pass exam
WEL-110	Print Reading for Welders	2	Pass exam
WEL-301	Pipe Welding	2	Pass exam
WEl-190	Gas Tungsten Arc Welding	2	Pass exam
WEL-196	Adv. Gas Tungsten Arc Welding	2	Pass exam
20 Classes	Various	Various	Must have completed the Electrolux Apprenticeship Contact Student Records for a complete list.

HIGH SCHOOL MANDATORY ASSESSMENT AND PLACEMENT CHART
IOWA CENTRAL COMMUNITY COLLEGE

WRITING SKILLS

ASSET	COMPASS	ACT	ITEDS/IA Assessments Jr. Year Fall	ITEDS/IA Assessments Jr. Year Midyear	ITEDS/IA Assessments Jr. Year Spring	COURSE PLACEMENT
23-34	0-37	0-13	(Written Expression) 1-30 <243	(Written Expression) 1-30 <245	(Written Expression) 1-30 <247	Fundamentals of Writing-ENG-096 Basic Writing-ENG-025
35-39	38-64	14-17	31-64 243-290	31-64 245-292	31-64 247-295	Elements of Writing—ENG 101
40-54	65-100	18-36	65-99 >290	65-99 >292	65-99 >295	Composition I—ENG 105

READING SKILLS

ASSET	COMPASS	ACT	ITEDS/IA Assessments Jr. Year Fall	ITEDS/IA Assessments Jr. Year Midyear	ITEDS/IA Assessments Jr. Year Spring	COURSE PLACEMENT
23-34	0-60	0-13	(Reading) 1-30 <246	(Reading) 1-30 <248	(Reading) 1-30 <250	Basic Reading—RDG 048
35-39	61-79	14-17	31-64 246-287	31-64 248-289	31-64 250-292	Reading I—RDG 010
40-53	80-100	18-36	65-99 >287	65-99 >289	65-99 >292	College Level

MATH SKILLS

ASSET	COMPASS *based on placement domain	ACT	ITEDS/IA Assessments Jr. Year Fall Math Total score listed first	ITEDS/IA Assessments Jr. Year Midyear Math Total score listed first	ITEDS/IA Assessments Jr. Year Spring Math Total score listed first	COURSE PLACEMENT
(Numerical Skills) 23-37	P 0-33	0-15	(Mathematics Total) 1-55 <277 (Mathematics) 1-55 <278	(Mathematics Total) 1-55 <279 (Mathematics) 1-55 <280	(Mathematics Total) 1-55 <282 (Mathematics) 1-55 <282	Fundamentals of Math—MAT 045
38-45	P 34-63 Or A 0-50	16-19	56-84 277-310 56-84 278-313	56-84 279-313 56-84 280-316	56-84 282-316 56-84 282-319	Elementary Algebra—MAT 063
46-48 Plus a "C" or above in first-year high school algebra	P 64-100 Or A51-100 Plus a "C" or above in first-year high school algebra	20-23 Plus a "C" or above in first-year high school algebra	85-89 311-317 85-89 314-321 Plus a "C" or above in first-year high school algebra	85-89 314-320 85-89 317-324 Plus a "C" or above in first-year high school algebra	85-89 317-323 85-89 320-326 Plus a "C" or above in first-year high school algebra	Intermediate Algebra—MAT 102
46-48	P 64-100, A 51-100, C 0-50,	20-23	85-89 311-317 85-89 314-321	85-89 314-320 85-89 317-324	85-89 317-323 85-89 320-326	Math for Liberal Arts—MAT 111, Finite Math—MAT 140, Stats—MAT 156, Math for El. Teachers—MAT 117
49-55 Plus a "C" or above in second-year high school algebra	C 51-100 Or T 0-45 Plus a "C" or above in second-year high school algebra	24-27 Plus a "C" or above in second-year high school algebra	90-93 318-326 90-93 322-330 Plus a "C" or above in second-year high school algebra.	90-93 321-329 90-93 325-332 Plus a "C" or above in second-year high school algebra	90-93 324-331 90-93 327-335 Plus a "C" or above in second-year high school algebra	College Alg—MAT 120, Trig—MAT 130, College Alg and Trig—MAT 127, Bus Calc—MAT 165
49-55 Plus a "C" or above in College Alg. & Trig.	T46-100 Plus a "C" or above in College Alg. & Trig.	28-36 Plus a "C" or above in College Alg. & Trig.	94-99 >326 94-99 >330 Plus a "C" or above in College Alg. & Trig.	94-99 >329 94-99 >332 Plus a "C" or above in College Alg. & Trig.	94-99 >331 94-99 >335 Plus a "C" or above in College Alg. & Trig.	Calculus I—MAT 210

(July 2012)

Course Cancellation

The college reserves the right to cancel any courses that have insufficient enrollment.

Discontinued Programs/Courses

Students who request a degree from a discontinued program at Iowa Central will be advised regarding their options for completion of a degree. Iowa Central does not guarantee the availability of discontinued courses one year after Board action to discontinue.

Developmental Education

The goal of Developmental Education is to provide each student with an adequate background in basic skills so that he/she will be successful in college-level courses and ultimately in the workforce. In order to properly place students with diverse skill levels, Iowa Central requires either ACT, SAT, COMPASS, ASSET, or Accuplacer test scores from all students. If it is determined that the student is underprepared in reading, writing, or mathematics skills, he/she is required to enroll in Basic Reading, Reading I, Fundamentals of Writing, , Elements of Writing, Fundamentals of Math, or Elementary Algebra. Placement is based on the tables on the previous page (page 20). Developmental courses utilize a classroom lecture and lab format. Developmental course credit <100 does not meet graduation credit requirements for certificate, diploma, general studies, or associate degree programs.

Communications Department Guidelines for Advancing in Developmental Courses.

Students wanting to advance to the next level of writing or reading from Fundamentals of Writing (ENG-096), Basic Writing (ENG-025), and /or Basic Reading (RDG-048) must have a "CP, " obtain the necessary post-test score, or in extenuating circumstances, obtain a letter of recommendation from the instructor indicating that the student may be advanced. Students in Elements of Writing (ENG-101) must earn a "C" or better, obtain the necessary post-test score, or in extenuating circumstances, obtain a letter of recommendation from the instructor indicating that the student may be advanced into college-level classes.

Math Department Guidelines for Advancing in Developmental Courses

Students wanting to advance to college-level classes from Fundamentals of Math (MAT-045) or Elementary Algebra (MAT-063) must earn at least a "CP" or the necessary post-test score to advance to the next level. In extenuating circumstance, a letter of recommendation from an instructor may be accepted for advancement.

Assessment of Student Academic Achievement

Iowa Central Community College is a student-centered, learning-focused institution dedicated to continuous quality improvement in its instructional programs. To ensure that the educational mission of Iowa Central is realized through its curriculum, the Learning Improvement Process (LIP) Team has developed a comprehensive plan of assessment for student mastery of educational outcomes. The purpose and design of this plan is to provide the faculty and administration with evidence linking Iowa Central's educational expectations with students' learning. Such evidence allows the faculty and college to identify strengths and areas for remediation within the curriculum and its delivery system. Areas for improvement are identified and then addressed through academic and institutional planning and budgeting processes. This evidence further provides faculty with information which can be used to improve curricular design and classroom instruction.

Assessment of student academic achievement takes place at all levels within the College. The first assessments encountered by students are placement assessments given to ensure each student's enrollment in the proper writing and math courses. Classroom assessments are the most numerous and are intended to improve the teaching and learning which occur within the class. These classroom assessments are also used to measure student achievement of department and program outcomes as well as institutional outcomes. Pre- and post-exams are given in many classes to establish academic gains in the course. Students are expected to take all assessments activities very seriously because they directly or indirectly affect their future.

The assessment plan is for the purposes of improving learning and advancing the education mission of Iowa Central Community College. The results of assessment are not intended to be measures of the individual student and have no bearing on either a student's successful completion of an individual course or his or her individual progress toward the degree.

The student academic assessment process at Iowa Central has clearly defined goals:

- To confirm that student learning is at the heart of every assessment initiative. Student learning is the common goal that drives every department and program.
- To use the potential of assessment to promote an environment that encourages learning and curricular innovation.
- To monitor general education requirements.
- To provide valuable feedback for curricular and scheduling processes.
- To ensure the institutional mission is being met.

Iowa Central Community College is committed to this process and will monitor the results and use data obtained to improve instruction.

Enrollment and Assessment

The Enrollment Services Staff enroll new, current, former and transfer students. They acquaint the students with the courses they will be required to take to meet requirements for program completion.

Students are to enroll within the dates given in the college calendar. Consult the college calendar for the last day to register and/or add a course(s).

Assessment Q & A

Who is required to present scores?

Scores are required for all first-time, full-time students; all part-time students taking math or writing; and all students whose programs require it (such as health programs).

What test scores are accepted, and why are scores necessary?

A necessary part of this preparation is being aware of the students' strengths and weaknesses and their goals. In order to obtain this information, Iowa Central requires ACT, SAT, COMPASS, ASSET, or Accuplacer test scores to guide students to appropriate coursework and to eventual academic success. ACT or SAT tests have usually been taken during high school. For those who have not taken them, Iowa Central offers the COMPASS test free of charge (first time) to its students (there is a fee for testing for other schools).

In what subjects will I be tested?

Students need to have scores from the three areas: writing, reading, and math.

Who is exempt from presenting scores?

Any student with a 2.0 GPA in college-level writing or a 2.0 in college-level math should be exempt from that specific exam.; any person who holds an Associate, Bachelor's, Master's or Doctorate degree should be exempt.; international students with a score of at least 500 (paper) or 133 (computer) on their TOEFL should be required to take COMPASS or ASSET or to present ACT or SAT scores. However, those with less than 500 or 133 should enroll in ESL or Fundamentals of Writing and take the test at a later date.

Scholastic Dishonesty

Iowa Central Community College may initiate disciplinary proceedings against a student accused of scholastic dishonesty. Scholastic dishonesty includes, but is not limited to, cheating and plagiarizing. Plagiarism is presenting someone else's words as one's own, whether in writing or in speaking. Cheating and plagiarism, whether intentional or accidental, are serious offenses.

Scholastic dishonesty will not be tolerated in any course. Plagiarism and other forms of cheating are examples of such dishonesty and will result in serious consequences.

One is plagiarizing if one:

- Uses direct quotes without quotation marks and textual citation of the material.
- Paraphrases without crediting the source.
- Presents another's ideas as your own without citing the source.
- Submits material written by someone else as your own (this includes purchasing or borrowing a paper).
- Submits a paper or assignment for which one has received so much help that the writing is significantly different from one's own.

One is cheating if one:

- Copies someone else's exam or homework.
- Purposefully allows another student to copy your work or submit work that you have written as his/her own.
- Refers to a text, notes or other materials during an exam without authorization to do so.
- Submits a paper or assignment for which you have received so much help that the writing is significantly different from your own.
- Passes test answers to another student during or before a test Disciplinary

Action by the Instructor — An instructor who suspects a student of scholastic dishonesty will inform the student of the allegation as soon as possible. It is up to the instructor to determine the disciplinary action to be taken, which could include giving the student a zero for the assignment, reducing the student's grade for the course, assigning an "F" for the course, or other action. The instructor will send a written report of the incident to the student, the appropriate division dean and the Vice-President of Instruction. If the instructor concludes that the incident merits additional disciplinary action (such as suspension or expulsion), he/she will send a written report of the case to the Vice-President of Instruction for recommended additional disciplinary action.

Student Identification Card

Students living off campus must go to the Help Desk to obtain a Photo ID. Each student must have an ID to check out library materials, attend events around campus and pick-up financial aid refund checks in the business office. Students must have Financial Clearance on their bill before an ID is issued. The ID card will have the student's name, ID number, and a photo. The ID is valid for an entire academic year. Student IDs are no longer available in the Student Records Office. Students will be issued their first ID at no charge, but will be charged a replacement fee of $5.00 for the first replacement ID, and $20.00 for each additional replacement ID. Replacement fees must be paid in cash at the time the replacement ID is issued.

Transfer of College Credit into Iowa Central Community College

When evaluating transcripts from other regionally accredited, post-secondary institutions, Iowa Central considers the guidelines of AACRAO (the American Association of Collegiate Registrars and Admissions Officers). Iowa Central requires a paper copy of an official transcript sent by the other college to the Registrar's Office before credit is placed on the Iowa Central transcript.

Transfer courses are evaluated in respect to the program and/or major that the student is seeking at Iowa Central:

- All courses taken, including "Fs", are transferred in and are included in the GPA for students seeking an AA or AS degree. Students are encouraged to repeat the "F" courses at Iowa Central in order to improve their GPA.
- Only courses required by the program are transferred in for the AAS degree and the one-year diploma programs.
- Military credit transferring in is based on ACE (American Council on Education) recommendations. Credit is not given for military basic training nor for MOS (Military Occupational Specialty) training.
- Sixteen hours of Vocational Technical credit applies toward the 16 hours of elective credit for the AA degree.
- Transfer credit is granted by Iowa Central based on the credits granted at the awarding institution. Quarter hours of credit are converted to semester hours. Other unusual credit granting options are looked at based on the narrative on the reverse side of the sending colleges' transcript.

Students are responsible for monitoring their transfer of credit into Iowa Central. Students are encouraged to provide course descriptions or other documentation about their transfer credit if they do not agree with the Registrar's evaluation of their credit. Transfer credit appears on the Iowa Central degree audit with the label of TE.

Transfer of College Credit to Regent Universities

Iowa's Regent universities and community colleges have joined to create a web portal dedicated to assisting students with the transfer process. The site serves as a one-stop resource for students planning their future. The url for the site is www.transferiniowa.org.

Each year, thousands of students transfer from Iowa community colleges to one of the state's three public universities. Transferring from one college to the next can be a big step, but need not be complicated. The website contains resources helpful in educational planning as well as information for students to discuss with their counselor or advisor.

The number one question transfer students ask is "How will my credits transfer?" Students can learn about how their community college courses transfer to each of the three state public universities by following the links on the website. The website contains resources explaining statewide articulation agreements and individual program-to-program articulation agreements by community colleges. These resources are useful for students planning to transfer as well as counselors and advisors. In addition to online resources, it's always a good idea for students to discuss their plans with both a community college and university counselor or advisor. Contact information for the office or person responsible for transfer and articulation at each postsecondary institution is available on the site

Advisors

All students are assigned an advisor at the time of the first enrollment. The advisor assists the student in the proper selection of courses and with program and transfer advice. Students are encouraged to consult with their assigned advisor continuously throughout their time of study at Iowa Central. Advisors meet with each student a minimum of twice a year for this purpose.

Academic Load

The normal load for a student expecting to graduate in two years with an Associate of Arts Degree in the Liberal Arts and Sciences Division is 15-16 credit hours per semester. Students in career programs are required to follow the offerings of their programs. Students who have a marginal academic background may be limited in the number of hours they may carry. This limitation is to help students succeed and is explained during enrollment. If they show good progress, an increased load will be suggested in subsequent semesters. Iowa Central Community College calculates student enrollment according to the following credit load for Fall and Spring:

- Full Time = 12+ credits
- 1/2 Time = 6-8 credits
- 3/4 Time = 9-11 credits
- Less than 1/2 Time = <6 credits

These are commonly accepted credit load counts for reporting purposes for accrediting and state agencies.

Academic Evaluation

Student progress will be reviewed each semester. Students with high progress will be recognized and students with low progress will be contacted for guidance and counseling by their advisor.

Attendance Regulations

The College places the responsibility of attendance on the student. Regular attendance at classes and laboratory sessions is expected. Faculty are expected to maintain and submit attendance rosters.

Automatic Grade Book Alerts

Faculty can set thresholds for automatic attendance and grade alerts in the WebAdvisor Grade Book. Look for those notifications via email. Student advisors will also get copies of those alerts. For example, you may get an email when you miss two classes in a row or if your grade falls below 60 percent.

STAR

Iowa Central's System for Tracking Achievement and Retention is another tool that faculty use to send emails and letters to students about their progress in a class. These messages include specific codes and possible comments that provide students and advisors with an overview of academic progress. Codes may reference missing exams, continuous improvement, or repeatedly absent. We encourage you to talk to your instructors when you get one of these messages, especially if you are struggling with course content.

Administrative Withdrawal

If class absences exceed 25 percent of scheduled meetings, a student will be administratively withdrawn from a class. Automatic attendance notifications are sent when the number of absences exceed 15 percent and then again at 20 percent. School-sponsored absences do count towards these percentages, but the policy for contacting instructors prior to any such absences to arrange for missed work in advance is in place to prevent such absences from impacting a course grade. Students should talk to instructors about their absences and work with them to make plans for success before the 25 percent is exceeded. Students need to check an instructor's or program's attendance policy in the course syllabus, which may be more specific and grade-related.

Student-Initiated Withdrawal

If you no longer wish to be enrolled in a class, you are expected to withdraw from the course using the online drop form which is located in WebAdvisor. Students choosing to not use the online drop procedure must pickup a Change of Enrollment Form in the Student Records Office, obtain the instructor's signature and return the form to the Student Records Office for processing. Failure to process a Change of Enrollment form will result in the grade of "F" on your transcript. See the student Handbook for the the last day to drop a 15-week course in the Fall and Spring Semesters.

Adding and Dropping Courses

Adding a course: Students who wish to add a course to their schedule should pick up a Change of Enrollment form from Student Records and obtain the instructor's signature. The form should be returned to the Student Records Office for processing. For classes running one full semester, a student may add a course anytime during the first five (5) class days on the College calendar (not necessarily the first five times a class meets) of that semester. Interim and summer classes must be added no later than the first day of class.

Dropping a course: The last day to drop a 15 week class for Fall 2013 is November 22nd and for Spring 2014 is April 11th. Classes must be dropped by these dates so as to not receive an "F" on permanent record. Not attending a class does not constitute a withdrawal. To drop a course, students should log-in to WebAdvisor and click on "Drop/Withdraw from Class" to complete the online drop form. Students can check the status of their request in the section labeled "Previous Withdrawal Requests" on the first screen of the online drop. It is the student's responsibility to make sure they have correctly submitted the online withdrawal. Students choosing not to drop the class using the online drop procedure must pick up a Change of Enrollment form in the Student Records Office, obtain the instructor's signature, and return the form to the Student Records Office for processing.

Drop/Add may be different for FlexNet and Flexlab courses. Please refer to the Admissions Office for specific details.

Withdrawal from College

A student who finds it necessary to withdraw from all college courses before the end of the regular term should confer immediately with his or her advisor and then make application to the Student Records Office for total withdrawal. Failure to do so may result in the issuance of failing grades in all subjects for which the student enrolled. There is no withdrawal via telephone. Students receiving Federal Stafford Loans will be directed to do exit counseling at the time of withdrawal. If exit counseling is not completed at the time of withdrawal, the total withdrawal from college will not be processed.

Total Withdraw from College - All FlexNet Courses

Students who are enrolled in all FlexNet courses should log-in to WebAdvisor, click the "Drop/Withdraw from Class" link and complete the online withdrawal. Students receiving Federal Stafford Loans, will be directed to online exit counseling and the deadline for completing exit counseling will appear on the page. If the student fails to complete exit counseling before the deadline, the withdraw request is deleted from the system. The student will then have to fill out a new request and the withdraw will be processed as of the new request date. Once exit counseling is completed, the student returns to the "Drop/Withdraw from Class" link to submit the exit counseling confirmation number.

The College Experience

The College Experience is a required one credit hour course. The course fulfills a requirement for graduation with the AA degree and AS degree. *The College Experience* teaches a wide range of skills necessary to succeed in the college environment, both at Iowa Central Community College and at subsequent four-year institutions. Students are familiarized with Iowa Central regulations, policies and procedures, student activities, and academic requirements. Other more broad topics include filing and understanding financial aid, planning for a career, enhancing study skills, and making the most of college. Students are strongly encouraged to enroll in *The College Experience* during their first semester at Iowa Central.

Grades

Requital of Grades

Requital of grades is a means that allows a student at Iowa Central Community College not to be burdened by his/her past academic record. The student must not have matriculated in an institution of higher education for at least two consecutive years. The requital of grades may be granted only once, and a person's entire transcript would be requited.

The student must make a formal application to the Registrar. The application should include the reason(s) for the request and outline future academic plans. If granted, the original transcript will be kept, and the calculation of a grade point average and hours earned would begin with the requital date.

The returning student will forfeit the use of all credit hours which were earned at Iowa Central Community College only prior to the two consecutive years. The returning student must complete at least 12 credit hours with a minimum grade point average of 2.0 at Iowa Central Community College prior to the permanent requital of the existing transcript.

Grading System

A—Excellent ..... 4 Grade Points
B—Above Average ..... 3 Grade Points
C—Average ..... 2 Grade Points
D—Below Average ..... 1 Grade Point
F— Failure ..... No Grade Points
W—Withdrawal. No Grade Points or Credit
I—Incomplete. No Grade Points or Credit
L—Credit granted by virtue of prior experience
N—Audit
X—Repeat - (POISE - credit taken prior to September 2004)
R—Repeat - (Datatel - credit taken after September 2004)
P—Passing
Q—No Credit/No Pass
T—Credit by Testing

Grade Designations for Developmental Courses:

AP ..... Excellent / Not in GPA
BP ..... Very Good / Not in GPA
CP ..... Average / Not in GPA
DP ..... Below Average / Not in GPA
FQ ..... No Pass / No Credit

Changing Grades

A change of grade, not including a "W," will be accepted by the Registrar only if properly signed and dated by the instructor who taught the course and the division dean. A "W" grade will not be changed.

A Grade Change form will be accepted only for the following reasons:

1. An error in grade calculation
2. The terms of an Incomplete Grade Agreement were finished
3. A successful resolution of the Student Grade Appeal

Incomplete Grades

An incomplete ("I") grade in a course does have an immediate effect on a students' semester GPA. A meeting arranged by the student with the instructor is held to discuss the reason for the incomplete grade. A contract between the student and instructor, stating the details and time schedule of work that is to be made up, must be agreed upon and signed, and must be submitted prior to the end of the term. The maximum time allowed for an incomplete is one year from the start date of the class. After all work is completed, the instructor will make the proper grade changes for the student's permanent record. Incompletes are approved only for unusual circumstances with appropriate documentation.

Final Grades

Student progress reports in terms of final grades are distributed to Iowa Central students via WebAdvisor.

Student Grade Appeals

A student who believes a course grade he/she has received is inaccurate may seek an appeal as follows:

1. Within 60 calendar days following the end of a course, the student will inform the instructor in writing of questions concerning course grade. The writing will address questions concerning the criteria and procedures the instructor used in determining the grade, the process by which it was assigned, and to request error correction, if any, in the grade.
2. Within 14 calendar days after the instructor's receipt of the student's written questions, the instructor will offer to meet with the student to attempt to resolve the questions concerning a grade.
3. If after the discussion with the instructor, the student believes that the grade is still inaccurate, the student will meet with the division dean. This meeting must be scheduled within 10 calendar days after the instructor has offered to meet with the student. Before meeting with the division dean, the student will submit in writing to the division dean his/her questions regarding the grade. The division dean shall meet with the instructor and the student separately and/or together in an effort to resolve the questions regarding the grade.
4. If the steps above do not resolve the questions concerning the grade, the student may submit his/her written questions concerning course grade to the Vice-President of Instruction no later than 10 calendar days after meeting with the division dean. Within 14 calendar days after receipt of the written questions from the student, the Vice-President of Instruction will submit to the student, the instructor, and to the division dean a written decision concerning the appeal of the grade.

Honors

Each fall and spring semester, students who have taken 12 or more credits that provide quality points and have earned a 4.00 grade point average during the semester are named to the President's List. Students with a 3.50-3.99 grade point average are named to the Dean's List. Iowa Central pins may be picked up at each of the Centers (Student Records office in Fort Dodge) by those who qualify. Developmental courses and pass credit do not provide quality points.

Phi Theta Kappa (International Academic Fraternity)

Iowa Central has a charter from the Phi Theta Kappa National Junior/ Community College Honor Society Fraternity. For membership into Phi Theta Kappa, the following criteria must be met: 1) Grade point must be 3.5 or higher (cumulative); 2) Must have accumulated 12 hours of college credit; 3) Developmental courses will not be considered as part of the criteria (grade point average and credit load); 4) Grades must be posted on transcript within three full weeks of end of term; 5) There is a one-time membership fee of $70.00.

Iowa Central Honor Society

Iowa Central Community College has an institutionally founded Honor Society. For membership into the Iowa Central Honor Society, the following criteria must be met: 1) Cumulative grade point average of 3.5 or higher as of March 1st of the current school year; 2) Student must have met the credit hour requirements to graduate during the current academic year; 3) Developmental courses will not be considered as part of the criteria (grade point average and credit load); 4) Grades must be posted on transcript within three full weeks of end of term. (Honor Society is for students who are graduating; not all students with a 3.5 grade point average qualify.) The recognition ceremony for the Iowa Central Honor Society is held during the Spring Semester.

Internal Articulation Policy

The Iowa Central Community College Articulation Policy is intended to minimize the differences among curricula and courses of the separate divisions and departments of the College. Iowa Central Community College accepts as elective credit a maximum of sixteen (16) credit hours earned in courses designated as Applied Sciences and Technologies Courses. Applied Sciences and Technologies credits earned at other Iowa Area Colleges are accepted in a like manner.

Orientation

Freshman orientations are offered throughout the summer. Our orientation gives students and parents the opportunity to learn more about the multiple resources available at Iowa Central and to finalize any necessary paperwork.

Repeating Courses

A student may repeat any course more than once. Only the hours attempted and the grade point earned on the last repeat shall be used in calculating the cumulative grade point average. Withdrawing from a course that is being repeated and receiving a "W" does not erase the previous grades and does not constitute repeating the course. Courses from other colleges may be repeated with a like course at Iowa Central.

Certain courses in music, athletics, etc. may be repeated for cumulative credit. These are participatory courses such as Student Ambassadors, Student Senate, The Collegian, Concert Choir, etc.

STUDENT LIFE

Academic Resource Center
Athletics
Bookstore
Career Services
Concerts and Lectures
Counseling Services
Dental Hygiene Clinic
Disability Accomodations
Intramurals
Music Activities
Organizations/Clubs
Publications
Student Activities
Student Ambassadors
Student Billing
Student Government
Student Housing
Student Health Services
Student Support Services/TRIO
Testing Center
Theatre
Tutoring
Vocational Rehabilitation
Weather Related Cancellations/Delays

Academic Resource Center

The Academic Resource Center offers a range of services to Iowa Central students.

Disability Accommodations – Academic Resource Center staff works to remove barriers for students with documented disabilities to provide equal educational opportunities. ARC staff works with the student and the instructor to determine reasonable accommodations for that student in class. Examples of reasonable accommodations include extended test time, a test reader, a tape recorder for lectures, and other accommodations as deemed necessary and reasonable. For further information and a complete list of services available, contact 515-574-1045.

Information Media – A wide variety of media including books, videos, and periodicals are located in the Academic Resource Center. Computers, printers, and headphones are provided for student use. Photocopying and color printing are available for a nominal fee.

Online services are available both on and off campus: EBSCOhost is a periodical database that offers access to thousands of articles; WilsonWeb provides resources in science, health, and topics currently in the news; WilsonWeb Art Gallery is a collection of reproducible artistic images from museums around the world; NAXOS allows students to listen to the world's most comprehensive collection of classical and jazz music; and Opposing Viewpoints Resource Center is an electronic version of the immensely popular Opposing Viewpoints series which provides a balanced look at hundreds of current issues.

The Academic Resource Center staff provides research assistance and helps with the use of computers.

Testing – Academic Resource Center staff administers make-up/accommodated tests for Iowa Central courses as well as standardized tests such as COMPASS, CLEP, A+/Network+, etc.

A few guidelines that students need to be aware of are listed below:

- All testers must present a photo ID that shows their first and last names.
- Testers must come prepared by bringing the following information/material: name of instructor, title of course, and scantron (if needed).
- Books and personal belongings (including cell phones and iPods) shall be placed in the lockers during exams. Textbooks, calculators, and other materials may not be used without explicit instructor authorization. Cell phones may not be used as a calculator.
- Students with reading accommodations are required to schedule a time to have their exam read.
- Students should take their accommodated test during their scheduled class time. If they have back-to-back class times, a make-up time can be arranged.
- The only finals given in the Testing Center are accommodated tests.
- All testing must be completed and turned in prior to closing time. Hours of operation are posted in the Testing Center.
- Tests must be completed in one sitting. The test, scratch paper, and other materials must be turned in before the tester leaves the Testing Center.
- Testers exhibiting rude or disruptive behavior will not be allowed to test in the Testing Center.
- In accordance with college guidelines, children are not allowed to accompany students when testing, nor can they be left unattended in the center.
- Scholastic dishonesty of any kind will not be tolerated in the Testing Center. It is the policy of the Testing Center to never allow an examinee to test in the center again should they be caught cheating on an exam, seeking assistance, or using materials not allowed by the instructor. Any evidence of suspected scholastic dishonesty will be collected and sent to the student's instructor as well as the dean of the department, who will make any disciplinary decisions. Please refer to Scholastic Dishonesty in this catalog.

Tutoring - Regularly scheduled tutors help students study class material, proofread papers, and complete assignments. Drop-in tutoring is a free service available to all Iowa Central students. This is not only for students who are struggling or failing, but also for students who want to raise their grade from a "C" to a "B" or a "B" to an "A." Tutors are in the area at all times to help students on a first-come, first-served basis. If a tutor is not available in the subject area with which a student needs help, the hours for the appropriate tutor will be given to the student so he/she can come back at a later time. Hours of tutor availability are posted in the Academic Resource Center.

Classroom Assistance provides students a designated hour of one-on-one time with a tutor. This is helpful for students who feel they need more individual and exclusive work with a specific tutor. The student is registered for Classroom Assistance like a regular class for credit and is graded as Pass/Fail. One hour of Classroom Assistance is the cost of one credit hour and students may register for up to 4 hours per week of Classroom Assistance for the price of 4 credit hours.

Online tutorial help is provided through Smarthinking.com. Students can access up to 7 hours of help each year with writing, math, science, business, and many other fields of study through this online service. Smarthinking.com is accessed through TritonPass and is available 24/7.

Athletics

Iowa Central has a balanced intercollegiate athletic program with competition in men's basketball, baseball, bowling, cross country, football, golf, rodeo, soccer, track & field, and wrestling. Women compete in basketball, bowling, cross country, golf, rodeo, soccer, softball, track & field, and volleyball.

These sports can lead to championship play in the Iowa Area Community College Athletic Association and the National Junior College Athletic Association.

Also, students can participate on the Cheer Team, Dance Line, and Athletic Marching Band. These are not recognized by the NJCAA as intercollegiate sports.

Bookstore

The main objective of the bookstore is to help all students fill their book and supply needs as promptly as possible. The bookstore is also available to the general public with help in locating books and supplies for their personal and business needs. Along with textbooks and school supplies, items such as clothing, greeting cards, personal supplies, stamps and mail service are available.

For added convenience to students, many textbooks and apparel items are available for purchase through the Online Bookstore.

Career Services

One of the main objectives of the Career Services Office is to educate students on job seeking skills and connect students & alumni with job opportunities. The Career Services office also provides a variety of job seeking services including; resume development and critiquing, interview preparation, on-campus interviews, occupational information, job searching resources, labor market information and career fairs. Information on these job seeking services can be found on the Career Services website located on Iowa Central's homepage under "Career Services." The Career Services website also provides the ability for students & alumni to view and search for full-time and part-time job openings.

Concerts and Lectures

Iowa Central students have the opportunity to attend a wide variety of professional entertainment on campus. Some performances are held during noon hours in the Student Resource Center while others are available during the evening and on weekends. Plays, concerts, and lectures held on campus as well as those sponsored by cooperating organizations are generally available with the student ID or a special student price. Students also have wonderful opportunities to participate in many of these performances through the performing arts group on campus.

Counseling Services

Student counseling services are available, without charge, to currently registered students. Services include mental health assessments, brief solution focused counseling, emergency walk-in or phone consultations, and referral to commuity resources. To better serve students, counseling appointments can be scheduled in advance.

Dental Hygiene Clinic

All Iowa Central students who present their identification card may receive dental hygiene services for free including a dental examination, X-rays, teeth cleaning and athletic mouth guards. For more information regarding services, students can contact the Dental Hygiene Clinic at 574-1327 or online at the Iowa Central Dental Hygiene web page.

Intramurals

A well-rounded intramural program is provided for all college students. Competition takes place in such sports as football, volleyball, softball, and basketball. Other activities are organized from the student body on a voluntary sign-up basis.

Music Activities

Iowa Central has long been known for its Music Department. Our ensembles have performed throughout the area. Both vocal and instrumental opportunities are available through the Concert Choir, Encore Singers, Jazz Band, and Concert Band. Fall performance opportunities, Spotlight on the Stars, the Holiday Concert, the annual musical production, and a spring Showcase concert are scheduled in Decker Auditorium on campus. Tours each spring, along with many guest appearances throughout the state keep music students active.

Organizations/Clubs

Iowa Central Community College sponsors a wide variety of student clubs and organizations dealing with certain areas of study, as well as social opportunities. New clubs or organizations must go through the Student Activity Office for approval to function on campus. Membership must be made up of Iowa Central students with a full-time staff member as an advisor. Organizations and clubs that are sanctioned are allowed representation in the student government and can incorporate "Iowa Central" into its name. Organizations that do not qualify to be sanctioned may become recognized, allowing members to meet on campus The College does not have fraternities and sororities, and it is against policies to form one on or off campus.

Publications

The college's national award-winning student newspaper, called the *Iowa Central Collegian*, is published twice per semester, and the online edition is updated every two weeks. Students interested in writing, advertising, layout and photography are encouraged to join the staff, especially those who are familiar with or interested in learning the computer program Adobe InDesign.

Student Activities

Student activities at Iowa Central meet the wide variety of interests of students, from the arts and athletics to clubs and cookouts. Throughout the year, professional entertainers are scheduled in Decker Auditorium and the Student Resource Center. Bingo nights, athletic events, intramurals, dances, Iowa Central Performing Arts Department performances, plus cookouts, coffee houses, and comedians are among the many planned events that take place during the year. The college student ID card allows students free admission to most campus events and can be used at any center of Iowa Central to take advantage of the numerous activities.

Student Ambassadors

The Enrollment Management and Student Development Office accepts applications for ambassadors in the Student Ambassador Program. Ambassadors are required to devote 48 hours per semester giving College tours, phone calling and acting as host/hostess for activities sponsored by the President's Office and Enrollment Management and Student Development. One semester hour of college elective credit per semester is available for participating students. A maximum of four semester hours may be earned.

Student Billing

The College's Business Office is located in the Student Support Services Building. This is the office responsible for maintaining the financial records for all students. Students who enroll in credit and/or non-credit courses will have their tuition and fee charges appear on their student account. Students can view their student account activity using WebAdvisor. The Business Office sends out periodic billing statements, answers question regarding charges, and receives payments on accounts.

Payments for tuition and fees are due in full prior to the start of classes, although a deferred payment plan is available for eligible credit courses in the fall and spring semesters.

Student accounts not paid in full will be referred to the College's collection agency. Iowa Central also participates in the State of Iowa Offset Program operated by the Iowa Department of Administrative Services to collect overdue account balances.

Student Government

Iowa Central's Student Government consists of a governing body known as the Student Senate of Iowa Central Community College. The purpose of the Student Senate is to insure that all students enrolled at Iowa Central have the opportunity to achieve the best education. The main function of the Student Senate is to discuss campus issues and make recommendations to the College Administration regarding college policies, regulations, practices, and procedures. Active involvement in the planning and implementation of student activities, civic events, and community service projects sponsored by the Student Senate are a major focus of the organization. Meetings of the Student Senate begin on the first Tuesday of every school year, and all students are encouraged to attend and to get involved by becoming a member.

Student Housing

Fully furnished apartment living is provided with amenities including an adequate-sized kitchen with a range and refrigerator, living room, good-sized bath, and two bedrooms, all in the midst of campus life. They are spacious and well built, with a level of quality not typically found in many apartment developments. They include cable, wireless networking and the convenience of a safe campus environment.

Also on campus is the Woodruff Complex which offers furnished traditional style dorms, studio style apartments, and more apartment style living.

Our student housing staff includes the Director of Housing, four Associates of Housing, and Resident Assistants in each building. Security cameras are also installed in the parking lots.

An all-you-can-eat meal plan is also provided. It is offered in a 19-meals per week plan. Membership to the Iowa Central Rec Center is also included.

Unmarried students under 21 years of age who do not commute daily to and from their parent's or legal guardian's home are not required to live in college-approved housing (but are encouraged to do so).

Contracts for the Iowa Central housing facilities may be requested online at www.iowacentral.edu/housing/index.asp or by contacting the Iowa Central Community College Housing Office at 515-574-1086, One Triton Circle, Fort Dodge, IA 50501.

Student Health Services

Student health is located in the Applied Science and Technology building. A registered nurse is available as a resource for the health concerns of students. The service offers emergency treatment for injury or illness and assistance in obtaining the services of local physicians and agencies, if necessary. Confidential counseling on health-related problems is available. The service also provides health awareness programs on stress, nutrition, substance abuse, wellness issues, etc. A student accident and insurance plan is available.

Student Support Services/TRIO

Student Support Services, a federal grant TRIO program funded by the U.S. Department of Education, is designed to help students achieve academic and personal success in college. Twenty six colleges and universities in Iowa host SSS programs, and these programs serve almost 5,000 college students. SSS at Iowa Central Community College offers a variety of services to enhance students' potential to successfully complete their educational program. Services offered include peer tutoring, academic advising, transfer assistance, information workshops, financial aid and grant aid assistance, cultural and social activities, a study and computer area, textbook and laptop check-out, proofreading, career advising, and job shadowing.

Theatre

The college provides opportunities for students to participate in theatre and musical productions each year. Auditions, practices, and performances are held at the Fort Dodge Center. All Iowa Central students are encouraged to participate regardless of experience. Those not interested in performing on-stage might consider helping with other areas such as stage lighting, makeup, costume design, and set construction. The fall play is in October, and the spring musical is in February or March.

Vocational Rehabilitation

Vocational rehabilitation services are available to individuals who have physical or mental disabilities. The Iowa Division of Vocational Rehabilitation Services and Iowa Central Community College maintain a cooperative agreement that enables rehabilitation counselors to serve Iowa Central Community College students on campus. Rehabilitation services for eligible persons include medical and psychological assessment, vocational assessment, counseling and guidance, physical and/or mental restoration devices, adaptive equipment, job training, occupational tools, and job placement.

Weather-Related Cancellations and Delays

Inclement Weather

Iowa Central gives serious consideration to travel conditions during inclement weather and makes a concerted effort to reach decisions as early as possible regarding the cancellation or delay of classes. There are no clear-cut guidelines for canceling or delaying classes because many factors including time of day, total snowfall, wind, visibility, temperature, etc., all effect the decision. We monitor weather conditions based on forecasts and the location of winter storms and target making a decision by 6:00 A.M. for day classes and 4:00 P.M. for evening classes. However, weather conditions can change very quickly, and it may not always be possible to make decisions by these targeted times. PLEASE DO NOT PHONE THE COLLEGE TO CHECK THE STATUS OF CLASS CANCELLATIONS. The final decision to attend college classes can only be made by the individual based on specific extenuating circumstances that may make it hazardous for travel.

Cancellation or Delay of Classes

The decision to cancel or delay classes will be made by the President or designee. If classes are delayed or cancelled, the message will be disseminated to the media listed below. No announcement of cancellation or delayed classes via the media will mean that classes will be held as usual that day. At times, due to staff availability or changing weather conditions, there may be a delay in making announcements.

If you believe there is a possibility of classes being cancelled or delayed due to severe weather conditions or any other reason, monitor the following media for announcements. PLEASE DO NOT PHONE THE COLLEGE TO CHECK THE STATUS OF CLASS CANCELLATIONS.

E-mail

An e-mail message will be sent to all Iowa Central staff and students.

Text Messaging

A text message will be sent to all Iowa Central staff and students who have signed up for our TritonAlert service. See Triton Alert section for more details.

Internet:

Iowa Central Community College	www.iowacentral.edu
KCCI Television	www.kcci.com

Radio:

Fort Dodge	KVFD	1400 AM	
Fort Dodge	KZLB	92.1 FM	
Fort Dodge	KWMT	540 AM	
Fort Dodge	KKEZ	94.5 FM	
Fort Dodge	KIAQ	96.9 FM	
Fort Dodge	KTLB	105.9 FM	
Iowa Central	KICB	88.1 FM	
Eagle Grove	KJYL	100.7 FM	
Webster City	KQWC	95.7 FM	1570 AM
Humboldt	KHBT	97.7 FM	
Storm Lake	KAYL	101.7 FM	990 AM
Jefferson	KDLS	105.5 FM	
Jefferson	KGRA	98.9 FM	

To facilitate the efficient removal of snow, employees and students are encouraged to leave campus as soon as possible and/or not come to the college when classes are cancelled.

Television:

KCCI Channel 8

Triton Alert:

The Triton Alert emergency text messaging service will be used in response to severe weather conditions. In the event of cancellation or delay of scheduled classes, a text message will be sent to the staff or students specified cell number and email address. Subscribing/unsubscribing to TritonAlert is available through TritonPass.

Delay of Classes

In the event of a delayed opening on M-W-F, the announcement will state the College "will open at 10:00," thus the first class on those days will begin at 10:20 A.M., and any class that has a start time PRIOR to 10:00 A.M. is cancelled for the day. On T-Th the announcement will state the College "will open at 9:30," thus the first class on those days will begin at 9:40 A.M., and any class that has a start time PRIOR to 9:40 A.M. is cancelled for the day. Department staff will define the start time for classes in programs which are not one hour or one and one-half hour in length, such as those in the Applied Science and Technology Departments.

Early Dismissal of Classes

Should conditions develop during the day that would dictate that classes be dismissed early, the announcement of such dismissal will be circulated by a member of the faculty or administrative staff, via e-mail, Triton Alert (if subscriber) and voice mail message. Students will not be authorized to circulate such information.

Evening Classes

Any decision regarding evening classes (those starting after 5 p.m.) shall be made as soon as possible. Cancellation announcements will be given to media listed previously.

Cancellation or Delay of Activities and Non-Credit Classes

Department staff will determine any start time for activities or non-credit classes when the College is closed or opens late.

GENERAL EDUCATION

General Education

Definition

General education is the curricular component that promotes lifelong learning regardless of a student's specific technical, vocational, or professional field. General education fosters learner development in the following areas: fundamental scientific principles; use of technology; effective communication; mathematical application; critical thinking; human relations skills; personal responsibility; global awareness; the humanities; and, economic awareness.

Overview

Iowa Central Community College has identified three learning outcomes in which all graduates will demonstrate competancy: critical thinking, effective communication, and personal responsibility.

Following are the courses in which students may enroll that will lead to the mastery of some of these general education skill groups. For the Associate of Arts (AA) Degree and the Associate of Science (AS) Degree, the mastery of all of the general education skill groups will come from these courses. For the Associate of Applied Science (AAS) Degree and the Diploma (D), the mastery of the general education skill groups will be achieved by enrollment in these courses plus some of the courses specific to a program.

An on-line system of reporting classroom assessments has been developed and documentation of these assessments is being reported to one central location. Feed-back is given to faculty on their assessments which will result in improvement in the teaching-learning process. Data collected is used by departments, programs and the college in making decisions regarding curriculum and budget.

The assessment plan is for the purposes of improving learning and advancing the education mission of Iowa Central Community College. The results of assessment are not intended to be measures of the individual student and have no bearing on either a student's successful completion of an individual course or his or her individual progress toward a degree.

The student academic assessment process at Iowa Central has clearly defined goals:

- To confirm that student learning is at the heart of every assessment initiative.
- Student learning is the common goal that drives every department and program.
- To use the potential of assessment to promote an environment that encourages learning and curricular innovation.
- To monitor general education requirements.
- To provide valuable feedback for curricular and scheduling processes.
- To ensure the institutional mission is being met.

Iowa Central Community College is committed to this process and will monitor the results and use data obtained to improve instruction.

General Education Component for AAS Degree

The general education component of an AAS degree program shall constitute a minimum of 12 semester hours of credit. The general education component shall include at least one course from each of the following: communications; social sciences and/or humanities; and, mathematics and/or science.

General Education Component for Diploma

The general education component of a diploma program (less than two year's duration) shall constitute a minimum of three (3) semester hours from any of the following: communications; social sciences and/or humanities; and, mathematics and/or science.

Approved General Education Courses 2013-2014 College Year

This approved course list may change for the 2014-2015 college year.

Code:
AA - Associate of Arts
AS - Associate of Science
AAS - Associate of Applied Science
D - Diploma

English/Speech Communications

BUS-114	Workplace Communications (3) - AAS, D
BUS-121	Business Communication (3) - AAS, D
ENG-105	Composition I (3) - AA, AS, AAS, D
ENG-106	Composition II (3) - AA, AS, AAS, D
ENG-111	Technical Writing (3) - AAS, D
SPC-122	Interpersonal Communication (3) - AAS, D
SPC-112	Public Speaking (3) - AA, AS, AAS, D

Mathematics

BUS-112	Business Math (3) - AAS, D
MAT-111	Math for Liberal Arts (4) - AA, AS, AAS, D
MAT-120	College Algebra (3)- AA, AS, AAS, D
MAT-127	College Algebra & Trigonometry (5) - AA, AS, AAS, D
MAT-130	Trigonometry (3) - AA, AS, AAS, D
MAT-140	Finite Math (3) - AA, AS, AAS, D
MAT-156	Statistics (3) - AA, AS, AAS, D
MAT-158	Statistics II (3) - AA, AS, AAS, D
MAT-159	Statistics Laboratory (1) - AA, AS, AAS, D
MAT-150	Discrete Math (3) - AAS, D
MAT-165	Business Calculus (3)- AA, AS, AAS, D
MAT-210	Calclulus (4)- AA, AS, AAS, D
MAT-743	Technical Math (3) - AAS, D
MAT-748	Technical Math II (3) - AAS, D

Science

BIO-102	Introductory Biology (3) - AA, AS, AAS, D
BIO-103	Introductory Biology Lab (1) - AA, AS, AAS, D
BIO-112	General Biology I (4) - AA, AS, AAS, D
BIO-113	General Biology II (4) - AA, AS, AAS, D
BIO-163	Essentials of Anatomy and Physiology (4) - AAS, D
BIO-168	Human Anatomy and Physiology I w/lab (4) – AA, AS, AAS, D
BIO-173	Human Anat & Phys II w/lab (4)- AA, AS, AAS, D
CHM-110	Introduction to Chemistry (3) - AA, AS, AAS, D
CHM-111	Introduction to Chemistry Lab (1) - AA, AS, AAS, D
CHM-165	General Chemistry I (4) - AA, AS, AAS, D
CHM-175	General Chemistry II (4) - AA, AS, AAS, D
ENV-131	Environmental Science/ Future Alternatives (1) - AA, AS, AAS, D
ENV-133	Environmental Science/ Population Problems (1) - AA, AS, AAS, D
ENV-135	Environmental Science/ Pollution Problems (1) - AA, AS, AAS, D
PHS-120	Exploring Physical Science (4) - AA, AS, AAS, D
PHS-125	Physical Science (4) - AA, AS, AAS, D
PHS-172	Physical Geology (4) - AA, AS, AAS, D
PHY-162	College Physics 1 (4) - AA, AS, AAS, D
PHY-184	Applied Physics (4) - AAS, D
PHY-212	Classical Physics I (5)- AA, AS AAS, D

Social Science

ADM-220	Career Development Skills (1) - AAS, D
ANT-105	Cultural Anthropology (3) - AA, AS, AAS, D
BUS-161	Human Relations (3) - AAS, D
ECN-120	Principles of Macroeconomics (3) - AA, AS, AAS, D
ECN-130	Principles of Microeconomics (3) - AA, AS, AAS, D
GEO-121	World Regional Geography (3) - AA, AS, AAS, D
HIS-112	Western Civ.: Ancient to Early Modern (4) - AA, AS, AAS, D
HIS-113	Western Civ.: Early Modern to Present (4) - AA, AS, AAS, D
HIS-151	U.S. History to 1877 (3) - AA, AS, AAS, D
HIS-152	U.S. History since 1877 (3) - AA, AS, AAS, D
POL-111	American National Government (3) - AA, AS, AAS, D
POL-112	American State/Local Government (3) - AA, AS, AAS, D
POL-121	International Relations (3) - AA, AS, AAS, D
PSY-111	Introduction to Psychology (3) - AA, AS, AAS, D
PSY-112	Psychology of Human Relations (3) - AAS, D
PSY-121	Developmental Psychology (3) - AA, AS, AAS, D
PSY-251	Social Psychology (3) - AA, AS, AAS, D
SDV-166	Employee Relations I (1) - AAS, D
SDV-167	Employee Relations II (1) - AAS, D
SDV-168	Employee Relations III (1) - AAS, D
SOC-110	Introduction to Sociology (3) - AA, AS, AAS, D
SOC-115	Social Problems (3) - AA, AS, AAS, D
SOC-120	Marriage & Family (3) - AA, AS, AAS, D
SOC-128	Introduction to Social Sciences (3) - AAS, D
SOC-200	Minority Group Relations (3) - AA, AS, AAS, D

Humanities

AGC-201	American Agricultural History (3)- AAS
ART-101	Art Appreciation (3) - AA, AS, AAS, D
ART-133	Drawing (3)- AA, AS, AAS, D
ART-151	Design I (3)- AA, AS, AAS, D
ART-203	Art History I (3) - AA, AS, AAS, D
ART-204	Art History II (3) - AA, AS, AAS, D
ASL-131	American Sign Language I (3) - AA, AS, AAS, D
ASL-161	American Sign Language II (3) - AA, AS, AAS, D
CLS-130	African Cultures (3)- AA, AS, AAS, D
CLS-141	Middle Eastern History & Culture (3)- AA, AS, AAS, D
CLS-150	Latin American History & Culture (3)- AA, AS, AAS, D
CLS-170	Russian History & Culture (3)- AA, AS, AAS, D
CLS-181	American Diversity (3) - AA, AS, AAS, D
CLS-210	Cultures in Transition (3) - AA, AS, AAS, D
DRA-101	Introduction to Theatre (3) - AA, AS, AAS, D
DRA-130	Acting I (3)- AA, AS, AAS, D
ENG-221	Creative Writing (3)- AA, AS, AAS, D
FLC-141	Elementary Chinese I (4) - AA, AS, AAS, D
FLC-142	Elementary Chinese II (4) - AA, AS, AAS, D
FLG-141-142	Elementary German I/II (4) - AA, AS, AAS, D
FLG-241-242	Intermediate German I/II (4) - AA, AS, AAS, D
FLS-141-142	Elementary Spanish I/II (4) - AA, AS, AAS, D
FLS-241-242	Intermediate Spanish I/II (4) - AA, AS, AAS, D
FLS-271-272	Advanced Spanish I/II (4) - AA, AS, AAS, D
HIS-211	Modern Asian History (3) - AA, AS, AAS, D
HUM-113	Exploring the Humanities (3) - AA, AS, AAS, D
HUM-185	Technology & Social Change (3) - AA, AS, AAS, D
LIT-101	Introduction to Literature (3) - AA, AS, AAS, D
LIT-114	American Literature (3) - AA, AS, AAS, D
LIT-155	Modern World Fiction (3) - AA, AS, AAS, D
MUS-104	Exploring Music (3) - AA, AS, AAS, D
PHI-145	Introduction to Ethical Conflict (3) - AA, AS, AAS, D
REL-105	Introduction to Religion (3) - AA, AS, AAS, D
SPC-140	Oral Interpretation (3) - AA, AS, AAS, D

Institutional Requirement

SDV-107	The Health Science College Experience (1) - AA, AS
SDV-108	The College Experience (1) - AA, AS
SDV-116	Strategies for Online Academic Success (1) - AA, AS
SDV-118	The Online Experience (3) - AA, AS

Computer Literacy

CSC-110	Introduction to Computers (3) - AA, AS, AAS, D
EDU-255	Technology in the Classroom (3) - AA, AS
NET-110	Microcomputer Fundamentals (3) - AA, AS, AAS, D

Business

ACC-142	Financial Accounting (3) - AAS
AGB-235	Introduction to Agriculture Markets (3)- AAS
BUS-102	Introduction to Business (3) - AAS
BUS-112	Business Math (3) - AAS, D
BUS-121	Business Communications (3) - AAS, D
MKT-110	Principles of Marketing (3) - AAS

Updated 7/26/2013

TRANSFER INFORMATION

The Liberal Arts and Sciences Division offers a comprehensive program designed for all students, regardless of their educational or vocational plans. Many students in the Liberal Arts and Sciences Division plan to transfer to a four-year college or university to complete their educational program. In addition, there are many opportunities for training within the Liberal Arts and Sciences Division that will allow a student to enter the job market after one or two years at Iowa Central. This feature of the Liberal Arts and Sciences Division offers educational and vocational opportunities to persons who could not attend college full time but who can attend on a part-time basis. The Iowa Central Community College Liberal Arts and Sciences Division specializes in quality instruction, small classes, and a sincere interest in the individual. The major departments within the Arts and Sciences Division are:

Art
Business Administration
Education and Psychology
English, Speech, and Literature
Mathematics and Engineering
Modern Languages
Music
Physical and Health Education
Physical and Natural Sciences
Social Science
Theatre

College Transfer Majors

The two-year Associate in Arts Degree from the Arts and Sciences Division of Iowa Central will enable a student to enter four-year colleges and universities as a junior prepared to complete work toward a bachelor's degree in any number of major fields of study. Here is a partial list of majors students could select at a 4-year institution after their freshman and sophomore years at Iowa Central.

Accounting
Advertising
Aerospace Engineering
Agriculture Business
Agriculture Education
Agronomy
Animal Science
Anthropology
Apparel Design
Architecture
Art & Design
Athletic Trainer
Aviation
Biochemistry
Biology
Botany
Broadcasting
Business Administration
Chemistry
Child Care
Child & Family Services
Chiropractic
Civil Engineering
Coaching
Communication
Computer Science
Consumer Food Science
Criminology
Dairy Science
Dental Hygiene
Dentistry
Dietetics - Food & Nutrition
Early Childhood Education
Earth Science
Ecology
Economics
Electrical Engineering
Elementary Education
English
Entomology
Environmental Studies & Planning
Family & Consumer Sciences Ed
Family Resource Management
Farm Operations
Fashion Merchandising
Finance
Fisheries
Food Science
Forestry
French
Genetics
Geography
German
Government
History
Horticulture
Housing
Hospital Management
Hotel & Restaurant Management
Industrial Engineering
Interior Design
International Business
International Relations
Journalism
Law
Leisure Studies
Liberal Arts
Library Science
Literature
Management
Marketing
Mass Communication
Mathematics
Mechanical Engineering
Medical Technology
Medicine
Meteorology
Microbiology
Mortuary Science
Music
Nuclear Engineering
Nuclear Medical Technology
Nursing
Nutritional Science
Occupational Therapy
Optometry
Pharmacy
Philosophy
Physician Assistant
Physics
Physical Education
Physical Therapy
Physician
Plant Pathology
Podiatry
Political Science
Psychology
Public Administration
Public Relations
Radiology
Radio/TV Journalism
Recreation
Religion
Sociology
Social Science
Social Work
Soil Management
Spanish
Special Education
Speech Education
Speech Communication
Statistics
Theatre
Transportation & Logistics
Veterinary Medicine
Virology
Wildlife Biology
Zoology

College and University Transfer Information

The following courses of study are examples of how courses taken at Iowa Central meet requirements for various majors at selected four-year institutions in Iowa. The outlines are intended as guidelines for students planning to enter the profession listed. The list is not all inclusive, and students should consult with their advisors concerning requirements for their individual bachelor degree programs.

The courses of study have been compiled with the assistance of each senior college. Due to possible changes after printing, **students must assume the responsibility for their own course of study.** Students are advised to correspond with their advisors, the admissions office and the department at the college where they plan to transfer.

Transfer Agreements

Potential transfer students should be aware that the Iowa community colleges and Iowa's Public Universities have jointly developed a number of agreements to facilitate student transfer. Some of these may be of particular benefit to students. Among these agreements are the following:

Iowa Community Colleges/Iowa's Public Universities Associate of Arts (AA) Degree Articulation Agreement

Students who complete an AA degree at an Iowa community college and who subsequently enroll at one of Iowa's Public Universities are considered to have met freshman and sophomore level general education requirements for certain Bachelor's degrees under the terms specified in the agreement.

Transfer of Vocational-Technical Credits

Iowa's Public Universities accept up to 16 semester credit hours of vocational-technical courses for transfer towards a Bachelor's degree from the community colleges provided those credits apply to the AA degree at the host community college and the other Iowa community colleges. You do not have to obtain an AA degree, however, to have this credit awarded.

There are opportunities for completing a Bachelor of Applied Studies at a University after completing your Associate of Applied Science at Iowa Central. See your advisor for more information.

Buena Vista University -- Fort Dodge Center

The Fort Dodge Center of Buena Vista University opened in February 1975. This unique partnership of a public and a private institution serves the region by offering a Bachelor of Arts degree program in Fort Dodge. Students complete the first two years as Iowa Central Community College students and the junior and senior year as Buena Vista University students.

The Center appeals particularly to employed persons who cannot relocate to complete their four-year degrees. In addition to the large evening program, daytime classes are offered in several fields. Students can complete their degrees while maintaining their home and job responsibilities.

Evening courses meet twice a week for eight weeks. Five terms make up one school year. The normal course load is two courses per term, thus 30 hours are completed each year.

The Management/Entrepreneurship and the Human Services majors are available to daytime students. This program follows the Iowa Central semester schedule.

Admission

The Buena Vista Fort Dodge Center is classified as a junior-/senior-level college. Persons who have completed an Associate of Arts degree or two years of college work (60 semester hours) with an acceptable grade point average qualify for admission.

Graduation Requirements

The Center has an open admissions policy, but an overall cumulative grade point average of 2.0 is necessary for graduation. For those pursuing teacher certification, a grade point average of 2.5 for the total program and in each major and minor field is required.

Academic Programs

Buena Vista offers the following programs at the Fort Dodge Center:

Accounting
Bachelor of Applied Studies
Business Administration
Business Education
Criminology & Criminal Justice
Distributive Major
Elementary Education
English
English with Teaching Licensure (5-12)
English with Teaching Licensure (Grades K-8)
Health Services Leadership (Distributive)
History
Human Services (Distributive)
Management
Organizational Leadership
Psychology
Social Science
Sociology
Technology Management (Distributive)

Endorsements & Certification

Middle School Endorsement (5-8)
Post-Baccaulaureate Certification Program
Pre-Kindergarten/Kindergarten
Secondary School Certification
Special Education Endorsement

A significant aspect of the Fort Dodge Center is the personalized academic counseling and course programming available to students. Students planning to complete full four-year programs at Iowa Central and Buena Vista/Fort Dodge are encouraged to plan their programs with assistance from the advisors at **both institutions**.

Several types of financial aid are available to Buena Vista/Fort Dodge students. Persons wishing information about registration and transfer procedures, degree requirements, or financial aid should contact the Buena Vista/Fort Dodge Center office on the main floor of the Iowa Central Community College Liberal Arts Building. Telephone: (515) 576-4881 or 1-800-798-4881.

Associate in Arts Degree

Graduation Requirements:
Successfully complete 60 hours with a 2.00 GPA (at least 12 semester hours taken at Iowa Central, and pay non-refundable $25 graduation fee.

Transfer Students
Are your transfer courses on the Iowa Central transcript? If not, see Student Records.

I. COMMUNICATION: ENGLISH/SPEECH

9 hours required

- ❒ ENG 105 Composition I (3)
- ❒ ENG 106 Composition II (3)
- ❒ SPC 112 Public Speaking (3)

***These credits can only be used for Category V**
SPC 122 Interpersonal Communication (3)*
SPC 132 Group Communication (3)*

II. MATH AND SCIENCE

8 Hours Required (one course from each area)

Math:
- ❒ MAT 111 Math for Liberal Arts (4)
- ❒ MAT 120 College Algebra (3)
- ❒ MAT 127 College Algebra & Trigonometry (5)
- ❒ MAT 130 Trigonometry (3)
- ❒ MAT 140 Finite Math (3)
- ❒ MAT 156 Statistics (3)
- ❒ MAT 158 Statistics II (3)
- ❒ MAT 159 Statistics Laboratory (1)
- ❒ MAT 165 Business Calculus (3)
- ❒ MAT 210 Calculus I (4)

Science:
- ❒ BIO 102 Introductory Biology (3)
- ❒ BIO 103 Introductory Biology Lab (1)
- ❒ BIO 112 General Biology I (4)
- ❒ BIO 113 General Biology II (4)
- ❒ BIO 168 Human Anat & Phys I w/Lab (4)
- ❒ BIO 173 Human Anat & Phys II w/Lab (4)
- ❒ CHM 110 Introduction to Chemistry (3)
- ❒ CHM 111 Introduction to Chemistry Lab (1)
- ❒ CHM 165 General Chemistry I (4)
- ❒ CHM 175 General Chemistry II (4)
- ❒ PHS 120 Exploring Physical Science (4)
- ❒ PHS 125 Physical Science (4)
- ❒ PHY 162 College Physics 1 (4)
- ❒ PHY 212 Classical Physics I (5)
- ❒ ENV 131 Env. Sci./Future Alt. (1)
- ❒ ENV 133 Env. Sci./Pop. Prob. (1)
- ❒ ENV 135 Env. Sci./Poll. Prob. (1)

III. SOCIAL SCIENCE

9 Hours Required
(one course from each of the following two areas)

Human Relations:
- ❒ ANT 105 Cultural Anthropology (3)
- ❒ PSY 111 Introduction to Psychology (3)
- ❒ PSY 121 Developmental Psychology (3)
- ❒ PSY 251 Social Psychology (3)
- ❒ SOC 110 Introduction to Sociology (3)
- ❒ SOC 115 Social Problems (3)
- ❒ SOC 120 Marriage & Family (3)
- ❒ SOC 200 Minority Group Relations (3)

Civic Responsibility:
- ❒ GEO 121 World Regional Geography (3)
- ❒ ECN 120 Principles of Macroeconomics (3)
- ❒ ECN 130 Principles of Microeconomics (3)
- ❒ POL 111 American National Govt. (3)
- ❒ POL 112 American State/Local Govt. (3)
- ❒ POL 121 International Relations (3)

History:
- ❒ HIS 112 Western Civ.: Ancient to Early Modern (4)
- ❒ HIS 113 Western Civ.: Early Modern to Present (4)
- ❒ HIS 151 U.S. History to 1877 (3)
- ❒ HIS 152 U.S History since 1877 (3)

IV. HUMANITIES

9 Hours Required
(one course from two of the following four areas.)

Aesthetic Perspectives:
- ❒ ART 101 Art Appreciation (3)
- ❒ ART 133 Drawing (3)
- ❒ ART 151 Design 1 (3)
- ❒ ART 203 Art History I (3)
- ❒ ART 204 Art History II (3)
- ❒ DRA 101 Introduction to Theater (3)
- ❒ DRA 130 Acting 1 (3)
- ❒ ENG 221 Creative Writing (3)
- ❒ HUM 113 Exploring the Humanities (3)
- ❒ LIT 101 Introduction to Literature (3)
- ❒ LIT 114 American Literature (3)
- ❒ LIT 155 Modern World Fiction (3)
- ❒ MUS 104 Exploring Music (3)
- ❒ SPC 140 Oral Interpretation (3)

Ethical/Religious Perspectives:
- ❒ HUM 185 Technology & Social Change (3)
- ❒ PHI 145 Introduction to Ethical Conflicts (3)
- ❒ REL 105 Introduction to Religion (3)

Cultural Studies:
- ❒ CLS 130 African Cultures (3)
- ❒ CLS 141 Middle Eastern History & Culture (3)
- ❒ CLS 150 Latin American History & Culture (3)
- ❒ CLS 170 Russian History & Culture (3)
- ❒ CLS 181 American Diversity (3)
- ❒ CLS 210 Cultures in Transition (3)
- ❒ HIS 211 Modern Asian History (3)

Modern Languages:
- ❒ ASL 131 American Sign Language I (3)
- ❒ ASL 161 American Sign Language II (3)
- ❒ FLC 141 Elementary Chinese I (4)
- ❒ FLC 142 Elementary Chinese II (4)
- ❒ FLG 141-142 Elementary German I/II (4)
- ❒ FLG 241-242 Intermediate German I/II (4)
- ❒ FLS 141-142 Elementary Spanish I/II (4)
- ❒ FLS 241-242 Intermediate Spanish I/II (4)
- ❒ FLS 271-272 Advanced Spanish I/II (4)

V. DISTRIBUTED REQUIREMENTS

5 additional hours required from categories I-IV

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VI. INSTITUTIONAL REQUIREMENT

1 hour required

- ❒ SDV 107 Health Science College Experience (1)
- ❒ SDV 108 The College Experience (1)
- ❒ SDV 116 Strategies for Online Success (1)
- ❒ SDV 118 The Online Experience (3)

VII. COMPUTER LITERACY

3 Hours Required

- ❒ CSC 110 Introduction to Computers (3)
- ❒ CIS 162 C++ (4)
- ❒ EDU 255 Technology in the Classroom (3)
- ❒ NET 110 Microcomputer Fundamentals (3)

VIII. ELECTIVES

16 Hours Required

16 hours may be selected from Arts & Sciences courses or 16 hours of vocational courses may be used.

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Developmental courses that DO NOT apply toward 60 hours to graduate:

	COMPASS	ACT
❒ ENG 096 Fundamentals of Writing (4) (5)	0-37	0-13
❒ RDG 048 Basic Reading (4)	0-60	0-13
❒ RDG 010 Reading I (1)	61-79	14-17
❒ MAT 045 Fundamentals of Math (4)	P 0-33	0-15
❒ MAT 063 Elementary Algebra (4)	P 34-63 A 0-50	16-19
❒ Retest or Faculty Recommendation		
❒ No Developmental Courses Required		

Effective Fall 2013
Approved 02/05/13

Associate in Science Degree

Graduation Requirements:
Successfully complete 60 hours with a 2.00 GPA (at least 12 semester hours taken at Iowa Central) and pay non-refundable $25 graduation fee.

Transfer Students
Are your transfer courses on the Iowa Central transcript? If not, see Student Records.

I. COMMUNICATION: ENGLISH/SPEECH

9 hours required

- ❒ ENG 105 Composition I (3)
- ❒ ENG 106 Composition II (3)
- ❒ SPC 112 Public Speaking (3)

***These credits can only be used for Category V**
SPC 122 Interpersonal Communication (3)*
SPC 132 Group Communication (3)*

II. MATH AND SCIENCE

20 Hours Required
(one course from at least each of the following areas)

Math:
- ❒ MAT 120 College Algebra (3)
- ❒ MAT 127 College Algebra & Trigonometry (5)
- ❒ MAT 130 Trigonometry (3)
- ❒ MAT 140 Finite Math (3)
- ❒ MAT 156 Statistics (3)
- ❒ MAT 158 Statistics II (3)
- ❒ MAT 159 Statistics Laboratory (1)
- ❒ MAT 165 Business Calculus (3)
- ❒ MAT 210 Calculus I (4)
- ❒ MAT 216 Calculus II (4)
- ❒ MAT 219 Calculus III (4)
- ❒ MAT 226 Differential Equations w/Laplace (3)

Science:
- ❒ BIO 112 General Biology I (4)
- ❒ BIO 113 General Biology II (4)
- ❒ BIO 151 Nutrition (3)
- ❒ BIO 168 Human Anat & Phys I w/Lab (4)
- ❒ BIO 173 Human Anat & Phys II w/Lab (4)
- ❒ BIO 186 Microbiology (4)
- ❒ CHM 165 General Chemistry I (4)
- ❒ CHM 175 General Chemistry II (4)
- ❒ CHM 261 Organic Chemistry I (4)
- ❒ CHM 271 Organic Chemistry II (4)
- ❒ PHY 162 College Physics I (4)
- ❒ PHY 172 College Physics II (4)
- ❒ PHY 212 Classical Physics I (5)
- ❒ PHY 222 Classical Physics II (5)

III. SOCIAL SCIENCE

6 Hours Required
(one course from at least two of the following three areas)

Human Relations:
- ❒ ANT 105 Cultural Anthropology (3)
- ❒ PSY 111 Introduction to Psychology (3)
- ❒ PSY 121 Developmental Psychology (3)
- ❒ PSY 251 Social Psychology (3)
- ❒ SOC 110 Introduction to Sociology (3)
- ❒ SOC 115 Social Problems (3)
- ❒ SOC 120 Marriage & Family (3)
- ❒ SOC 200 Minority Group Relations (3)

Civic Responsibility:
- ❒ GEO 121 World Regional Geography (3)
- ❒ ECN 120 Principles of Macroeconomics (3)
- ❒ ECN 130 Principles of Microeconomics (3)
- ❒ POL 111 American National Govt. (3)
- ❒ POL 112 American State/Local Govt. (3)
- ❒ POL 121 International Relations (3)

History:
- ❒ HIS 112 Western Civ.: Ancient to Early Modern (4)
- ❒ HIS 113 Western Civ.: Early Modern to Present (4)
- ❒ HIS 151 U.S. History to 1877 (3)
- ❒ HIS 152 U.S History since 1877 (3)

IV. HUMANITIES

3 Hours Required
(one course from one of the following four areas)

Aesthetic Perspectives:
- ❒ ART 101 Art Appreciation (3)
- ❒ ART 133 Drawing (3)
- ❒ ART 151 Design I (3)
- ❒ ART 203 Art History I (3)
- ❒ ART 204 Art History II (3)
- ❒ DRA 101 Introduction to Theater (3)
- ❒ DRA 130 Acting I (3)
- ❒ ENG 221 Creative Writing (3)
- ❒ HUM 113 Exploring the Humanities (3)
- ❒ LIT 101 Introduction to Literature (3)
- ❒ LIT 114 American Literature (3)
- ❒ LIT 155 Modern World Fiction (3)
- ❒ MUS 104 Exploring Music (3)
- ❒ SPC 140 Oral Interpretation (3)

Ethical/Religious Perspectives:
- ❒ HUM 185 Technology & Social Change (3)
- ❒ PHI 145 Introduction to Ethical Conflicts (3)
- ❒ REL 105 Introduction to Religion (3)

Cultural Studies:
- ❒ CLS 130 African Cultures (3)
- ❒ CLS 141 Middle Eastern History & Culture (3)
- ❒ CLS 150 Latin American History & Culture (3)
- ❒ CLS 170 Russian History & Culture (3)
- ❒ CLS 181 American Diversity (3)
- ❒ CLS 210 Cultures in Transition (3)
- ❒ HIS 211 Modern Asian History (3)

Modern Languages:
- ❒ ASL 131 American Sign Language I (3)
- ❒ ASL 161 American Sign Language II (3)
- ❒ FLC 141 Elementary Chinese I (4)
- ❒ FLC 142 Elementary Chinese II (4)
- ❒ FLG 141-142 Elementary German I/II (4)
- ❒ FLG 241-242 Intermediate German I/II (4)
- ❒ FLS 141-142 Elementary Spanish I/II (4)
- ❒ FLS 241-242 Intermediate Spanish I/II (4)
- ❒ FLS 271-272 Advanced Spanish I/II (4)

V. DISTRIBUTED REQUIREMENTS

2 additional hours required from categories I-IV

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VI. INSTITUTIONAL REQUIREMENT

1 hour required

- ❒ SDV 107 Health Science College Experience (1)
- ❒ SDV 108 The College Experience (1)
- ❒ SDV 116 Strategies for Online Success (1)
- ❒ SDV 118 The Online Experience (3)

VII. COMPUTER LITERACY

3 Hours Required

- ❒ CSC 110 Introduction to Computers (3)
- ❒ CIS 162 C++ (4)
- ❒ EDU 255 Technology in the Classroom (3)
- ❒ NET 110 Microcomputer Fundamentals (3)

VIII. ELECTIVES

16 Hours Required

16 hours may be selected from Arts & Sciences courses or 16 hours of vocational courses may be used.

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Developmental courses that DO NOT apply toward 60 hours to graduate:

	COMPASS	ACT
❒ ENG 096 Fundamentals of Writing (4)	0-37	0-13
❒ RDG 048 Basic Reading (4)	0-60	0-13
❒ RDG 010 Reading I (1)	61-79	14-17
❒ MAT 045 Fundamentals of Math (4)	P 0-33	0-15
❒ MAT 063 Elementary Algebra (4)	P 34-63 A 0-50	16-19
❒ Retest or Faculty Recommendation		
❒ No Developmental Courses Required		

Effective Fall 2013
Approved 02/05/13

Associate of Science-Career Option Degree

Graduation Requirements:
Successfully complete 60 hours with a 2.00 GPA (at least 12 semester hours taken at Iowa Central) and pay non-refundable $25 graduation fee.

Transfer Students
Are your transfer courses on the Iowa Central transcript? If not, see Student Records.

You must also complete the requirements for one of the Career Option programs listed: Accounting Associate, Business, Criminal Justice, Health Care Administration, Human Services, or Professional Pilot.

I. COMMUNICATION: ENGLISH/SPEECH

9 hours required

- ❒ ENG 105 Composition I (3)
- ❒ ENG 106 Composition II (3)
- ❒ SPC 112 Public Speaking (3)

II. MATH AND SCIENCE

6 Hours Required
(3 semester hours from each area)

Math:
- ❒ MAT 111 Math for Liberal Arts (4)
- ❒ MAT 120 College Algebra (3)
- ❒ MAT 127 College Algebra & Trigonometry (5)
- ❒ MAT 130 Trigonometry (3)
- ❒ MAT 140 Finite Math (3)
- ❒ MAT 156 Statistics (3)
- ❒ MAT 158 Statistics II (3)
- ❒ MAT 159 Statistics Laboratory (1)
- ❒ MAT 165 Business Calculus (3)
- ❒ MAT 210 Calculus I (4)

Science:
- ❒ BIO 102 Introductory Biology (3)
- ❒ BIO 103 Introductory Biology Lab (1)
- ❒ BIO 112 General Biology I (4)
- ❒ BIO 113 General Biology II (4)
- ❒ BIO 168 Human Anat & Phys I w/Lab (4)
- ❒ BIO 173 Human Anat & Phys II w/Lab (4)
- ❒ CHM 110 Introduction to Chemistry (3)
- ❒ CHM 111 Introduction to Chemistry Lab (1)
- ❒ CHM 165 General Chemistry I (4)
- ❒ CHM 175 General Chemistry II (4)
- ❒ PHS 120 Exploring Physical Science (4)
- ❒ PHS 125 Physical Science (4)
- ❒ PHY 162 College Physics 1 (4)
- ❒ PHY 212 Classical Physics I (5)
- ❒ ENV 131 Env. Sci./Future Alt. (1)
- ❒ ENV 133 Env. Sci./Pop. Prob. (1)
- ❒ ENV 135 Env. Sci./Poll. Prob. (1)

III. SOCIAL SCIENCE

6 Hours Required
(one course from at least two of the following three areas)

Human Relations:
- ❒ ANT 105 Cultural Anthropology (3)
- ❒ PSY 111 Introduction to Psychology (3)
- ❒ PSY 121 Developmental Psychology (3)
- ❒ PSY 251 Social Psychology (3)
- ❒ SOC 110 Introduction to Sociology (3)
- ❒ SOC 115 Social Problems (3)
- ❒ SOC 120 Marriage & Family (3)
- ❒ SOC 200 Minority Group Relations (3)

Civic Responsibility:
- ❒ GEO 121 World Regional Geography (3)
- ❒ ECN 120 Principles of Macroeconomics (3)
- ❒ ECN 130 Principles of Microeconomics (3)
- ❒ POL 111 American National Govt. (3)
- ❒ POL 112 American State/Local Govt. (3)
- ❒ POL 121 International Relations (3)

History:
- ❒ HIS 112 Western Civ.: Ancient to Early Modern (4)
- ❒ HIS 113 Western Civ.: Early Modern to Present (4)
- ❒ HIS 151 U.S. History to 1877 (3)
- ❒ HIS 152 U.S History since 1877 (3)

IV. HUMANITIES

6 Hours Required
(one course from at least two of the following four areas)

Aesthetic Perspectives:
- ❒ ART 101 Art Appreciation (3)
- ❒ ART 133 Drawing (3)
- ❒ ART 151 Design I (3)
- ❒ ART 203 Art History I (3)
- ❒ ART 204 Art History II (3)
- ❒ DRA 101 Introduction to Theater (3)
- ❒ DRA 130 Acting I (3)
- ❒ ENG 221 Creative Writing (3)
- ❒ HUM 113 Exploring the Humanities (3)
- ❒ LIT 101 Introduction to Literature (3)
- ❒ LIT 114 American Literature (3)
- ❒ LIT 155 Modern World Fiction (3)
- ❒ MUS 104 Exploring Music (3)
- ❒ SPC 140 Oral Interpretation (3)

Ethical/Religious Perspectives:
- ❒ HUM 185 Technology & Social Change (3)
- ❒ PHI 145 Introduction to Ethical Conflicts (3)
- ❒ REL 105 Introduction to Religion (3)

Cultural Studies:
- ❒ CLS 130 African Cultures (3)
- ❒ CLS 141 Middle Eastern History & Culture (3)
- ❒ CLS 150 Latin American History & Culture (3)
- ❒ CLS 170 Russian History & Culture (3)
- ❒ CLS 181 American Diversity (3)
- ❒ CLS 210 Cultures in Transition (3)
- ❒ HIS 211 Modern Asian History (3)

Modern Languages:
- ❒ ASL 131 American Sign Language I (3)
- ❒ ASL 161 American Sign Language II (3)
- ❒ FLC 141 Elementary Chinese I (4)
- ❒ FLC 142 Elementary Chinese II (4)
- ❒ FLG 141-142 Elementary German I/II (4)
- ❒ FLG 241-242 Intermediate German I/II (4)
- ❒ FLS 141-142 Elementary Spanish I/II (4)
- ❒ FLS 241-242 Intermediate Spanish I/II (4)
- ❒ FLS 271-272 Advanced Spanish I/II (4)

V. INSTITUTIONAL REQUIREMENT

1 hour required

- ❒ SDV 107 Health Science College Experience (1)
- ❒ SDV 108 The College Experience (1)
- ❒ SDV 116 Strategies for Online Success (1)
- ❒ SDV 118 The Online Experience (3)

VI. COMPUTER LITERACY

3 Hours Required

- ❒ CSC 110 Introduction to Computers (3)
- ❒ CIS 162 C++ (4)
- ❒ EDU 255 Technology in the Classroom (3)
- ❒ NET 110 Microcomputer Fundamentals (3)

Developmental courses that DO NOT apply toward 60 hours to graduate:

	COMPASS	ACT
❒ ENG 096 Fundamentals of Writing (4)	0-37	0-13
❒ RDG 048 Basic Reading (4)	0-60	0-13
❒ RDG 010 Reading I (1)	61-79	14-17
❒ MAT 045 Fundamentals of Math (4)	P 0-33	0-15
❒ MAT 063 Elementary Algebra (4)	P 34-63 A 0-50	16-19
❒ Retest or Faculty Recommendation		
❒ No Developmental Courses Required		

Effective Fall 2013
Approved 03/12/13

Agriculture

Industrial Technology Department

Program Description: Iowa Central offers a unique educational program in Agriculture. Typically, the first two years of the program are taken at Iowa Central and the final two years are completed at a four-year University. Courses will be selected to align with specific programs at four-year institutions.

Suggested Program of Study:

English/Speech Communication - 9 cr. required		Sem. Hrs.
ENG-105	Composition I	3
ENG-106	Composition II	3
SPC-112	Public Speaking	3

Math and Science - 8 cr. required		Sem. Hrs.
MAT-140	Finite Math	3
MAT-156	Statistics	3
	or	
MAT-127	College Algebra & Trigonometry	5
BIO-102	Introductory Biology	3
BIO-103	Introductory Biology Lab	1
	or	
BIO-112	General Biology I	4
CHM-110	Introduction to Chemistry	3
CHM-111	Introduction to Chemistry Lab	1
	or	
CHM-165	General Chemistry I	4

Social Science - 9 cr. required		Sem. Hrs.
	Social Science Elective*	3
	Social Science Elective*	3
	Social Science Elective*	3

Humanities - 9 cr. required		Sem. Hrs.
	Humanities Elective*	3
	Humanities Elective*	3
	Humanities Elective*	3

Distributed Requirements - 5 cr. required		Sem. Hrs.
	5 additional hours required from above categories	5

Computer Literacy - 3 cr. required		Sem. Hrs.
CSC-110	Introduction to Computers	3

College Experience		Sem. Hrs.
SDV-108	College Experience	1

Electives - 16 cr. required		Sem. Hrs.
AGA-852	Principles of Crop Production	3
AGS-113	Survey of the Animal Industry	3
AGB-235	Introduction to Agriculture Markets	3
AGA-390	Introduction to Renewable Resources	3
AGB-330	Farm Business Management	3
AGS-401	Swine Production	3
AGS-553	Beef Production	3
AGB-133	Introduction to Ag Business	3
AGB-336	Agricultural Sales	3
AGE-219	Equine Science	3
AGA-154	Fundamentals of Soil Science	3
AGA-155	Fundamentals of Soil Science Lab	1
AGA-380	Integrated Pest Management	4
AGP-336	Precision Agriculture	3
AGC-129	Sustainable Agriculture	3
AGC-940	On-the-Job Training	3
AGH-221	Principles of Horticulture	3
AGA-271	Advanced Corn and Soybean Production	3
ACC-142	Financial Accounting	3
ACC-146	Managerial Accounting	3
AGP-330	Advanced GPS	3

Art

Humanities Department

Program Description: The Art Department provides a problem solving structure in which students can explore ideas, enhance visual perception and develop creative thinking skills. Students will acquire basic visual vocabulary, an understanding of the "story" of art and an appreciation of the contribution of artists to the fabric of society. Art classes at Iowa Central are designed to provide a complete curriculum for art majors planning to transfer into a four-year art program, as well as exploratory courses designed for the non-art major. To succeed in art, students need an active imagination, a curious mind and perseverance to acquire the skills relevant to the design process. Students planning to major in art should enroll in a variety of art courses offered at Iowa Central.

Suggested Program of Study:

First Semester		Sem. Hrs.
ART-101	Art Appreciation	3
PSY-111	Introduction to Psychology	3
ENG-105	Composition I	3
SDV-108	The College Experience	1
CSC-110	Introduction to Computers	3
	Studio Course	3
	Total Hours	**16**

Second Semester		Sem. Hrs.
ENG-106	Composition II	3
POL-111	American National Government	3
MAT-111	Math for Liberal Arts	4
ART-133	Drawing	3
	Studio Course	3
	Total Hours	**16**

Third Semester		Sem. Hrs.
ART-203	Art History I	3
SPC-112	Public Speaking	3
BIO-102	Introductory Biology	3
BIO-103	Introductory Biology Lab	1
	Studio Course	3
	Total Hours	**13**

Fourth Semester		Sem. Hrs.
ART-204	Art History II	3
REL-105	Introduction to Religion	3
SOC-110	Introduction to Sociology	3
	Studio Course	3
	Studio Course	3
	Total Hours	**15**

It is strongly recommended that students who intend to transfer into art and design majors take additional studio work, selecting from the following classes:

Painting I & II
Graphic Design I & II
Ceramics I & II
Photography I & II

Athletic Training

Business Department

Program Description: The Athletic Training degree at Iowa Central Community College will allow students to gain valuable experience in the field of Athletic Training while still obtaining the Associate of Arts degree for transfer to the 4-year institution of their choice. The curriculum is rich in Physical Education and Science to give the student a strong understanding of the human body, anatomy, and physiology as well as experience working with athletes in the college setting.

Athletic Training students will have the opportunity to work with men's and women's athletic teams that compete at the National Junior College Athletic Association (NJCAA) Division II level. Athletic teams include Baseball, Men's and Women's Basketball, Softball, Men's and Women's Rodeo, Men's and Women's Golf, Men's and Women's Soccer, Wrestling, Volleyball, Football, Men's and Women's Track and Field, Men's and Women's Cross Country, and Men's and Women's Swimming.

Within the program, the students will embark on field experience on the playing and practice fields as well as a work clinical where the student will gain experience as an athletic trainer in the workplace. During these clinical experiences, the students will be assigned to an approved clinical instructor (ACI) at various settings both on and off campus. Through these assignments, the students are exposed to the various aspects of organization and administration of the athletic training program while utilizing the athletic training staff as a resource. This wide range of experience enhances the total development of each athletic training student's skills.

Suggested Program of Study:

First Semester		Sem. Hrs.
ENG 105	Composition I	3
PEH 141	First Aid	2
PSY 111	Introduction to Psychology	3
BIO 168	Human Anatomy & Physiology I w/lab	4
PET 105	Basic Athletic Training	3
SDV 108	The College Experience	1
	Total Hours	**16**

Second Semester		Sem. Hrs.
ENG 106	Composition II	3
CSC 110	Intro to Computers	3
BIO 151	Nutrition	3
BIO 173	Human Anatomy & Physiology II w/lab	4
	Social Science Elective*	3
	Total Hours	**16**

Third Semester		Sem. Hrs.
SPC 112	Public Speaking	3
BIO 102	Introductory Biology**	3
BIO 103	Introductory Biology Lab**	1
MAT 156	Statistics**	3
	Humanities Elective*	3
	Humanities Elective*	3
	Total Hours	**16**

Fourth Semester		Sem. Hrs.
CHM 165	General Chemistry**	4
PEH 185	Contemporary Health Issues	3
	Social Science Elective*	3
	Humanities Elective*	3
	General Education Course***	3
	Total Hours	**16**

**Course must be chosen from appropriate AA/AS general education list*

***To ensure best transfer, student and advisor should confirm Math and Science classes with transfer institution*

****Must be selected from areas I-IV section of AA degree sheet*

Business Administration

Business Department

Program Description: Business graduates from four-year universities can expect work in all sectors of business, from small businesses and entrepreneurial start-ups to large Fortune 500 corporations and government agencies. Students can start their progression toward business career goals by completing a large part of their general education and core business courses at Iowa Central. In addition, the Business Department offers a wide range of business electives in accounting, business and web technology, and multimedia. Scholarships, field trips, state and national competitions, along with experienced business instructors help students succeed in today's business world.

Employment for business graduates exists in both profit and nonprofit organizations across the nation as well as internationally. Iowa Central's Business Administration program provides students opportunities to explore the many facets of business and also provides the necessary preparation for further study at a four-year institution.

The following schedule is a guide to obtain an Associate of Arts Degree from Iowa Central Community College. Students should check with the transfer institution on specific requirements. Additional courses may be required before taking a college-level English or Mathematics course.

Suggested Program of Study:

First Semester		Sem. Hrs.
CSC-110	Introduction to Computers	3
ENG-105	Composition I	3
MAT-156	Statistics	3
ACC-142	Financial Accounting	3
SDV-108	The College Experience	1
	Humanities Elective*	3
	Total Hours	**16**

Second Semester		Sem. Hrs.
ACC-146	Managerial Accounting	3
ENG-106	Composition II	3
	Math Elective*	3
	Humanities Elective*	3
	Science Elective* & Lab	4
	Total Hours	**16**

Third Semester		Sem. Hrs.
BUS-185	Business Law 1	3
ECN-120	Principles of Macroeconomics	3
SPC-112	Public Speaking	3
	Social Science/Humanities Elective*	3
	Social Science Elective*	3
	Total Hours	**15**

Fourth Semester		Sem. Hrs.
MGT-101	Principles of Management	3
ECN-130	Principles of Macroeconomics	3
	Business Elective*	3
	Business Elective*	3
	Humanities Elective*	3
	Total Hours	**15**

**Electives must be chosen from the current A.A. degree list.*

Chiropractic

Science Department

Program Description: A minimum of two years of college is required for entrance into one of the sixteen colleges in the United States that have programs in chiropractic medicine. Some chiropractic schools encourage prospective students to have as many as ninety hours of undergraduate course work. Factors considered for admission to chiropractic schools generally involve overall grade point average and science grade point average, credit earned, letters of recommendation and person profile essays.

The following schedule is a guide to obtain an Associate of Arts Degree from Iowa Central Community College. Additional developmental courses may be required before you can take a college-level English or Math course. Check with transfer institution on specific requirements.

Suggested Program of Study:

First Semester		Sem. Hrs.
ENG-105	Composition I	3
MAT-127	College Algebra & Trigonometry	5
CHM-165	General Chemistry I	4
BIO-112	General Biology I	4
	The College Experience	1
	Total Hours	**17**

Second Semester		Sem. Hrs.
PSY-111	Introduction to Psychology	3
ENG-106	Composition II	3
BIO-113	General Biology II	4
CHM-175	General Chemistry II	4
	Humanities Elective	3
	Total Hours	**17**

Third Semester		Sem. Hrs.
SPC-112	Public Speaking	3
PHY-162	College Physics I	4
CHM-261	Organic Chemistry I	4
CSC-110	Introduction to Computers	3
	Humanities Elective	3
	Social Science Elective	3
	Total Hours	**20**

Fourth Semester		Sem. Hrs.
CHM-271	Organic Chemistry II	4
PHY-172	College Physics II	4
ECN-130	Principles of Micro Economics	3
	Humanities Electives	3
	Social Science Elective	3
	Total Hours	**17**

Coaching Authorization

Business Department

Program Description: Students completing the core courses for the state coaching authorization can receive a certificate from Iowa Central Community College. Students who complete this program will qualify for the Department of Education coaching authorization.

Non-credit courses are also offered to satisfy the requirements of the Coaching Authorization.

Students who have completed all four requirements can contact the Board of Education Examiners for the Coaching Authorization application.

The following courses are required to conmplete:

		Sem. Hrs.
*PEC-123	Anatomy for Coaching	1
**PEC-110	Coaching Ethics, Techniques and Theory	1
***PEC-115	Athletic Development and Human Growth	1
****PEC-127	Care and Prevention of Athletic Injuries	2

Substitute courses:

*PEC-121	Body Structure and Function	2
**PEC-111	Techniques and Theory of Coaching	2
***PSY-121	Developmental Psychology	3
****BIO-163	Essentials of Anatomy & Physiology	4

Dentistry

Science Department

Program Description: At least two years of college training is required before a person can be admitted to dental school in the United States. During these two years, the pre-dentistry student should develop a strong science background and excellent communication skills.

The following schedule is a guide to obtain an Associate of Arts Degree from Iowa Central Community College. Additional developmental courses may be required before you can take a college-level English or Math course. Check with transfer institution on specific requirements.

Suggested Program of Study:

First Semester		Sem. Hrs.
ENG-105	Composition I	3
MAT-210	Calculus I	4
CHM-165	General Chemistry I	4
BIO-112	General Biology I	4
SDV-108	The College Experience	1
	Total Hours	16

Second Semester		Sem. Hrs.
PSY-111	Introduction to Psychology	3
ENG-106	Composition II	3
BIO-113	General Biology II	4
CHM-175	General Chemistry II	4
CSC-110	Introduction to Computers	3
	Humanities Elective	3
	Total Hours	20

Third Semester		Sem. Hrs.
SPC-112	Public Speaking	3
CHM-261	Organic Chemistry I	4
PHY-162	College Physics I	4
	Social Science Elective	3
	Humanities Elective	3
	Total Hours	17

Fourth Semester		Sem Hrs.
MAT-156	Statistics	3
CHM-271	Organic Chemistry II	4
PHY-172	College Physics II	4
	Social Science Elective	3
	Humanities Elective	3
	Total Hours	17

Early Childhood Education

Education Department

The decision to work with preschool age children is one of the most important career decisions that one can make. A preschool teacher or caregiver is a special person in children's lives as they master new skills, develop friendships, grow in independence, and move to new levels of thinking and understanding about themselves and the world. It is an exciting and challenging responsibility to set up a supportive learning environment for a group of preschoolers, develop a relationship with each one, and meet their needs as individuals and as a group. Children's learning experiences during this period in their lives can increase their self-confidence and readiness for elementary school.

Iowa Central's Early Childhood Education program is designed for students planning to work with children in a preschool, infant/toddler, family, day care, or home visitor setting. Many early childhood education positions require a Child Development Associate (CDA) license, issued by the Child Development Associate National Credentialing (CDANC) Association. The purpose of this national certification program is to enhance the quality of child care by defining, evaluating, and recognizing the competence of child care providers and home visitors.

Suggested Program of Study:

First Semester		Sem. Hrs.
EDU-213	Introduction to Education	3
PSY-111	Introduction to Psychology	3
ENG-105	Composition I	3
SDV-108	The College Experience	1
SOC-110	Introduction to Sociology	3
PEH-141	First Aid	2
	Total Hours	**15**

Second Semester		Sem. Hrs.
ENG-106	Composition II	3
POL-111	American National Government	
	or	
POL-112	American State & Local Government	3
EDU-255	Technology in the Classroom	3
MAT-111	Math for Liberal Arts	4
GEO-121	World Regional Geography	3
	Total Hours	**16**

Third Semester		Sem. Hrs.
PSY-121	Developmental Psychology	3
EDU-235	Children's Literature	3
SPC-112	Public Speaking	3
BIO-102	Introductory Biology	3
BIO-103	Introductory Biology Lab	1
PSY-222	Child Psychology	3
	Total Hours	**16**

Fourth Semester		Sem. Hrs.
EDU-115	Education and the Teaching Process	4
REL-105	Introduction to Religion	3
MAT-117	Math for Elementary Teachers	3
	Humanities Elective	3
	History Elective	3
	Total Hours	**16**

Elementary or Secondary Education

Education Department

Program Description: To become a teacher, a student must graduate from an accredited teacher training institution. Students can attend Iowa Central for their first two years and then transfer to a public or private college for the remaining two years. After completing the necessary coursework, students at Iowa Central can receive an Associate of Arts degree with a concentration in Elementary Education. Iowa Central's education curriculum combines a strong arts and science core with professional courses in education. This curriculum provides general education coursework, specific skills training, and direct experience working with children and young people in a school setting. The student who completes an Associate of Arts degree at Iowa Central with a concentration in Elementary Education will be prepared to function in a variety of supportive roles as part of an educational team.

Our education students have gone to a wide variety of senior colleges and universities. Iowa Central students are prepared to do well and have become award-winning educators. Our graduates regularly attend all major colleges in Iowa as well as the three regent universities. They are employed as classroom teachers, administrators, counselors, and librarians. Course work at Iowa Central has provided a strong foundation to support their efforts.

Suggested Program of Study - Elementary Education:

First Semester		Sem. Hrs.
EDU-213	Introduction to Education	3
PSY-111	Introduction to Psychology	3
ENG-105	Composition I	3
POL-111	American National Government	3
SDV-108	The College Experience	1
PHI-145	Introduction to Ethical Conflicts	3
	Total Hours	16

Second Semester		Sem. Hrs.
PSY-121	Developmental Psychology	3
ENG-106	Composition II	3
SOC-120	Marriage and Family	3
BIO-102	Introductory Biology	3
BIO-103	Introductory Biology Lab	1
	History Elective	3
	Total Hours	16

Third Semester		Sem. Hrs.
EDU-235	Children's Literature	3
EDU-255	Technology in the Classroom	3
SPC-112	Public Speaking	3
MAT-111	Math for Liberal Arts	4
PSY-222	Child Psychology	3
	Total Hours	16

Fourth Semester		Sem. Hrs.
EDU-115	Education and the Teaching Process	4
MAT-117	Math for Elementary Teachers	3
GEO-121	World Geography	3
REL-105	Introduction to Religion	3
	History Elective	3
	Total Hours	16

Suggested Program of Study - Secondary Education:

First Semester		Sem. Hrs.
EDU-213	Introduction to Education	3
PSY-111	Introduction to Psychology	3
ENG-105	Composition I	3
POL-111	American National Government	3
SDV-108	The College Experience	1
	Elective (Concentration)	3
	Total Hours	16

Second Semester		Sem. Hrs.
PSY-121	Developmental Psychology	3
ENG-106	Composition II	3
PHI-145	Introduction to Ethical Conflicts	3
BIO-102	Introductory Biology	3
BIO-103	Introductory Biology Lab	1
	History Elective	3
	Total Hours	16

Third Semester		Sem. Hrs.
SOC-110	Introduction to Sociology	3
SPC-112	Public Speaking	3
MAT-111	Math for Liberal Arts	4
	History Elective	3
	Elective (Concentration)	3
	Total Hours	16

Fourth Semester		Sem. Hrs..
EDU-115	Education and the Teaching Process	4
PSY-281	Educational Psychology	3
GEO-121	World Geography	3
REL-105	Introduction to Religion	3
	Social Science Elective	3
	Total Hours	16

Engineering

Math & Science Department

Program Description: Engineering has always been a popular field for people who are mathematically and scientifically inclined. Obtaining a solid mathematical and scientific background at Iowa Central can be your first step on the road that leads to a career in engineering. Pre-engineering students complete a sequence of courses in calculus as well as related courses. For students who need to strengthen their background in math, Iowa Central has a precalculus sequence which includes two algebra courses and College Algebra and Trigonometry. This set of courses prepares students for the calculus sequence.

The following schedule is a guide to obtain an Associate of Arts Degree from Iowa Central Community College. Additional developmental courses may be required before you can take a college-level English or Math course. Check with transfer institutions on specific requirements.

Suggested Program of Study:

First Semester		Sem. Hrs.
ENG-105	Composition I	3
MAT-210	Calculus I	4
MAT-180	Engineering Problems	2
CHM-165	General Chemistry I	4
SDV-108	The College Experience	1
	Humanities Elective	3
	Total Hours	**17**

Second Semester		Sem. Hrs.
ENG-106	Composition II	3
MAT-216	Calculus II	4
CSC-110	Introduction to Computers	3
	Science Elective	4
	Humanities Elective	3
	Total Hours	**17**

Third Semester		Sem. Hrs.
SPC-112	Public Speaking	3
MAT-156	Statistics	3
CIS-162	C++	4
PHY-212	Classical Physics I	5
	Social Science Elective	3
	Total Hours	**18**

Fourth Semester		Sem. Hrs.
MAT-226	Differential Equations	3
PHY-222	Classical Physics II	5
	Humanities Elective	3
	2 Social Science Electives	6
	Total Hours	**17**

*Calculus III is recommended.

English/Communication

Communications Department

Program Description: The Language Arts Department offers a variety of classes in many different areas of study. Whether you are interested in advertising, writing, teaching, human resources, journalism, business, literature, or communications, a class suited to your needs is available here at Iowa Central.

We currently carry classes that deal with many issues surrounding the workplace, daily life, and social changes happening throughout the world. Within these classes decision making, critical thinking, comparison, and analysis are used to provide you with a greater understanding of the world in which we live.

The literature courses provide an avenue for understanding the history, and possible futures, of America and the world. By presenting imaginative writing styles such as short story, drama, poetry, and novel, and studying the great authors in all genres, we hope to expand your mind so you can accomplish anything you wish.

The Broadcasting department has long been known for its student run radio station, 88.1 KICB-FM. 88 1 The Point caters towards an audience between the ages of 13-34 with mainly Alternative music being broadcast. The lively atmosphere and immediate "on air" experience make this program bettered by none. You could also work on the college's award winning newspaper, The Collegian. The Collegian is a student-run publication allowing the students to be responsible for content, design, and production of the newspaper.

Suggested Program of Study for Literature:

First Semester		Sem. Hrs.
ENG-105	Composition I	3
LIT-101	Introduction to Literature	3
CSC-110	Introduction to Computers	3
SDV-108	The College Experience	1
	Math or Science Elective	4
	Total Hours	**14**

Second Semester		Sem. Hrs.
ENG-106	Composition II	3
LIT-114	American Literature	3
PSY-111	Introduction to Psychology	3
	History Elective	3
	Math or Science Elective	4
	Total Hours	**16**

Third Semester		Sem. Hrs.
SPC-112	Public Speaking	3
PSY-121	Developmental Psychology	3
LIT-155	Modern World Fiction	3
HUM-133	Exploring the Humanities	3
PHI-145	Introduction to Ethical Conflicts	3
	History Elective	3
	Total Hours	**18**

Fourth Semester		Sem. Hrs.
ENG-220	Creative Writing	3
ANT-105	Cultural Anthropology	3
POL-111	American National Government	3
SPC-122	Interpersonal Communication	3
SPC-132	Group Communication	3
	Total Hours	**15**

Family & Consumer Sciences

Various Departments

Iowa State University

Students planning to enter the College of Family and Consumer Sciences at Iowa State University should plan to complete the following core requirements plus enough elective credits to total 64-65 hours.

Natural Sciences and Mathematical Disciplines..... 13 sem hrs.
(Biology, Chemistry, Mathematics, Statistics, Zoology)

Social Sciences ..... 9 sem. hrs.
(Sociology, Psychology, Economics, Political Science)

Humanities ..... 9 sem hrs.
(History, Literature, Art History, Foreign Languages)

English Composition, Speech, and Library ..... 11 sem. hrs.

These are core requirements for all departments within the College of Family and Consumer Sciences. Programs of study include:

Apparel Merchandising, Design, and Production, B.S.
Child and Family Services, B.S.
Dietetics, B.S.
Early Childhood Education, B.S.
Family and Consumer Sciences Education, B.S.
Food Science, B.S.
Hotel, Restaurant, and Institution, Management, B.S.
Housing & the Near Environment, B.S.
Nutritional Science, B.S.
Studies in Family and Consumer Sciences, B.S.

For specific information regarding requirements for any of these programs contact the College of Family of Consumer Science, Iowa State University, 124 MacKay Hall, Ames, IA 50011. (515-294-7243) or 800-522-0683, email: cfcsinfo@iastate.edu, website: www.fcs.iastate.edu

University of Northern Iowa

Students planning to enter the College of Social & Behavioral Sciences at the University of Northern Iowa should refer to the web page at: http://csbsnt.csbs.uni.edu/dept/dfcs for information regarding majors in Dietetics, Family Services, Interior Design, or Textile and Apparel.

Geography

Social Science Department

Program Description: Geography is defined by its concern with place. Geographers strive to answer spatial questions regarding the earth's surface; to describe and explain the character of regions; to ascertain the ways in which historical and contemporary humans have used and shaped the earth's surface; and to understand the interactions of physical, biotic, and human systems within our global environment.

Students of geography find that they develop insights and methods of inquiry that are particularly applicable to understanding many of the complex problems confronting societies. For instance, the distribution and consumption of natural resources, air and water pollution, processes and management of natural environments, growth and development of urban areas, increasing populations, transportation problems, spatial inequalities, location of services, and conflicts between nations are some of the issues dealt with by geographers.

Students interested in majoring in Geography can complete their two years of coursework at Iowa Central and then transfer to a public or private college for the remaining two years.

Suggested Program of Study:

First Semester		Sem. Hrs.
ENG-105	Composition I	3
ENV-133	Environmental Science: Population Problems	1
MAT-111	Math for Liberal Arts	4
ANT-105	Cultural Anthropology	3
SDV-108	The College Experience	1
CSC-110	Introduction to Computers	3
	Total Hours	15

Second Semester		Sem. Hrs.
ENG-106	Composition II	3
ENV-135	Environmental Science: Pollution Problems	1
POL-111	American National Government	
	or	
POL-112	American State & Local Government	3
ECN-120	Principles of Macro Economics	3
PSY-111	Introduction to Psychology	3
GEO-121	World Geography	3
	Total Hours	16

Third Semester		Sem. Hrs.
ENV-131	Environmental Science: Future Alternatives	1
SPC-112	Public Speaking	3
POL-121	International Relations	3
ECN-120	Principles of Micro Economics	3
SOC-115	Social Problems	3
	History Elective	3
	Total Hours	16

Fourth Semester		Sem. Hrs.
BIO-102	Introductory Biology	3
BIO-103	Introductory Biology Lab	1
HIS-211	Modern Asian History	3
REL-105	Introduction to Religion	3
SOC-110	Introduction to Sociology	3
	History Elective	3
	Total Hours	16

History

Social Science Department

Program Description: Iowa Central's History curriculum is designed to prepare students for a major in History at a senior institution. The curriculum provides a broad perspective of historical issues, methods of historical study, and research techniques. Skills of analysis also provide a means to study related areas in the Social Sciences such as Political Science/Government, Sociology, Anthropology, Psychology, Economics, Geography, and Religion. Students interested in majoring in History at the senior college level can complete their first two years of coursework at Iowa Central and then transfer to a public or private college for the remaining two years.

Suggested Program of Study:

First Semester		Sem. Hrs.
ENG-105	Composition I	3
HIS-211	Modern Asian History	3
HIS-151	U.S. History to 1877	3
SDV-108	The College Experience	1
PSY-111	Introduction to Psychology	3
SOC-110	Introduction to Sociology	3
	Total Hours	16

Second Semester		Sem. Hrs.
ENG-106	Composition II	3
POL-111	American National Government	3
HIS-152	U.S. History since 1877	3
HIS-112	Western Civ: Ancient-Early Modern	4
MAT-156	Statistics	3
	Total Hours	16

Third Semester		Sem. Hrs.
SPC-112	Public Speaking	3
POL-121	International Relations	3
CSC-110	Introduction to Computers	3
HIS-113	Western Civ: Early Modern to Present	4
MAT-158	Statistics II	3
	Total Hours	16

Fourth Semester		Sem. Hrs.
SOC-200	Minority Group Relations	3
HUM-185	Technology and Social Change	3
BIO-102	Introductory Biology	3
BIO-103	Introductory Biology Lab	1
ANT-105	Cultural Anthropology	
	or	
CLS-210	Cultures in Transition	3
	Total Hours	13

Liberal Arts & Sciences

Various Departments

Program Description: Students interested in a liberal arts program can normally complete one half of their work at Iowa Central. Each college and university has somewhat different requirements, but the first two years are usually very similar. Completion of Associate in Arts requirements will serve as the general education component at many colleges. Major and minor course requirements can be studied while a student attends Iowa Central, but higher level course requirements must be completed at the senior college. Below are a wide range of majors that often fall into the area of liberal arts.

Anthropology
Art
Astronomy
Bacteriology
Biochemistry
Biophysics
Biology
Chemistry
Computer Science
Earth Science
Economics
English
Geography
Geology
History
Journalism
Life Science
Mathematics
Metallurgy
Meteorology
Microbiology
Modern Language
Music
Philosophy
Physical Education
Physics
Political Science
Psychology
Religion
Science
Social Work
Sociology
Speech Pathology
Statistics
Theatre
Zoology

Mathematics

Math Department

Program Description: Iowa Central provides a wide selection of courses to help students develop the mathematical background that is needed for many majors such as Mathematics, Actuarial Science, Computer Science and Statistics. Students should consult with their advisor for help in planning a program for their first two years.

The following schedule is a guide to obtain an Associate of Arts Degree from Iowa Central Community College. Additional developmental courses may be required before you can take a college-level English or math course. Check with transfer institution on specific requirements.

Suggested Program of Study for Mathematics/Actuarial Science:

First Semester		Sem. Hrs.
ENG-105	Composition I	3
CIS-162	C++	4
MAT-210	Calculus I	4
CSC-110	Introduction to Computers	3
SDV-108	The College Experience	1
	Humanities Elective	3
	Total Hours	18

Second Semester		Sem. Hrs.
ENG-106	Composition II	3
CIS-604	Visual Basic	3
MAT-216	Calculus II	4
	Science Elective	4
	Social Science Elective	3
	Total Hours	17

Third Semester		Sem. Hrs.
SPC-112	Public Speaking	3
MAT-156	Statistics	3
MAT-219	Calculus III	4
	Humanities Elective	3
	Social Science Elective	3
	Total Hours	16

Fourth Semester		Sem. Hrs.
MAT-158	Statistics II	3
MAT-226	Differential Equations	3
	Science Elective	4
	Humanities Elective	3
	Social Science Elective	3
	Total Hours	16

Suggested Program of Study for Computer Science:

First Semester		Sem. Hrs.
ENG-105	Composition I	3
CIS-162	C++	4
MAT-127	College Algebra and Trigonometry	5
MAT-156	Statistics	3
SDV-108	The College Experience	1
	Total Hours	16

Second Semester		Sem. Hrs.
ENG-106	Composition II	3
MAT-158	Statistics II	3
CIS-153	Data Structures	4
MAT-210	Calculus I	4
CSC-110	Introduction to Computers	3
	Total Hours	17

Third Semester		Sem. Hrs.
SPC-112	Public Speaking	3
MAT-216	Calculus II	4
	Social Science Elective	3
	Humanities Elective	3
	Science Elective	4
	Total Hours	17

Fourth Semester		Sem Hrs.
CIS-604	Visual Basic	3
MAT-226	Differential Equations	3
	Humanities Elective	3
	Social Science Electives	6
	Total Hours	15

Suggested Program of Study for Math Education

First Semester		Sem. Hrs.
ENG-105	Composition I	3
MAT-127	College Algebra and Trigonometry	5
SDV-108	The College Experience	1
	Humanities Elective	3
	Social Science Elective	3
	Total Hours	15

Second Semester		Sem Hrs.
EDU-213	Introduction to Education	3
ENG-106	Composition II	3
MAT-156	Statistics	3
MAT-210	Calculus I	4
	Humanities Elective	3
	Total Hours	16

Third Semester		Sem. Hrs.
SPC-112	Public Speaking	3
MAT-158	Statistics II	3
MAT-216	Calculus II	4
	Social Science Elective	3
	Science Elective	3
	Total Hours	16

Fourth Semester		Sem. Hrs.
CSC-110	Introduction to Computers	3
HIS-211	Modern Asian History	3
	Science Elective	4
	Humanities Elective	3
	Social Science Elective	6
	Total Hours	19

Medicine

Science Department

Program Description: Most medical schools today recommend that students complete a baccalaureate program prior to entering a college of medicine. Students who have not decided for sure which college of medicine they are going to apply to should pursue a rigorous science program while attending Iowa Central Community College. To assist students in planning a program of this nature, the following is recommended for transfer to a senior college.

The following schedule is a guide to obtain an Associate of Arts Degree from Iowa Central Community College. Additional developmental courses may be required before you can take a college-level English or Math course. Check with transfer institution on specific requirements.

Suggested Program of Study:

First Semester		Sem. Hrs.
ENG-105	Composition I	3
MAT-210	Calculus I	4
CHM-165	General Chemistry I	4
BIO-112	General Biology I	4
SDV-108	The College Experience	1
	Total Hours	16

Second Semester		Sem. Hrs.
PSY-111	Introduction to Psychology	3
ENG-106	Composition II	3
BIO-113	General Biology II	4
CHM-175	General Chemistry II	4
CSC-110	Introduction to Computers	3
	Humanities Elective	3
	Total Hours	20

Third Semester		Sem. Hrs.
SPC-112	Public Speaking	3
CHM-261	Organic Chemistry I	4
PHY-162	College Physics I	4
	Social Science Elective	3
	Humanities Elective	3
	Total Hours	17

Fourth Semester		Sem Hrs.
MAT-156	Statistics	3
CHM-271	Organic Chemistry II	4
PHY-172	College Physics II	4
	Social Science Elective	3
	Humanities Elective	3
	Total Hours	17

Modern Languages

Communications Department

Program Description: Modern Language Study is the study of another language and the culture of its people. Iowa Central Community College believes that the opportunity to study another language must be offered. Through this study the students will improve their ability to communicate, not only in the newly acquired language, but also in their native language. The college further believes that Modern Language Education develops an understanding of other cultures through its international focus. Modern Language Education provides students with a well-rounded, broad-based education allowing them to pursue their life's goals.

Students need to be aware of the Modern Language requirements at a number of the colleges and universities. The University of Iowa requires four years of high school study of one language or two years of college study for graduation from the College of Liberal Arts. Iowa State University requires three years of high school study of one language or one year of college language study in the College of Liberal Arts. The University of Northern Iowa requires two years of high school language study for entrance. This is only a sample of the modern language requirements. It is important to examine the requirements of individual majors within the transfer institution.

Modern Language study compliments many majors. Today in the fields of international business and marketing, health sciences, law enforcement, journalism, and mass communications the knowledge of another language is especially critical. Beginning language study early is important.

Mortuary Science

Science Department

Program Description: College programs in mortuary science usually last from one to four years depending on the school. Two academic years with a minimum of 60 credit hours of instruction is necessary to enter a mortuary science program. There are forty mortuary science programs accredited by the American Board of Funeral Services Education, which is the funeral service accrediting agency in the United States. Funeral directors must pass a state board licensing examination in most states.

The following schedule is a guide to obtain an Associate of Arts Degree from Iowa Central Community College. Additional developmental courses may be required before you can take a college-level English or math course. Check with transfer institution on specific requirements.

Suggested Program of Study:

First Semester		Sem. Hrs.
BUS-102	Introduction to Business	3
ENG-105	Composition I	3
BIO-112	General Biology I	4
CHM-165	General Chemistry I	4
SDV-108	The College Experience	1
	Humanities Elective	3
	Total Hours	18

Second Semester		Sem. Hrs.
ENG-106	Composition II	3
BIO-113	General Biology II	4
CHM-175	General Chemistry II	4
CSC-110	Introduction to Computers	3
	Math Elective	3
	Total Hours	17

Third Semester		Sem. Hrs.
PSY-111	Introduction to Psychology	3
SPC-112	Public Speaking	3
BIO-168	Human Anatomy & Physiology I w/Lab	4
PHY-162	College Physics I	4
	Humanities Elective	3
	Total Hours	17

Fourth Semester		Sem. Hrs.
BIO-186	Microbiology w/lab	4
ECN-130	Principles of Micro Economics	3
PHY-172	College Physics II	4
	Humanities Elective	3
	Social Science Elective	3
	Total Hours	17

Music

Humanities Department

Program Description: Iowa Central can provide the first two years of educational experience to those who are interested in Performing Arts. Students can obtain the educational background for the following majors and then transfer to their selected senior institution.

Music
Music Business
Music Education
Music Therapy

Suggested Program of Study for Music

First Semester		Sem. Hrs.
MUS-122	Music Theory I	3
MUS-118	Sight Singing and Ear Training I	2
	Performance Ensemble (Choir/Band)	1
	Applied Music (Vocal/Instrumental)	1
MUA-120	Applied Piano (Proficiency)	1
SDV-108	The College Experience	1
ENG-105	Composition I	3
MAT-156	Statistics	3
	or	
MAT-111	Math for Liberal Arts	4
	Total Hours	15/16

Second Semester		Sem. Hrs.
MUS-123	Music Theory II	3
MUS-119	Sight Singing and Ear Training II	2
	Performance Ensemble (Choir/Band)	1
	Applied (Vocal/Instrumental)	1
MUA-120	Applied Piano (Proficiency)	1
ENG-106	Composition II	3
MUS-104	Exploring Music	3
MAT-158	Statistics II	3
	or	
	Social Science/Humanities Elective	3
	Total Hours	17

First Year Summer		Sem. Hrs.
	Social Science/Humanities Elective	3

Third Semester		Sem. Hrs.
MUS-220	Music Theory III	3
MUS-218	Sight Singing and Ear Training III	2
	Performance Ensemble (Choir/Band)	1
	Applied Music (Vocal/Instrumental)	1
SPC-112	Public Speaking	3
BIO-102	Introductory of Biology	3
BIO-103	Introductory of Biology Lab	1
CSC-110	Introduction to Computers	3
	Total Hours	17

Fourth Semester		Sem. Hrs.
MUS-221	Music Theory IV	3
	Sight Singing and Ear Training IV	2
	Performance Ensemble (Choir/Band)	1
	Applied Music (Vocal/Instrumental)	1
	Humanities Elective (Historical Perpective)	3
	Social Science Elective	3
	Humanities Elective	3
	Social Science/Humanities Elective	3
	Total Hours	19

Second Year Summer		Sem. Hrs.
	Social Science Elective	3

Total Credit Hours for Music Major 71-74

Optometry

Science Department

Program Description: Students desiring to pursue an optometry degree should have a strong interest in science and have excellent communication skills. In the United States a prospective optometrist must complete a four-year course of study, including a year of internship, at a school that offers the Doctor of Optometry (OD) degree. A state licensing examination must then be passed before the optometrist can begin practice.

The following schedule is a guide to obtain an Associate of Art Degree from Iowa Central Community College. Additional developmental courses may be required before you can take a college-level English or math course. Check with transfer institution on specific requirements.

Suggested Program of Study:

First Semester		Sem. Hrs.
ENG-105	Composition I	3
MAT-127	College Algebra and Trigonometry	5
CHM-165	General Chemistry I	4
BIO-112	General Biology I	4
SDV-108	The College Experience	1
	Total Hours	17

Second Semester		Sem. Hrs.
ENG-106	Composition II	3
BIO-113	General Biology II	4
CHM-175	General Chemistry II	4
CSC-110	Introduction to Computers	3
	Total Hours	14

Third Semester		Sem. Hrs.
PSY-111	Introduction to Psychology	3
BIO-168	Human Anatomy & Physiology I w/Lab	4
PHY-162	College Physics I	4
SPC-112	Public Speaking	3
	Social Science Elective	3
	Humanities Elective	3
	Total Hours	20

Fourth Semester		Sem. Hrs.
MAT-156	Statistics	3
BIO-186	Microbiology w/lab	4
PHY-172	College Physics II	4
	Social Science Elective	3
	Humanities Elective	3
	Total Hours	17

Osteopathic Medicine

Science Department

Program Description: It is recommended that students planning to enter the field of Osteopathic Medicine follow the same program as that suggested for Medicine. Most medical schools today recommend that students complete a baccalaureate program prior to entering a college of medicine. Students who have not decided for sure to which college of medicine they are going to apply should pursue a rigorous science program while attending Iowa Central Community College. To assist student in planning a program of this nature the following is recommended for transfer to a senior college.

The following schedule is a guide to obtain an Associate of Arts Degree from Iowa Central Community College. Additional developmental courses may be required before you can take a college-level English or math course. Check with transfer institution on specific requirements.

Suggested Program of Study:

First Semester		Sem. Hrs.
ENG-105	Composition I	3
MAT-210	Calculus I	4
CHM-165	General Chemistry I	4
BIO-112	General Biology I	4
SDV-108	The College Experience	1
	Total Hours	16

Second Semester		Sem. Hrs.
PSY-111	Introduction to Psychology	3
ENG-106	Composition II	3
BIO-113	General Biology II	4
CHM-175	General Chemistry II	4
CSC-110	Introduction to Computers	3
	Humanities Elective	3
	Total Hours	20

Third Semester		Sem. Hrs.
SPC-112	Public Speaking	3
CHM-261	Organic Chemistry I	4
PHY-162	College Physics I	4
	Social Science Elective	3
	Humanities Elective	3
	Total Hours	17

Fourth Semester		Sem Hrs.
MAT-156	Statistics	3
CHM-271	Organic Chemistry II	4
PHY-172	College Physics II	4
	Social Science Elective	3
	Humanities Elective	3
	Total Hours	17

Pharmacy

Science Department

Program Description: To become licensed, a prospective pharmacist must graduate from one of the seventy-two colleges accredited by the American Council of Pharmaceutical Education, complete about 1500 hours of internship under a registered pharmacist and pass the state pharmacy board examination. Students who enter Iowa Central Community College should pursue a rigorous science program.

The following schedule is a guide to obtain an Associate of Arts Degree from Iowa Central Community College. Additional developmental courses may be required before you can take a college-level English or math course. Check with transfer institution on specific requirements.

Suggested Program of Study:

First Semester		Sem. Hrs.
ENG-105	Composition I	3
BIO-112	General Biology I	4
CHM-165	General Chemistry I	4
SDV-108	The College Experience	1
MAT-210	Calculus	4
	Total Hours	16

Second Semester		Sem. Hrs.
ENG-106	Composition II	3
BIO-113	General Biology II	4
CHM-175	General Chemistry II	4
CSC-110	Introduction to Computers	3
PHI-145	Introduction to Ethical Conflict	3
	Total Hours	17

Third Semester		Sem. Hrs.
CHM-261	Organic Chemistry I	4
PHY-162	College Physics I	4
SPC-112	Public Speaking	3
MAT-156	Statistics	3
	Humanities Elective*	3
	Total Hours	17

Fourth Semester		Sem. Hrs.
PSY-111	Introduction to Psychology	3
ECN-130	Principles of Micro Economics	3
CHM-271	Organic Chemistry II	4
PHY-172	College Physics II	4
	Humanities Elective*	3
	Social Science Elective*	3
	Total Hours	17

BIO-186 Microbiology w/lab is a recommended summer class.

**Must be selected from areas I-IV section of AA degree sheet.*

Physical Education

Liberal Arts & Science Department

Program Description: If you are an individual who enjoys (1) physical activity, (2) fitness, (3) sports activity, (4) working with people (young and old) and who is interested in their personal health and the health of others, then physical education is the discipline for you.

Ask physical educators to identify the most important aspect of their jobs and you'll likely be told that, first and foremost, they are responsible for helping young people acquire the skills and self-confidence they need to participate in a wide variety of physical activities - while in school and beyond.

Iowa Central's Physical Education curriculum combines courses in health, fitness, wellness, athletic training and emergency care, coaching, and sports activities. Professional courses in education are implemented with the physical education curriculum. The Physical Education curriculum provides general education coursework, specific skills training, and direct experience working with young people in a school setting. To be a teacher of Physical Education a student must graduate from an accredited teacher training institution. Students can attend Iowa Central for their first two years and then transfer to a public or private college for the remaining two years.

Suggested Program of Study:

First Semester		Sem. Hrs.
EDU-213	Introduction to Education	3
PSY-111	Introduction to Psychology	3
ENG-105	Composition I	3
CSC-110	Introduction to Computers	3
POL-111	American National Government	3
SDV-108	The College Experience	1
	Total Hours	16

Second Semester		Sem. Hrs.
PSY-121	Developmental Psychology	3
ENG-106	Composition II	3
PEH-185	Contemporary Health Issues	3
PSY-281	Educational Psychology	3
MAT-120	College Algebra	3
	Total Hours	15

Third Semester		Sem. Hrs.
SPC-112	Public Speaking	3
HIS-112	Western Civ: Ancient to Early Modern	4
REL-105	Introduction to Religion	3
PEC-121	Body Structure and Function	2
BIO-102	Introductory Biology	3
BIO-103	Introductory Biology Lab	1
	Total Hours	16

Fourth Semester		Sem. Hrs.
EDU-115	Education and the Teaching Process	4
HIS-113	Western Civ: Early Modern to Present	4
PEC-111	Techniques and Theory of Coaching	2
PET-105	Basic Athletic Training	3
	Humanities Elective	3
	Total Hours	16

Physical Therapy

Science Department

Program Description: Physical therapy is one of the fastest growing health areas with responsibility for treating and correcting all types of physical disorders. To qualify for admission to a program at a senior institution, applicants must have completed or planned to complete a baccalaureate degree before enrollment.

The following schedule is a guide to obtain an Associate of Arts Degree from Iowa Central Community College. Additional developmental courses may be required before you can take a college-level English or math course. Check with transfer institution on specific requirements.

Suggested Program of Study:

First Semester		Sem. Hrs.
ENG-105	Composition I	3
MAT-210	Calculus I	4
BIO-112	General Biology I	4
CHM-165	General Chemistry I	4
SDV-108	The College Experience	1
	Total Hours	16

Second Semester		Sem. Hrs.
PSY-111	Introduction to Psychology	3
ENG-106	Composition II	3
BIO-113	General Biology II	4
CHM-175	General Chemistry II	4
	Humanities Elective	3
	Total Hours	17

Third Semester		Sem. Hrs.
PSY-112	Psychology of Human Relations	3
BIO-168	Human Anatomy & Physiology I w/Lab	4
PHY-162	College Physics I	4
CSC-110	Introduction to Computers	3
	Humanities Elective	3
	Total Hours	17

Fourth Semester		Sem. Hrs.
SPC-112	Public Speaking	3
MAT-156	Statistics	3
PHY-172	College Physics II	4
	Social Science Elective	3
	Humanities Elective	3
	Total Hours	16

Physician Assistant

Science Department

Program Description: The physician assistant profession is one of the newest and most exciting in health care. In order to be considered for admission to the physician assistant professional program, the applicant must have a baccalaureate degree with both cumulative and science grade point averages of at least 3.00 on all course work completed at the college or university level.

The following schedule is a guide to obtain an Associate of Arts Degree from Iowa Central Community College. Additional developmental courses may be required before you can take a college-level English or math course. Check with transfer institutions on specific requirements.

Suggested Program of Study:

First Semester		Sem. Hrs.
ENG-105	Composition I	3
MAT-210	Calculus I	4
CHM-165	General Chemistry I	4
BIO-112	General Biology I	4
SDV-108	The College Experience	1
	Total Hours	16

Second Semester		Sem. Hrs.
ENG-106	Composition II	3
BIO-113	General Biology II	4
CHM-175	General Chemistry II	4
CSC-110	Introduction to Computers	3
	Humanities Elective	3
	Total Hours	17

Third Semester		Sem. Hrs.
SPC-112	Public Speaking	3
CHM-261	Organic Chemistry I	4
PHY-162	College Physics I	4
	Social Science Elective	3
	Humanities Elective	3
	Total Hours	17

Fourth Semester		Sem Hrs.
MAT-156	Statistics	3
CHM-271	Organic Chemistry II	4
PHY-172	College Physics II	4
	Social Science Elective	3
	Humanities Elective	3
	Total Hours	17

Political Science/Government

Social Science Department

Program Description: Are you interested in American politics? International affairs? Critical issues such as health care, the environment, crime, and civil rights? Do you want to study these subjects and pursue a career based on your interest? If so, you should select Political Science as a major. Political Science is the study of government, public policy and the political behavior of individuals and groups. Political Science uses both humanistic and scientific perspectives and skills to examine the United States, all countries and regions of the world, and international relations.

Iowa Central's Political Science/Government curriculum is designed to prepare students for a major in Political Science, Government, Public Administration, Law, or International Relations at a senior institution. The curriculum provides a broad perspective of political issues, methods of political study, and research techniques. Skills of analysis also provide a means to study related areas in the Social Science department such as History, Sociology, Cultural Anthropology, Psychology, Economics, Geography, and Religion. Students interested in majoring in Political Science or Government can complete their first two years of coursework at Iowa Central and then transfer to a public or private college for the remaining two years.

Suggested Program of Study:

First Semester		Sem. Hrs.
ENG-105	Composition I	3
POL-111	American National Government	3
SDV-195	Student Government	1
SDV-108	The College Experience	1
MAT-111	Math for Liberal Arts	4
CSC-110	Introduction to Computers	3
	History Elective	3
	Total Hours	18

Second Semester		Sem. Hrs.
ENG-106	Composition II	3
POL-112	American State and Local Government	3
SDV-195	Student Government	1
PSY-111	Introduction to Psychology	3
SPC-112	Public Speaking	3
	History Elective	3
	Total Hours	16

Third Semester		Sem. Hrs.
SOC-110	Introduction to Sociology	3
POL-121	International Relations	3
SOC-115	Social Problems	3
SDV-195	Student Government	1
PHI-145	Introduction to Ethical Conflict	3
	Humanities Elective	3
	Total Hours	16

Fourth Semester		Sem. Hrs.
SPC-122	Interpersonal Communication	3
SOC-200	Minority Group Relations	3
SDV-195	Student Government	1
BIO-102	Introductory Biology	3
BIO-113	Introductory Biology Lab	1
	History Elective	3
	Total Hours	14

Pre-Law

Social Science Department

Program Description: Students planning to pursue a career in law can complete two years of their general studies at Iowa Central Community College. Most colleges of law require a bachelor's degree prior to beginning legal studies. A bachelor's degree in a field such as Political Science, History, Psychology, Economics, Accounting, or Business Management helps to prepare undergraduates for the successful pursuit of a legal career. Depending on their area of interest, Pre- Law students at Iowa Central are encouraged to select additional courses relating to Criminal Law and/or Business Law.

Iowa Central's Pre-Law curriculum helps to develop communication and critical thinking skills, and a basic understanding of institutions, economics, and human values. Whether it is for preparation for admission to law school, a career as a legal assistant, or other careers requiring legal training, Pre-Law coursework at Iowa Central helps to provide the skills necessary for understanding the legal complexities of government, politics, business, and the criminal justice system.

Suggested Program of Study:

First Semester		Sem. Hrs.
ENG-105	Composition I	3
PHI-145	Introduction to Ethical Conflicts	3
SDV-108	The College Experience	1
POL-111	American National Government	3
CSC-110	Introduction to Computers	3
SOC-110	Introduction to Sociology	3
SDV-195	Student Government	1
	Total Hours	17

Second Semester		Sem. Hrs.
ENG-106	Composition II	3
POL-112	American State and Local Government	3
MAT-111	Math for Liberal Arts	4
BUS-185	Business Law I	3
PSY-111	Introduction to Psychology	3
SDV-195	Student Government	1
	Total Hours	17

Third Semester		Sem. Hrs.
POL-121	International Relations	
	or	
ANT-105	Cultural Anthropology	3
SPC-112	Public Speaking	3
BIO-102	Introductory Biology	3
BIO-103	Introductory Biology Lab	1
BUS-186	Business Law II	3
SDV-195	Student Government	1
	History Elective	3
	Total Hours	17

Fourth Semester		Sem. Hrs.
HUM-185	Tech and Social Change	3
SPC-122	Interpersonal Communication	3
SOC-115	Social Problems	3
SOC-200	Minority Group Relations	3
CRJ-132	Constitutional Law	3
REL-105	Introduction to Religion	3
SDV-195	Student Government	1
	Total Hours	19

*See current A.A. degree requirements

Psychology

Education Department

Program Description: Psychology is the science that seeks to understand behavior and mental processes, and to apply that understanding in the service of human welfare. Psychologists are involved in studying, predicting, improving, or explaining some aspect of behavior and mental processes.

To begin to appreciate all that can fall within the realm of *behavior and mental process*, take a moment to jot down an answer to this question: Who are you?

Perhaps you described you personality or your 20/20 vision, your interests or your aspirations, your skills or your accomplishments, your IQ or your cultural background. You could have listed these and dozens of other things about yourself, and every one of them would reflect some aspect of what psychologists mean by behavior and mental processes.

What is Psychology about? Learning that –

1. We're all different, yet very much the same.
2. Human lives are continually changing.
3. Human behavior is motivated and has many different causes.
4. People play an active part in creating their own experiences.

Suggested Program of Study:

First Semester		Sem. Hrs.
PSY-111	Introduction to Psychology	3
ENG-105	Composition I	3
SDV-108	The College Experience	1
CSC-110	Introduction to Computers	3
PSY-112	Psychology of Human Relations	3
	Humanities Elective	3
	Total Hours	16

Second Semester		Sem. Hrs.
ENG-106	Composition II	3
BIO-102	Introductory Biology	3
BIO-103	Introductory Biology Lab	1
PSY-281	Educational Psychology	3
REL-105	Introduction to Religion	3
	History Elective	3
	Total Hours	16

Third Semester		Sem. Hrs.
SPC-112	Public Speaking	3
PSY-241	Abnormal Psychology	3
MAT-156	Statistics	3
SOC-110	Introduction to Sociology	3
POL-121	International Relations	3
	Total Hours	15

Fourth Semester		Sem. Hrs.
PSY-121	Development Psychology	3
MAT-158	Statistics II	3
SOC-120	Marriage and Family	3
PSY-251	Social Psychology	3
	Humanities Elective	3
	Total Hours	15

Religious Studies

Social Science Department

Program Description: Religion is a complex network of ideas and actions (ethical and ritual) that express a group's sense of the ultimate meaning of life. The academic study of religion examines how the beliefs and values of contemporary and historical cultures shape and are shaped by societal factors, long-standing traditions, and distinctive forms of literary and artistic expression. Religion scholars ask not whether certain beliefs are true but what they mean to those who hold them to be true, how they came to have a particular form and content, and what impact they have on their intellectual and social environments. Skill in close reading of texts and critical analysis of concepts and historical relationships are among the benefits of such study, which has been found helpful by many preparing for careers in theology, education, law, medicine, journalism, international business, government, and social work.

Iowa Central's Religious Studies curriculum helps to develop communication and critical thinking skills, and a basic understanding of religious institutions, ethics, and human values. Students planning to pursue a major in Religious Studies can complete their first two years of coursework at Iowa Central before transferring to a public or private college for the remaining two years.

Suggested Program of Study:

First Semester		Sem. Hrs.
ENG-105	Composition I	3
REL-105	Introduction to Religion	3
SOC-110	Introduction to Sociology	3
SDV-108	The College Experience	1
PSY-111	Introduction to Psychology	3
PSY-112	Psych of Human Relations	3
	Total Hours	**16**

Second Semester		Sem. Hrs.
ENG-106	Composition II	3
PHI-145	Introduction to Ethical Conflicts	3
BIO-102	Introductory Biology	3
BIO-103	Introductory Biology Lab	1
SOC-115	Social Problems	3
CSC-110	Introduction to Computers	3
	Total Hours	**16**

Third Semester		Sem. Hrs.
SPC-112	Public Speaking	3
POL-121	International Relations	3
SOC-200	Minority Group Relations	3
HIS-112	Western Civ: Ancient to Early Modern	4
HUM-185	Technology and Social Change	3
	Total Hours	**16**

Fourth Semester		Sem. Hrs.
POL-111	American National Government	3
SOC-125	Marriage and Family	3
HIS-113	Western Civ: Early Modern to Present	4
MAT-111	Math for Liberal Arts	4
	Total Hours	**14**

Sciences

Sciences Department

Program Description: Students can complete their first two years of study for several science majors in preparation for transferring to a senior institution. Majors include but are not limited to:

Biochemistry
Biology
Botany
Chemistry
Dietetics
Entomology
Environmental Studies
Genetics
Fisheries and Wildlife
Forestry
Geology
Microbiology
Physics
Virology
Zoology

The following schedule is a guide to obtain an Associate of Arts Degree from Iowa Central Community College. Additional developmental courses may be required before you can take a college-level English or math course. Check with transfer institution on specific requirements.

Suggested Program of Study for a Biology Transfer

First Semester		Sem Hrs.
ENG-105	Composition I	3
MAT-127	College Algebra and Trigonometry	5
BIO-112	General Biology I	4
CHM-165	General Chemistry I	4
SDV-108	The College Experience	1
	Total Hours	17

Second Semester		Sem. Hrs.
ENG-106	Composition II	3
MAT-210	Calculus I	4
BIO-113	General Biology II	4
CHM-175	General Chemistry II	4
	Social Science Elective	3
	Total Hours	18

Third Semester		Sem. Hrs.
BIO-168	Human Anatomy & Physiology I w/Lab	4
CHM-261	Organic Chemistry I	4
PHY-162	College Physics I	4
CSC-110	Introduction to Computers	3
	Social Science Elective	3
	Total Hours	18

Fourth Semester		Sem. Hrs.
BIO-186	Microbiology w/lab	4
PHY-172	College Physics II	4
CHM-271	Organic Chemistry II	4
	Social Science Elective	3
	Humanities Elective	3
	Total Hours	18

Suggested Program of Study for Chemistry:

First Semester		Sem. Hrs.
ENG-105	Composition I	3
MAT-210	Calculus I	4
CHM-165	General Chemistry I	4
SDV-108	The College Experience	1
	Social Science Elective	3
	Humanities Elective	3
	Total Hours	18

Second Semester		Sem. Hrs.
ENG-106	Composition II	3
MAT-216	Calculus II	4
CHM-175	General Chemistry II	4
CSC-110	Introduction to Computers	3
	Humanities Elective	3
	Total Hours	17

Third Semester		Sem. Hrs.
SPC-112	Public Speaking	3
CHM-261	Organic Chemistry I	4
PHY-212	Classical Physics I	5
	Social Science Elective	3
	Total Hours	15

Fourth Semester		Sem. Hrs.
CHM-271	Organic Chemistry II	4
PHY-222	Classical Physics II	5
	Social Science Elective	3
	Humanities Elective	3
	Total Hours	15

Social Sciences

Social Science Department

Program Description: The Social Sciences are intimately concerned with human behavior in all of its complexity and with the various kinds of social relationships which influence individuals throughout their lives. Social Scientists are interested in discovering the ways in which people are affected by their associations with various human groups, both large and small, including the multiplicity of organizations and institutions that characterize modern society. Through the social sciences, the history of social institutions and the continuing process of social change are studied.

Iowa Central's Social Science Department offers numerous courses from a wide range of social science fields, including Psychology, Political Science, History, Sociology, Anthropology, Economics, Geography, Religion, Criminal Justice, Human Services, and Contemporary Issues. Students interested in pursuing a bachelor's degree in the Social Sciences generally or in a social science field specifically can complete their first two years of coursework at Iowa Central and then transfer to a public or private college for the remaining two years.

Suggested Program of Study:

First Semester		Sem. Hrs.
ENG-105	Composition I	3
HIS-151	U.S. History to 1877	3
SDV-108	The College Experience	1
PSY-111	Introduction to Psychology	3
SOC-110	Introduction to Sociology	3
REL-105	Introduction to Religion	3
	Total Hours	**16**

Second Semester		Sem. Hrs.
ENG-106	Composition II	3
HIS-152	U.S. History since 1877	3
POL-121	International Relations	3
MAT-111	Math for Liberal Arts	4
CSC-110	Introduction to Computers	3
	Total Hours	**16**

Third Semester		Sem. Hrs.
SPC-112	Public Speaking	3
HIS-112	Western Civ: Ancient to Early Modern	4
PSY-251	Social Psychology	3
PSY-121	Development Psychology	3
ANT-105	Cultural Anthropology	3
	Total Hours	**16**

Fourth Semester		Sem. Hrs.
HIS-113	Western Civ: Early Modern to Present	4
BIO-102	Introductory Biology	3
BIO-103	Introductory Biology Lab	1
SOC-115	Social Problems	3
SOC-200	Minority Group Relations	3
	Total Hours	**14**

Sociology

Social Science Department

Program Description: Sociology is the application of scientific principles and procedures to understand and solve the problems of social groups, organizations, and institutions. Sociologists study how people relate to each other and how groups influence individuals.

Iowa Central's Sociology curriculum is designed to prepare students for a major in Sociology at a senior institution. The curriculum provides a broad perspective of sociological issues, methods of sociological study and research techniques. Skills of analysis also provide a means to study related areas in the Social Sciences such as Anthropology, Psychology, Religion, History, Political Science/Government, Geography, and Economics.

Students interested in majoring in Sociology can complete their first two years of coursework at Iowa Central and then transfer to a public or private college for the remaining two years. Students planning to major in Sociology or Anthropology are encouraged to take additional elective courses in the Social Sciences.

Suggested Program of Study:

First Semester		Sem. Hrs.
ENG-105	Composition I	3
SOC-110	Introduction to Sociology	3
SDV-108	The College Experience	1
PSY-111	Introduction to Psychology	3
CSC-110	Introduction to Computers	3
REL-105	Introduction to Religion	3
	Total Hours	**16**

Second Semester		Sem. Hrs.
MAT-111	Math for Liberal Arts	4
ENG-106	Composition II	3
SOC-115	Social Problems	3
	History Elective	3
	Humanities Elective	3
	Total Hours	**16**

Third Semester		Sem. Hrs.
PSY-251	Social Psychology	3
SPC-112	Public Speaking	3
POL-121	International Relations	3
BIO-102	Introductory Biology	3
BIO-103	Introductory Biology Lab	1
	Humanities Elective	3
	Total Hours	**16**

Fourth Semester		Sem. Hrs.
SOC-185	Contemporary American Issues	3
SOC-200	Minority Group Relations	3
ANT-105	Cultural Anthropology	3
SOC-120	Marriage & Family	3
	Total Hours	**12**

Theatre

Humanities Department

Program Description: Iowa Central can provide the first two years of educational experience to those who are interested in Performing Arts. Students can obtain the educational background for the following majors and then transfer to their selected senior institution.

Dramatic Arts
Theatre Education
Theatre Management
Technical Theatre

Suggested Program of Study for Theatre:

First Semester		Sem. Hrs.
DRA-130	Acting I	3
DRA-101	Introduction to Theatre	3
SDV-108	The College Experience	1
ENG-105	Composition I	3
MAT-156	Statistics	3
	or	
MAT-156	Math for Liberal Arts	4
	Total Hours	**13-14**

Second Semester		Sem. Hrs.
DRA-132	Acting II	3
ENG-106	Composition II	3
CSC-110	Introduction to Computers	3
MAT-158	Statistics II	
	or	
	Social Science Elective	3
	Humanities Elective (Ethical/Historical)	3
	Total Hours	**3**

Third Semester		Sem. Hrs.
SPC-140	Oral Interpretation	3
DRA-154	Theatre Production	3
SPC-112	Public Speaking	3
BIO-102	Introductory of Biology	3
BIO-103	Introductory of Biology Lab	1
	Social Science Elective	3
	Total Hours	**16**

Fourth Semester		Sem. Hrs.
DRA-254	Theatre Production II	3
	Social Science Elective (Human Relations)	3
	Social Science Elective (Civic Responsibility)	3
	Social Science/Humanities Elective	3
	Remaining Elective Courses	3-6
	Total Hours	**15-18**

Total Credit Hours for Theatre Major 60-62

Veterinary Medicine

Science Department

Program Description: Applicants for admission to a College of Veterinary Medicine must have completed forty semester credits prior to filling an application for admission and have completed sixty semester credit prior to the year in which the applicant seeks to be admitted.

The following schedule is a guide to obtain an Associate of Arts Degree from Iowa Central Community College. Additional developmental courses may be required before you can take a college-level English or math course. Check with transfer institution on specific requirements.

Suggested Program of Study:

First Semester		Sem. Hrs.
ENG-105	Composition I	3
CHM-165	General Chemistry I	4
BIO-112	General Biology I	4
MAT-127	College Algebra and Trigonometry	5
SDV-108	The College Experience	1
CSC-110	Introduction to Computers	3
	Total Hours	20

Second Semester		Sem. Hrs.
ENG-106	Composition II	3
BIO-113	General Biology II	4
CHM-175	General Chemistry II	4
	Humanities Elective	3
	Social Science Elective	3
	Total Hours	17

Third Semester		Sem. Hrs.
SPC-112	Public Speaking	3
CHM-261	Organic Chemistry I	4
PHY-162	College Physics I	4
	Humanities Elective	3
	Social Science Elective	3
	Total Hours	17

Fourth Semester		Sem. Hrs.
CHM-271	Organic Chemistry II	4
BIO-186	Microbiology	4
PHY-172	College Physics II	4
	Humanities Elective	3
	Total Hours	15

CAREER OPTION

Accounting Associate Program

Business

Criminal Justice

Health Care Administration

Human Services

Professional Pilot

Career Option Programs are designed to provide students with job entry skills within a college parallel setting. Students enrolled in career option programs
have the opportunity to transfer to a senior college or exercise the option of obtaining a job—hence the title "Career Option."

Students completing the program who are planning immediate employment will be assisted by the Employment Services Office at Iowa Central.

Program Development
All Career Option Programs are developed by the college working in cooperation with advisory committees appropriate to each area.
These committees are made up of individuals with expertise in the career field. An important responsibility of the advisory committee is working with Iowa Central faculty and administration in the development of the curriculum for each program.

Accounting Associate Program

Business Department

CIP# 5203010200

Program Description: The accounting profession is seeking highly-motivated, dedicated and well-educated people. The field is especially attractive and fulfilling to those who have good problem-solving skills and enjoy working with people.

The Accounting Associate Program offers students the opportunity to enter the work force after completion and/or to further their education. Students progress through the sequence of courses their first year to obtain an Accounting Assistant Diploma. Upon successful completion of a second year of study, students will also earn an Associate of Science degree in the Accounting Associate Program. A third option also exists for those wishing to complete the Associate of Arts transfer degree.

Courses in the program are offered utilizing hands-on, active learning approaches. The two-year program culminates with the Practicum, on-the-job training in an accounting-related position with an area employer.

Program of Study - Accounting Assistant (Diploma)

First Semester		Sem. Hrs.
ACC-111	Intro to Accounting	
	or	
ACC-142	Financial Accounting*	3
CSC-110	Intro to Computers	3
ENG-105	Composition I	3
MAT-156	Statistics**	
	or	
	Math Elective	3
ECN-120	Principles of Macroeconomics**	3
ADM-131	Office Calculators	1
SDV-108	The College Experience*	1
	Total Hours	**17**

Second Semester		Sem. Hrs.
ACC-311	Computer Accounting	3
ACC-142	Financial Accounting	
	or	
ACC-146	Managerial Accounting*	3
ACC-364	Excel for Accounting	3
ENG-106	Composition II	
ACC-108	Payroll Applications	3
	Total Hours	**15**
	Accounting Assistant Diploma Total Hours	**32**

Program of Study - Accounting Associate (A.S. Degree)

Third Semester		Sem. Hrs.
ACC-211	Intermediate Accounting I	3
ACC-221	Cost Accounting	3
SPC-112	Public Speaking	3
	Social Science Elective**	3
	Humanities Elective**	3
	Total Hours	**15**

Fourth Semester		Sem. Hrs.
ACC-932	Internship	3
ACC-212	Intermediate Accounting II	3
ACC-266	Tax Accounting	3
	Science Elective**	3
	Humanities Elective**	3
	Total Hours	**15**
	Accounting Associate AS Degree Total Hours	**62**

Program of Study - Accounting Transfer (A.A. Degree)

First Semester		Sem. Hrs.
ACC-142	Financial Accounting	3
CSC-110	Intro to Computers	3
ENG-105	Composition 1	3
MAT-156	Statistics	3
ECN-120	Principles of Macroeconomics	3
ADM-131	Office Calculators	1
SDV-108	The College Experience	1
	Total Hours	**17**

Second Semester		Sem. Hrs.
ACC-311	Computer Accounting	3
ACC-146	Managerial Accounting	3
ACC-364	Excel for Accounting	3
ENG-106	Composition II	3
ACC-108	Payroll Applications	3
	Total Hours	**15**

Third Semester		Sem. Hrs.
MAT-158	Statisitics II	3
ECN-130	Principles of Microeconomics	3
	Social Science Elective**	3
	Science Elective**	3
	Humanities Elective**	3
	Total Hours	**15**

Fourth Semester		Sem. Hrs.
SPC-112	Public Speaking	3
	Humanities Elective**	3
	Humanities Elective**	3
	Distributive Requirements**	5
	Total Hours	**14**
	AA Degree Total Hours	**61**

Iowa Central also offer a "Numbers at Night" program designed for working adults. All accounting courses are offered in a face-to-face classroom via night delivery on Monday and Thursday evenings. The remainder of the courses are available via FlexNet, online, or night delivery.

Software training will include Microsoft Word, Microsoft Access, Microsoft PowerPoint, Microsoft Excel, Taxcut, Quickbooks Pro, Peachtree, and Payroll Integrated Software.

Program costs include tuition of $120.00 (2008-09 rate) per semester hour. Textbook costs vary depending upon where purchased.

***Required for A.S. degree**

****See current A.S./A.A. degree requirements**

Students taking the A.A. Accounting Transfer option will also receive the Accounting Assistant Diploma with the suggested sequence of courses. Course selection may differ depends upon the transfer institution requirements.

*****Program requirements: Must pass all classes with the prefix ACC with a "C" or better for Graduation.**

Enrollment Date: Fall and Spring in Fort Dodge
Program Length: 60 weeks
Award: Associate in Science Degree with option for Associate of Arts Degree
Campus: Fort Dodge

Business

Business Department

CIP# 5202010200

Program Description: The Associate of Science degree in Business is designed to offer students the flexibility of placement in a business position upon graduation or the opportunity to complete a curriculum that will satisfy most Business Administration requirements at four-year colleges. Students will have many choices in the selection of courses to develop their specific business skills in general business, accounting, office administration, or web development.

Upon graduation, successful students will have the background necessary to move into entry-level positions in the field of business. An option is given for students to participate in practicum courses. These courses will give students valuable experience as they work in local businesses during their course of study.

Suggested Program of Study:

First Semester		**Sem. Hrs.**
SDV-108	The College Experience	1
ENG-105	Composition I	3
ECN-120	Principles of Macroeconomics	3
MAT-156	Statistics***	
	or	
MAT-140	Finite Math	3
ACC-142	Financial Accounting	3
	Humanities Elective*	3
	Total Hours	**16**

Second Semester		**Sem. Hrs.**
ENG-106	Composition II	3
ECN-130	Principles of Microeconomics	3
CSC-110	Intro to Computers	3
ACC-146	Managerial Accounting	3
MGT-101	Principles of Management	3
	Total Hours	**15**

Summer Session		**Sem Hrs.**
BUS-932	Internship (Optional)	3

Third Semester		**Sem. Hrs.**
SPC-112	Public Speaking	3
BUS-185	Business Law 1	3
BUS-130	Introduction to Entrepreneurship	3
	Social Science Elective*	3
	Business Elective**	3
	Total Hours	**15**

Fourth Semester		**Sem. Hrs.**
MKT-110	Principles of Marketing	3
	Business Elective**	3
	Business Elective**	3
	Humanities Elective*	3
	Science Elective*	4
	Total Hours	**16**

*Social Science/Humanities/Science electives must be chosen from the current approved A.S. degree list.

**Business electives must be chosen from the prefixes ACC, ADM, BCA, BUS, CIS, GRA, MAT, MKT, or MGT.

***Statistics Lab is a suggested course.

Criminal Justice

Business Department

CIP# 4301070200

Program Description: The Criminal Justice field offers many challenging career opportunities. Law Enforcement, Corrections, Judicial Services, and Forensic Laboratories are in need of qualified and trained personnel. Some of the duties in these career fields include investigations, traffic enforcement, evidence collection, inmate supervision, hunting regulation enforcement, correctional counseling, court services administration, and many more.

One of our program's strengths is the fact that many of our instructors are currently working or have worked in the Criminal Justice field. The ranks of our teaching staff have included a police chief, a chief deputy, a detective, criminal prosecutors, a former trooper, a correctional officer, and many other local Criminal Justice personnel. The Criminal Justice program can be taken as a diploma program when 30 core semester hours are completed or as an Associate of Science or Arts degree when certain core semester hours are completed in accordance with each degree's requirements.

Specific departmental requirements govern entry into all Criminal Justice careers. In the State of Iowa all certified law enforcement officials must first attend and successfully complete an accredited law enforcement academy. Iowa Central's Criminal Justice Program will help prepare you for that challenge.

The Milo Range Force Training Simulator: The MILO Range is a state of the art training simulator enabling the students to be exposed to "real life" simulated force situations. The simulator has numerous capabilities including firearms training, chemical agent training, Taser training, and verbal control techniques. The students can also participate in the filming of new scenarios used for future training applications. The MILO Range is a part of our Defensive Tactics course. Students also learn how to defend themselves against attack through hands on training provided by one of our Defensive Tactics instructors.

Iowa Law Enforcement Credit: Students who have graduated from the Iowa Law Enforcement Academy may receive up to 18 hours of Criminal Justice credit at Iowa Central Community College.

Program of Study: Criminal Justice is a two-year Associate in Sciences Program offered at Iowa Central Community College. Students may enroll at any of the three centers for the general education portion of the program. The Criminal Justice program can be taken as a diploma program when 30 core semester hours are completed, or an Associate in Science Degree program when 64 semester hours are completed.

Program of Study - Criminal Justice

Required Criminal Justice Classes:

CRJ-100	Introduction to Criminal Justice	3
CRJ-132	Constitutional Law	3
CRJ-110	Patrol Procedures	3
CRJ-133	Constitutional Criminal Procedure	3
CRJ-141	Criminal Investigation	3
CRJ-120	Intro to Corrections	3
CRJ-160	Intro to Forensic Investigation	3
CRJ-300	Perspectives of Homeland Security	3
	Total Hours	**24**

Additional Criminal Justice Course Requirements:
(Choose 3 of the following 6 courses for a total of 9 credits)

CRJ-152	Defensive Tactics	3
CRJ-170	Overview of Cybercrime	3
CRJ-200	Criminology	3
CRJ-201	Juvenile Delinquency	3
CRJ-206	Terrorism Response	3
CRJ-260	Medicolegal Death Investigation	3

Additional requirements necessary to qualify for an Associate in Science Degree:

English/Speech	9
Math and Science	6
Humanities	6
*Social Science	6
Introduction to Computers	3
The College Experience	1
Total Hours	**31**

**The following Social Science courses are highly recommended for students planning to complete a Bachelor's degree in Criminal Justice at a four-year institution: Introduction to Psychology (PSY-111), American National Government (POL-111), Introduction to Sociology (SOC-110) and Minority Group Relations (SOC-200).*

Program of Study - Leading to a Diploma

Choose 9 of the following 13 courses

- CRJ-100 Intro to Criminal Justice
- CRJ-132 Constitutional Law
- CRJ-110 Patrol Procedures
- CRJ-133 Constitutional Criminal Procedures
- CRJ-141 Criminal Investigation
- CRJ-120 Intro to Corrections
- CRJ-160 Intro. To Forensic Investigation
- CRJ-300 Perspectives of Homeland Security
- CRJ-152 Defensive Tactics
- CRJ-170 Overview of Cybercrime
- CRJ-200 Criminology
- CRJ-201 Juvenile Delinquency
- CRJ-206 Terrorism Response

Choose a Social Science course from the approved AA/AS General Education List.

Health Care Administration

Health Science Department

CIP#5107010200

Program Description: The Health Care Administration program will provide graduates with an Associate of Science degree. The purpose of the program is to prepare students entering and those currently in health care related careers with expanded opportunities within the health care profession. The program will include the follow topics: the health care system in the U.S., legal and ethical issues dealing with health care, economics and how it affects health care, professional opportunities related to health care, informational technology used in health care and general principles of the financial aspects of health care. This program is not designed to prepare students to be a Long Term Care Administrator. This is offered in an 8-week online program.

Program of Study:

First Semester		Sem. Hrs.
SDV-108	College Experience or	
SDV-118	Online College Experience	1-3
ENG-105	Composition 1	3
**HCA-151	Overview of Health Care	3
ECN-120	Principles of Macroeconomics or	
ECN-130	Principles of Microeconomics	3
CSC-110	Introduction to Computers	3
*PHI-145	Introduction to Ethical Conflicts	3
	Total Hours	**16-18**

Second Semester		Sem. Hrs.
HSC-113	Medical Terminology	2
PSY-111	Introduction to Psychology	3
ENG-106	Composition 2	3
**HCA-153	Career Opportunities in Health Care	3
**HCA-155	Technology and Health Care	3
SOC-130	Introduction to Gerontology	3
	Total Hours	**17**

Third Semester		Sem. Hrs.
SPC-112	Public Speaking	3
MGT-101	Principles of Management	3
**HCA-157	Health Care and Economics	3
ACC-142	Financial Accounting	3
	Math Elective	3
	Total Hours	**15**

Fourth Semester		Sem. Hrs.
**HCA-159	Financial Matters for Health Care	3
**HCA-161	Legal Issues in Health Care	3
ACC-146	Managerial Accounting	3
	Science Elective	3
	Humanities Elective	3
	Total Hours	**15**

**Course may be substituted with a Humanities course from the AS Approved General Education list.*

***All Courses with a prefix of HCA must be completed with a "C" grade or higher.*

Human Services

Education Department

CIP#4407010200

Program Description: The Human Services program prepares the student for a career in the helping and human services field. The goal of this program is to prepare the student for their future employment as a human services generalist. Students who study human services typically should enjoy working with people. They are passionate about the potential for human growth and change. The students feel a commitment to improve the overall quality of people's lives. Their interests may also include advocating for social justice. The Human Services Program provides a core course foundation that expands the student's basic knowledge and skills. The student will complete additional classes in psychology and sociology that allow them to focus and pursue their own special interests. Additional class work will include studies in substance abuse, victim advocacy, disability services, working with youth, families, and the elderly. Counseling courses develop the students' abilities to interview and assist clients in making changes in their lives. A field practicum placement allows the students to explore a human services career with a hands-on experience at a community human services agency setting. A Human Services student can complete two years at Iowa Central and begin their professional career. Students will also have the option to transfer to another institution of higher education as they pursue their four year degree in Human Services or Social Work. The Human Services Program will assist the student in accomplishing the degree of their choice and support the student in their career goals.

Program of Study:

		Sem. Hrs.
PSY-111	Introduction to Psychology	3
ENG-105	Composition I	3
ENG-106	Composition II	3
SPC-112	Public Speaking	3
POL-111	American National Government	
	or	
POL-112	American State & Local Government	3
SDV-108	The College Experience	1
CSC-110	Introduction to Computers	3
	Mathematics Elective	3
	Science Elective	3
	Humanities Elective	6
	General Education Requirements	31

		Sem. Hrs.
HSV-180	Ethics for Human Service Professionals	1
HSV-220	Introduction to Counseling	3
HSV-850	Field Experience	2
SOC-110	Introduction to Sociology	3
SOC-140	Human Behavior in the Social Environment	3
SOC-150	Introduction to Human Services	3
SOC-200	Minority Group Relations	3
	Human Service Requirements	18

		Sem. Hrs.
	Choose 15 hours from the following courses	
HSV-135	Women's Issues	3
HSV-162	Introduction to Disabilities Services	3
HSV-224	Working with Youth	1
HSV-229	Group Facilitation Techniques	3
HSV-258	Substance Abuse & Society	1
HSV-269	Victim Advocacy	1
HSV-285	Case Management	3
PSY-112	Psychology of Human Relations	3
PSY-121	Developmental Psychology	3
PSY-241	Abnormal Psychology	3
PSY-251	Social Psychology	3
SOC-115	Social Problems	3
SOC-120	Marriage and Family	3
SOC-130	Introduction to Gerontology	3
	Human Service Electives	15

Graduation Requirement 64

Career Option

Professional Pilot

Business Department

CIP#4901010200

Program Description: The Professional Pilot program is an FAA 141-approved course of study which provides aviation students the opportunity to obtain Private, Commercial, Instrument, and Certified Flight Instructor ratings. The student may elect to obtain Multi-engine Commercial and Multi-engine Instrument ratings. As an aviation student, you will study, in-depth, the intricacies of the challenging and exciting world of aviation. Available on sight is the CATS, Computer Assisted Testing Service. With this service, you can conveniently take the required FAA written tests for each rating and immediately know the results.

Required courses of study include basic and advanced aerodynamics, pre- and postflight procedures, airport operations, including radio communications, traffic pattern operations, airport/runway markings and lighting. Navigation (radio and visual), basic and advanced flight maneuvers, basic and advanced instrument maneuvers, emergency procedures, night flight operations and basic aircraft mechanical theory will be studied as well. You not only learn to fly single-engine aircraft, but have the opportunity to further your aviation experience in high-performance, complex and multi-engine aircraft.

Upon completion of the program, the aviation graduate receives an Associate of Science Degree in Professional Pilot. This program is offered each fall and spring with the exception of flight labs that are offered year-round. Professional Pilot graduates are prepared for entry-level employment as Certified Flight Instructors - the primary starting position for new, professional pilots. Other entry-level positions include sightseeing, pipeline/powerline patrol, and banner towing. Aviation career guidance and internet job-search access are available through the flight staff. Students who possess aviation ratings may obtain credit for courses through the advanced standing process.

A 3rd class flight physical must be passed before flying solo. The physical must be completed with an FAA certified physician. A list of certified physicians may be obtained from the registrar's office.

Program of Study:

First Semester		Sem. Hrs.
SDV-108	The College Experience	1
ENG-105	Composition I	3
AVI-170	Flight Lab 1	1.8
AVI-130	Private Pilot Ground School	3
AVI-131	Private Pilot Ground School II	3
	Math Elective*	3
	Humanities Elective*	3
	Total Hours	**17.8**

Second Semester		Sem. Hrs.
ADM-254	Business Professionalism	1
ENG-106	Composition II	3
PSY-111	Introduction to Psychology	3
AVI-211	Instrument Ground School	3
AVI-240	Flight Lab 2	1.9
AVI-260	Commercial Pilot Ground School	2
	Social Science Elective*	3
	Total Hours	**16.9**

Aviation Assistant-Diploma upon completion of first-year

Summer Session		Sem. Hrs.
AVI-241	Flight Lab 3	1.7

Third Semester		Sem. Hrs.
SPC-112	Public Speaking	3
AVI-242	Flight Lab 4	1.4
AVI-249	General Aviation Operations Management	3
AVI-274	Practical Aviation Law	3
	Science Elective*	3 or 4
	Computer Elective*	3
	Total Hours	**16.4/17.4**

Certified Flight Instructor Option

Fourth Semester		Sem. Hrs.
ACC-111	Introduction to Accounting	3
	or	
ACC-142	Financial Accounting	
ADM-254	Business Professionalism	1
AVI-300	Flight Instructor Ground School	3
AVI-124	Maintenance and Systems for Pilots	2
AVI-271	Flight Lab 5	0.8
AVI-275	Aviation Regulations	3
	Humanities Elective*	3
	Total Hours	**15.8**

Multi-Engine IFR Option

Fourth Semester		Sem. Hrs.
ACC-111	Introduction to Accounting	3
	or	
ACC-142	Financial Accounting	
ADM-254	Business Professionalism	1
AVI-124	Maintenance and Systems for Pilots	2
AVI-272	Flight Lab 6	0.3
AVI-273	Flight Lab 7	0.2
AVI-275	Aviation Regulations	3
	Humanities Elective*	3
	Total Hours	**12.5**

Flight Lab Fees *(subject to change)*

Lab 1	$6269.00
Lab 2	$6149.00
Lab 3	$4990.00
Lab 4	$4612.00
Lab 5	$2928.00
Lab 6	$1733.00
Lab 7	$1129.00
Insurance	$100.00

***Electives must be chosen from the current approved A.S./A.A degree list**

Program is subject to changes with approval by the Iowa State Department of Education.

Enrollment Date: Fall and Spring in Webster City
Program Length: 64 weeks
Award: Associate in Science
Campus: Webster City

APPLIED SCIENCE & TECHNOLOGY

Core Performance Standards for Health Sciences
Associate Degree Nursing
Dental Hygiene
Emergency Medical Services
Fire Science
Fire Service Administration
Medical Assistant
Medical Laboratory Technician
Practical Nursing
Radiologic Technology
Administrative Specialist
Broadcasting
Computer Networking
Computer Repair
Culinary Arts
Graphics Technology
Health and Beauty Management
Logistics and Transportation Management
Restaurant & Hospitality Management
Turfgrass Management
Web Technology
Professional Photography
Biotechnology
Agriculture Technology
Automotive Collision Technology
Automotive Technology
Auto Restoration Technology
Carpentry
Computer Integrated Fabrication Technology
Diesel Technology
Electrical Technologies
Electrical/Mechanical Technician
Engineering & Design Technology
Industrial Business
Industrial Mechanics
Process Technology
Sustainable Energy Technology
Welding Technology

General Education
General education is an integral part of the curricula of all Applied Science and Technology programs offered at Iowa Central Community College.
The philosophy of combining general education with Applied Science and Technology programs gives the comprehensive community college its significance in today's educational setting.

All two-year programs must include a minimum of twelve (12) semester hours from the approved general elective courses. The general education component shall include at least one course from each of the following categories: English/Speech Communications; Mathematics and/or Science; Social Science and/or Humanities.

All programs of less than two years in length must indicate a minimum of three (3) semester hours from any of the following categories:
English/Speech Communications; Mathematics and/or Science; Social Sciences and/or Humanities.

Program Development
All Applied Science and Technology Programs are developed by the college working in cooperation with advisory committees appropriate to each area. These committees are made up of individuals with expertise in the career field. An important responsibility of the advisory committee is working with Iowa Central faculty and administration in the development of the curriculum for each program.

Core Performance Standards for all Health Sciences Programs

Iowa Community Colleges have developed the following Core Performance Standards for all applicants to Health Care Career Programs. These standards are based upon required abilities that are compatible with effective performance in health care careers. Applicants unable to meet the Core Performance Standards are responsible for discussing the possibility of reasonable accommodations with the designated institutional office.* Before final admission into a health career program, applicants are responsible for providing medical and other documentation related to any disability and the appropriate accommodations needed to meet the Core Performance Standards. These materials must be submitted in accordance with the institutions ADA Policy.

* The student is encouraged to meet with the Special Populations Coordinator and Science, Health and Human Services Dean.

Capability	Standard	Some Examples of Necessary Activities (Not all inclusive)
Cognitive-Perception	The ability to perceive events realistically, to think clearly and rationally, and to function appropriately in routine and stressful situations	• Identify changes in patient/client health status • Handle multiple priorities in stressful situations
Critical Thinking	Critical thinking ability sufficient for sound clinical judgement	• Identify cause-effect relationships in clinical situations • Develop plans of care
Interpersonal	Interpersonable abilities sufficient to interact appropriately with individuals, families and groups from a variety of social, emotional, cultural and intellectual backgrounds	• Establish rapport with patients/clients and colleagues • Demonstrate high degree of patience • Manage a variety of patient/client expressions (anger, fear, hostility) in a calm manner
Communication	Communication abilities in English sufficient for appropriate interaction with others in verbal and written form	• Read, understand, write and speak English competently • Explain treatment procedures • Initiate health teaching • Document patient/client responses • Validate responses/messages with others
Mobility	Ambulatory capability to sufficiently maintain a center of gravity when met with an opposing force as in lifting, supporting, and/or transferring a patient/client	• The ability to propel wheelchairs, stretchers, etc., alone or with assistance as available
Motor Skills	Gross and fine motor abilities sufficient to provide safe and effective care and documentation	• Position patients/clients • Reach, manipulate, and operate equipment, instruments, supplies • Electronic documentation/keyboarding • Lift (for nursing lift 30 lbs.), carry, push and pull • Perform CPR
Hearing	Auditory ability sufficient to monitor and assess, or document health needs	• Hears monitor alarms, emergency signals, ausculatory sounds, cries for help • Hears telephone interactions/dictation
Visual	Visual ability sufficient for observation and assessment necessary in patient/client care, accurate color discrimination	• Observes patient/client responses • Discriminates color changes • Accurately reads measurement on patient/client related equipment
Tactile	Tactile ability sufficient for physical assessment, inclusive of size, shape, temperature and texture	• Performs palpation • Performs functions of physical examination and/or those related to therapeutic intervention, e.g. insertion of a catheter
Activity Tolerance	The ability to tolerate lengthy periods of physical activity	• Move quickly and/or continuously • Tolerate long periods of standing or sitting
Environmental	Ability to tolerate environmental stressors	• Adapt to rotating shifts • Work with chemicals and detergents • Tolerate exposure to fumes and odors • Work in areas that are close and crowded • Work in areas of potential physical violence

Associate Degree Nursing

Health Science Department CIP#5116010200

Program Mission Statement: The Associate Degree Nursing (ADN) program is committed to providing quality nursing education to aid students to meet their diverse learning needs in preparing for a career as a Registered Nurse.

Program Description: The Associate Degree Nursing program will prepare students for this exciting career with concentrated classroom studies and extensive clinical work (720 hours) based in a wide-range of health care settings. The first two semesters are identical in both the Practical Nursing (PN) program and the Associate Degree Nursing program enabling students to finish with the PN diploma after the first summer, and/or continue in the ADN program.

Program Requirements: Students must earn a grade of a "C" or better in all Associate Degree Nursing program of study courses and meet the necessary prerequisites to progress in the program. Students who have not completed a practical nursing program and would like to re-enter the nursing program, must retake any nursing (PNN & ADN) courses completed over three years ago.

Student Responsibilities: A medical health form and certification in basic cardiac life support must be completed prior to starting the nursing courses. Transportation to the clinical site is the student's responsibility. Uniforms are purchased by the students and worn to clinical. All nursing students must complete a Criminal Record/Child and Adult Abuse check prior to attending clinical. Any student with a felony conviction must notify the Iowa Board of Nursing after they have completed requirements for licensure including completion of a course of study and filing an application. Upon completion of the program, graduates are qualified to take the National Council Licensure Exam (NCLEX).

Accreditation: The ADN program is approved by the Iowa Board of Nursing.

Admission Requirements: This program is a selective, limited enrollment program. Students who would like to be considered for admission must complete an additional nursing application packet. Students must also be enrolled in, or have previously completed any pre-requisites of the program with a "C" or higher before they will be considered for the program. Students must submit proof of their enrollment in/or completion prior to the application deadline. The following criteria is required for applicants: a minimum of a high school diploma (GPA 2.5) or equivalent (GED 550), minimum ASSET scores of 40 in writing and reading and 46 in math, COMPASS (writing 65, reading 80, pre-algebra 64, or algebra 51), or ACT scores of 18 in reading, English, and 20 in math. Complete the TEAS exam earning a composite score of 58.7%. High School Biology, Algebra, English and Chemistry are highly recommended. Licensed Practical Nurses (LPN) may enter the ADN program as Advanced Standing students and continue in the second year to complete the requirements of the ADN program. Licensed Practical Nursing students must submit an Advanced Standing nursing application, submit a copy of their LPN license, and complete the LPN step exam earning a composite score of 65%.

Program of Study - Fort Dodge & Webster City/Goldfield:

Pre-requisite		Sem. Hours
HSC-172	75 Hour Nurse Aide T9905 or equivalent Nurse Aide course (Student must pass state certification exams)	3
BIO-168	Human Anatomy & Physiology I w/lab	4

First Semester		Sem. Hours
PNN-127	Fundamentals of Nursing in Health Care	5
*HSC-112	Medical Terminology	1
PNN-121	Clinical Practicum 1	1.5
PNN-206	Medication Administration for Nurses	1
PSY-121	Developmental Psychology	3
BIO-151	Nutrition	3
BIO-173	Human Anatomy & Physiology II w/lab	4
SDV-035	Classroom Assistant	1
	Total Hours	**19.5**

Second Semester		Sem. Hours
***PNN-621	Life Span Health Care	8.5
PNN-622	Clinical Practicum 2	4
	Total Hours	**12.5**

Summer Session		Sem. Hours
PSY-111	Introduction to Psychology	3
BIO-186	Microbiology	4
	Total Hours	**7**

Third Semester**		Sem. Hours.
***ADN-405	Maternal Child Health Care (7.5 weeks)	6
ADN-407	Clinical Practicum 3 (7.5 weeks)	2
ADN-465	Psychiatric/Mental Health Care (7.5 weeks)	5
ADN-466	Clinical Practicum 4 (7.5 weeks)	2
	Total Hours	**15**

Fourth Semester**		Sem. Hours.
ADN-511	Adult Health Care	8.5
ADN-512	Clinical Practicum 5	4
SOC-110	Introduction to Sociology	3
ENG-105	Composition I	3
	Total Hours	**18.5**

Summer Session (6 wks)		Sem. Hours
ADN-805	Management in Health Care	1
ADN-806	Clinical Practicum 6	2.5
	Total Hours	**3.5**

Program of Study - Storm Lake:

Pre-requisite		Sem. Hours
HSC-172	75 Hour Nurse Aide T9905 or equivalent Nurse Aide course (Student must pass state certification exams)	3
BIO-168	Human Anatomy & Physiology I w/lab	4

First Semester		Sem. Hours
PNN-127	Fundamentals of Nursing in Health Care	5
HSC-112	Medical Terminology*	1
PNN-121	Clinical Practicum 1	1.5
PNN-206	Medication Administration for Nurses	1
PSY-121	Developmental Psychology	3
BIO-151	Nutrition	3
BIO-173	Human Anatomy & Physiology II w/lab	4
SDV-035	Classroom Assistant	1
	Total Hours	**19.5**

Second Semester		Sem. Hours
PNN-621	Life Span Health Care	8.5
PNN-622	Clinical Practicum 2	4
PSY-111	Introduction to Psychology	3
	Total Hours	**15.5**

Summer Session		Sem. Hours
ADN-465	Psychiatric/Mental Health Care (6 weeks)	5
ADN-466	Clinical Practicum 4 (6 weeks)	2
	Total Hours	**7**

Third Semester		Sem. Hours.
ADN-405	Maternal Child Health Care	6
ADN-407	Clinical Practicum 3	2
ENG-105	Composition I	3
BIO-186	Microbiology	4
	Total Hours	**15**

Fourth Semester		Sem. Hours.
ADN-511	Adult Health Care	8.5
ADN-512	Clinical Practicum 5	4
SOC-110	Introduction to Sociology	3
	Total Hours	**15.5**

Summer Session (6 wks)		Sem. Hours
ADN-805	Management in Health Care	1
ADN-806	Clinical Practicum 6	2.5
	Total Hours	**3.5**

**At the Fort Dodge Center, the third and fourth semesters are interchangeable

*Test out option is available. See Health Science Dean or Program Coordinator.

***Webster City students will attend these classes at Goldfield

Enrollment Date: Fall and Spring in Fort Dodge; Fall in Webster City, Storm Lake
Program Length: 4 semesters & 2 summer sessions (with fall start)
Award: Associate in Applied Science in Nursing
Campus: Fort Dodge, Storm Lake, Webster City/Goldfield

Dental Hygiene

Health Science Department CIP#5106020200

Program Mission Statement: The Dental Hygiene Program is committed to providing a diverse learning environment built on a strong theoretical base in: psychological sciences, basic sciences, and evidence-based dental hygiene sciences, utilizing the state-of-the-art Dental Hygiene clinic.

Program Description: The Dental Hygiene (DH) program prepares the student to provide comprehensive therapeutic oral health care and preventative education directly to diverse population groups in both clinical and community environments. An integral part of the dental team, the dental hygienist provides valuable oral health care services which may include oral assessments, oral cancer screenings, removing deposits from the teeth, exposing and processing dental radiographs, the administration of local anesthesia, nutritional counseling, sealant placement, fluoride treatments and preventative education.

Program Requirements: Students must earn a grade of a "C" or better in all Dental Hygiene program of study courses and meet the necessary prerequisites to progress in the program.

Student Responsibilities: Students receive clinical experience at the Iowa Central Dental Hygiene Clinic located at the Fort Dodge Campus. A medical health form and certification in basic cardiac life support must be completed prior to attending clinical sessions and the student must begin the hepatitis immunization series during their first semester. Students are required to purchase dental hygiene instruments and other personal protective materials. Transportation to various community projects is the responsibility of the student. Dental Hygiene is a licensed profession. Applicants for licensure are asked if they have ever been charged, convicted, found guilty of, or entered a plea of guilty or no contest to a felony or misdemeanor crime. A prior criminal history or record or habitual use of drugs or intoxicants can be grounds for licensure or licensure registration denial.

Admissions Criteria: This program is a selective, limited enrollment program. Students who would like to be considered for admission must complete an additional Dental Hygiene application packet. The deadline for the Dental Hygiene application for consideration for the following fall is March 1 of each year. Students must also be enrolled in, or have previously completed any pre-requisites of the program with a "C" or higher before they will be considered for the program. Students must submit proof of their enrollment in/or completion prior to the application deadline. The following criteria is required for applicants: a minimum of a high school diploma (GPA 2.5) or equivalent (GED 550); minimum Asset scores of 40 in each category, Compass (writing 65, reading 80, pre-algebra 39 or algebra 46), or ACT scores of 18 in reading, English, and math. High School Biology, Algebra, English, and Chemistry are highly recommended. It is recommended that the required general education courses are completed prior to entry into the Dental Hygiene program.

Accreditation: The program in dental hygiene is accredited by the Commission on Dental Accreditation and has been granted the accreditation status of "approval without reporting requirements". The Commission is a specialized accrediting body recognized by the United States Department of Education. The Commission on Dental Accreditation can be contacted at 312-440-4653 or at 211 East Chicago Avenue, Chicago, IL 60611.

Program of Study

Pre-requisites		Sem. Hrs.
BIO-168	Human Anatomy & Physiology I w/lab	4
BIO-173	Human Anatomy & Physiology II w/lab	4
CHM-110	Introduction to Chemistry	3
CHM-111	Introduction to Chemistry Lab	1
BIO-186	Microbiology with Lab	4
	Total Hours	**16**

First Semester		Sem. Hrs.
DHY-174	Principles of Dental Hygiene	5
DHY-114	Dental Hygiene Anatomical Sciences	4
DHY-163	Radiology	3
DHY-121	Oral Histology and Embryology	2
	Total Hours	**14**

Second Semester		Sem. Hrs.
DHY-183	Dental Hygiene I Theory	2
DHY-184	Clinical Dental Hygiene I	3
DHY-140	General & Oral Pathology	2
DHY-209	Periodontology	3
DHY-233	Preventative Dentistry/Nutrition	2
*PSY-111	Introduction to Psychology	3
	Total Hours	**15**

Third Semester		Sem. Hrs.
DHY-278	Dental Hygiene II Theory	2
DHY-280	Clinical Dental Hygiene II	3
DHY-224	Dental Materials	1
CHM-130	Introduction to Organic & Biochemistry	3
CHM-131	Introduction to Organic & Biochemistry Lab	1
	Total Hours	**10**

Fourth Semester		Sem. Hrs.
DHY-293	Dental Hygiene III Theory	2
DHY-292	Clinical Dental Hygiene III	5
DHY-256	Community Dentistry	2
DHY-132	Dental Pharmacology	3
*ENG-105	Composition I	3
	Total Hours	**15**

Fifth Semester		Sem. Hrs.
DHY-303	Dental Hygiene IV Theory	2
DHY-302	Clinical Dental Hygiene IV	5
DHY-253	Community Oral Health Rotation	1
DHY-265	Current Dental Hygiene Practice	2
SOC-110	Introduction to Sociology	3
*SPC-112	Public Speaking	3
	Total Hours	**16**

Applicants are strongly encouraged to complete the 13 credits* of Arts & Science classes prior to program entry.

Enrollment Date: Fall Semester
Program Length: 4 semesters and 1 summer session
Award: Associate of Applied Science
Campus: Fort Dodge

Emergency Medical Services

Health Science Department CIP#5109046200

Program Description: The Emergency Medical Services (EMS) program readies the student for a career in an exciting and expanding health care field. Graduates of the program are prepared to initiate and maintain treatment for medical, trauma, and cardiac emergencies following physician's orders or standard protocols. Successful completion of course requirements allow the students to take the National Registry examinations for EMT and Paramedic.

Program Requirements: Students must earn a grade of a "C" or better in all Paramedic program of study courses and meet the necessary prerequisites to progress in the program..

Student Responsibilities: Students receive clinical practice and field experience at a variety of health care settings. Transportation to the clinical site is the responsibility of the student. A medical health form and CPR certification must be completed prior to clinical. Successful completion of course requirements allows the student to take the National Registry examinations for the EMT, and EMT-Paramedic. All EMS students must complete a Criminal Record/Child and Adult Abuse Check prior to attending clinical.

Admission Requirements: The following criteria is required for applicants in the Paramedic program: minimum of a high school diploma (GPA of 2.5) or equivalent (GED of 550), ACT score of 18 in reading, English, and 14 in math, Compass scores (writing 65, reading 80, (Placement Doman number of pre-algebra 24 or algebra 0), or ASSET scores of 40 in each category writing and reading and 35 in numeric. All health science students must complete a Criminal Record/Child and Adult Abuse Check prior to attending clinical.

Program of Study - Paramedic Degree

Pre-requisites		Sem. Hours
**EMS-200	EMT	8
#BIO-168	Human Anatomy and Physiology I w/lab	4
*#HSC-113	Medical Terminology	2
	Total Hours	**14**

First Semester		Sem. Hours
BIO-173	Human Anatomy and Physiology II w/lab	4
EMS-760	NSC Paramedic I	9
	Total Hours	**13**

Second Semester		Sem. Hours.
ENG-105	Composition I	3
EMS-761	NSC Paramedic II	9.5
EMS-810	Advanced Cardiac Life Support	1
	Total Hours	**13.5**

Summer Semester		Sem. Hours.
ENG-106	Composition II	
	or	
SPC-112	Public Speaking	3
EMS-762	NSC Paramedic III	6.5
	Total Hours	**9.5**

Third Semester		Sem. Hours
PSY-111	Introduction to Psychology	3
EMS-763	NSC Paramedic IV	9.5
EMS-815	Pediatric Advanced Life Support	1
	Total Hours	**13.5**

Fourth Semester		Sem. Hours
EMS-764	NSC Paramedic V	8.5
EMS-820	Pre-hospital Trauma Life Support	1
	Social Science or Humanities Elective	3
	Total Hours	**12.5**

*Test out option is available. See Science, Health and Human Services Dean or Program Coordinator.
**These courses are pending approval.
#Pre-requisite for NSC Paramedic. Cannot take in conjunction with NSC Paramedic I.
NSC = National Standard Curriculum

EMS Certificate Programs

EMT - CIP#5109042000

**EMS-200	EMT	8
	Total Hours	**8**

Optional EMR Course

EMT - CIP#5109041000

**EMS-113	Emergency Medical Responder	3.5

Enrollment Date: Fall
Program Length: 4 semesters & 1 summer session
Award: Associate of Applied Science
Campus: Fort Dodge

Fire Science

Health Science Department

CIP# 4302030200

Program Description: The decision to work in public safety is a commendable and selfless sacrifice. It takes a special man or woman to take on the unique challenge of a career in public service and safety.

The Iowa Central Community College Fire Science program provides the knowledge, training and skills necessary for a rewarding career in Fire Fighting Field. The training our students receive can be beneficial to help students enter the field of Fire Fighting or if they are already in the field, the training is beneficial for career advancement. Students also have the opportunity to receive National Certification in Firefighter I & II, Driver Operator Pumper, and entry level Wildland Firefighter.

Associate in Applied Science in Fire Science
The Associate in Applied Science in Fire Science is a comprehensive two-year program designed to allow students to gain college credit hours for specific training that will help them enter the field of Fire Fighting. This program is rich in general education courses to facilitate pursuit of a baccalaureate degree and possesses the requisite technical and managerial courses to provide the foundation for leadership in the Fire Science Profession.

Program Requirements: Students must earn a grade of a "C" or better in all Fire Science program of study courses and meet the necessary prerequisites to progress in the program.

Program of Study:

First Semester		Sem. Hrs.
FIR-127	Fire Behavior and Combustion	3
FIR-213	Principles of Emergency Services	3
ENG-105	Composition I	3
***FIR-144	Fundamentals of Fire Fighting	4.5
	Math Elective**	3
	Total Hours	**16.5**

Second Semester		Sem. Hrs.
FIR-221	Fire Prevention	3
FIR-124	Building Construction	3
FIR-200	Occupational Safety/Health in Emer Serv	3
PSY-111	Introduction to Psychology	3
CRJ-XXX		3
	Total Hours	**15**

Third Semester		Sem. Hrs.
FIR-214	Legal Aspects of the Emergency Services	3
FIR-180	Chemistry of Hazardous Materials	3
FIR-235	Fire Investigation I	3
FIR-226	Fire Administration	3
*CRJ-XXX		3
	Total Hours	**15**

Fourth Semester		Sem. Hrs.
FIR-152	Fire Protection Systems	3
FIR-149	Fire Protection Hydraulics & Water	3
FIR-236	Fire Investigation II	3
FIR-145	Fire Strategies and Tactics	3
SPC-112	Public Speaking	3
	Total Hours	**15**

**Must take 2 of 3, CRJ-141, CRJ-160, and CRJ-300 OR EMS-200 EMT (8 credits)*

***Math elective from AAS approved general education list.*

**** Will accept comparable non-credit course for FIR-144 Fundamentals of Fire Fighting and EMS-200 EMT with appropriate official documentation.*

*****All FIR numbered courses will need a 2.0 GPA or better to pass the course.*

Fire Service Administration

Health Science Department

CIP# 4302020200

Program Description: Iowa Central Community College's Fire Service Administration program is an Associate in Applied Science degree that is designed to allow current firefighters to gain college credit for courses completed from the Iowa Fire Service Training Bureau (FSTB), the National Fire Academy (NFA) and to allow those students to obtain a degree. The program builds on the certifications completed through the FSTB and NFA. It also includes criminal justice, management, and general education courses. Iowa Central recommends that potential students first complete the certification courses prior to enrollment in college courses.

Submitting Advanced Standing Information: Students must complete the following certifications with the Fire Service Training Bureau and/or the National Fire Academy to use as Advanced Standing credits toward the Fire Service Administration Associate in Applied Science degree. It is the student's responsibility to compile a completed portfolio containing all certificates. The portfolios will only be accepted when all of the certificates are enclosed in the portfolio. Only the certifications listed in the program requirements are to be included in the portfolio.

Program of Study:
Total Semester Hours required: 65 credits

Core Courses from Advanced Standing (FSTB and NFA): Students must complete the following certification courses with the Fire Service Training Bureau and/or the National Fire Academy to use as Advanced Standing credits toward the Fire Service Administration Associate in Applied Science degree. Total credits awarded for certifications are 25 semester hours.

Completion of the following certification courses (25 semester hours):

Fire Officer 1	3
Fire Officer 2	3
Fire Services Instructor 1	3
Fire Services Instructor 2	2
Fire Inspector 1	3
Incident Safety Officer	1
Health and Safety Officer	1
Strategy and Tactics for Initial Company Operations	1
Training Operations in Small Departments	1
Decision Making for Initial Company Operations	1
Arson Detection for the First Responder	1
Preparation for Initial Company Operations	1
Incident Command System 300	1
Leadership Series (3 courses)	3

Required Courses: (9 semester hours)
Students must complete the following three courses:

FIR-200	Occupational Safety and Health in Emergency Service	3
CRJ-300	Perspectives of Homeland Security	3
MGT-101	Principles of Management	3

General Education Requirements (31 semester hours)

ENG-105	Composition I	3
ENG-106	Composition II	3
SPC-101	Fundamentals of Communication	3
PSY-111	Introduction to Psychology OR	
SOC-110	Introduction to Sociology	3
POL-111	American National Government OR	
POL-112	American State and Local Government	3
	*Math	3
	*Science	3
	*Humanities	6
	Institutional Requirement	1
	Computer Literacy	3

**Courses must be chosen from appropriate general education list.*

***Choose from any science course with a prefix of CHM or BIO from appropriate general education list*

Medical Assistant

Health Science Department CIP#5108010100

Program Mission Statement: The Medical Assistant program is committed to providing a quality education to students preparing for a career as a Medical Assistant.

Program Description: Medical assistants are multi-skilled health professionals specifically educated to work in ambulatory settings performing administrative and clinical duties. The practice of medical assisting directly influences the public's health and well-being, and necessitates mastery of a complex body of knowledge and specialized skills. This requires both formal education and practical experience that serve as standards for entry into the profession.

The Medical Assistant Program at Iowa Central Community College prepares the student with theory and entry-level competence in the performance of administrative and clinical duties. The diploma program is conducted over a period of eleven months and includes two semesters of theory and lab followed by summer practicum. The program begins in the fall and concludes in the summer. Students must earn a passing grade (as outlined in individual course syllabi) in all Medical Assistant Curriculum courses and meet the prerequisites to progress in the program. Upon successful completion of all program requirements, the graduate is eligible to make application to take the CMA (AAMA) Certification Examination. After completion of the diploma program, students may opt to continue their education to obtain an AAS degree in Medical Assisting, completing an addition 13 credit hours of required coursework and 6 credit hours of elective coursework.

Student Responsibilities: The following documentation will be discussed with accepted students at New Student Orientation and must be submitted to the Program Coordinator. Provider Level CPR and First Aid Certification (obtained through The American Red Cross, The American Heart Association, The American Safety and Health Institute, or The National Safety Institute), Pre-Entrance Medical Record form, Criminal Background Search including Child/Dependent Adult Abuse, and Mandatory Reporter Training (Child and Dependent Adult).

Accreditation: The Iowa Central Community College Medical Assistant Diploma Program on the Fort Dodge campus is accredited by The Commission on Accreditation of Allied Health Education Programs (CAAHEP), 1361 Park Street, Clearwater, Florida 33756, (727) 210-2350, www.caahep.org, upon the recommendation of The Medical Assisting Education Review Board (MAERB), 20 North Wacker Drive, Suite 1575, Chicago, Illinois 60606 (800) 228-2262, www.maerb.org.

Admission Requirements: The following criteria is required for admission: Minimum of a high school diploma (GPA ≥ 2.5), GED (score ≥ 550), or 8 hours of college credit (GPA ≥ 2.0); ACT scores ≥ 18 in each category (writing, reading, and math), COMPASS scores (writing ≥ 65, reading ≥ 80, and pre-algebra ≥ 39 or algebra ≥ 46), or ASSET scores of ≥ 40 in each category (writing, reading, and numeric); previous college credit , if applicable (GPA ≥ 2.0); documentation of the ability to type 35 words per minute with three errors or less during a three-minute timing or completion of Introduction to Keyboarding (ADM 105) obtaining at least a "B" in the course; interview with the Medical Assistant Program Coordinator. Early application to the program is encouraged. Twenty five students are accepted each fall. The Program Coordinator grants acceptance to the first 25 students that meet the above admission criteria. Applicants may not begin the program until ALL of the admission criteria have been completed.

Program of Study - Medical Assistant Diploma CIP#5108010100

First Semester		Sem.Hrs.
**MAP-542	The Human Body in Health & Disease I	3
MAP-322	Examination Room Techniques I	3.5
MAP-221	Medical Laboratory Procedures I	1.5
MAP-115	Medical Office Management I	6
**HSC-113	Medical Terminology	2
MAP-401	Medical Law and Ethics	1
MAP-127	Medical Office Computer Applications	1
	Total Hours	**18**

Second Semester		Sem.Hrs.
**MAP-555	The Human Body in Health & Disease II	5
***MAP-324	Examination Room Techniques II	5.5
MAP-226	Medical Laboratory Procedures II	1.5
MAP-118	Medical Office Management II	4
MAP-435	Interpersonal Relations in Health Care	2
	Total Hours	**18**

Summer Session (8 wks.)		Sem.Hrs.
MAP-614	Practicum	3.5
**ENG-105	Composition I	3
	Total Hours	**6.5**

AAS Degree Option CIP#5108010200

After completion of the diploma program, students may opt to continue their education to obtain an AAS degree in Medical Assisting, completing an additional 13 credit hours of required coursework and 6 credit hours of elective coursework (listed below).

		Sem.Hrs.
PSY-111	Introduction to Psychology	3
PSY-121	Developmental Psychology	3
ENG-106	Composition II	3
BIO-168	Human Anatomy and Physiology I w/lab	4

Elective courses that will be accepted include courses with EMS, PNN, ADN, DHY, MLT, RAD, or MTR prefixes, any course listed on the ICCC AA sheet, or any other course that receives prior approval from the Program Coordinator.

**Advanced standing option is available for HSC 113. See Dean of Science, Health, and Human Services or Program Coordinator for more information.*

***The Medical Assistant Diploma Program may be completed over two years with an individual curriculum plan as determined by the student and Program Coordinator. Identified courses may only be taken during the students first two semesters/summer session of the program.*

****Pending curriculum changes, MAP-324 will increase to 5.5 semester hours and MAP-130 will be removed.*

Enrollment Date: Fall Semester
Program Length: 2 semesters & 1 summer session
Award: Diploma
Campus: Fort Dodge

Medical Laboratory Technician

Health Science Department CIP#5110040200

Program Mission Statement: The Medical Laboratory Technician Program (MLT) provides a learning environment conducive to preparing students to function at entry level laboratory careers.

Program Description: The Medical Laboratory Technician (MLT) program prepares the student to perform a full range of laboratory tests – from a simple blood glucose test to complex tests to uncover diseases such as HIV and cancer. Medical Laboratory Technicians must work quickly and accurately. The information they give to the doctors influences the medical treatment a patient receives. In their search for data on a patient's health, MLTs obtain blood samples from patients of all ages. They analyze blood, urine and other body fluids using a microscope or other complex precision instruments.

Program Requirements: Students must earn a grade of a "C" or better in all Medical Laboratory Technician program of study courses and meet the necessary prerequisites to progress in the program. Students must complete the program with a grade point average of 2.0 or better. (Effective Fall 2009)

Student Responsibilities: Students receive clinical practice at a clinical site determined by the MLT Coordinator. All MLT students must complete a Medical Health form and a Criminal Record/Child and Adult Abuse Check prior to attending clinical. Students must begin the hepatitis immunization series during their enrollment in Fundamentals of Laboratory Science. Transportation to the clinical site is the responsibility of the student. Students are required to purchase gloves. Graduates of the program are eligible to take the MLT Board of Certification Exam (BOC) administered by the American Society of Clinical Pathologists (ASCP).

Accreditation: The Medical Laboratory Technician Program is accredited by the NAACLS, National Accrediting Agency for Clinical Laboratory Science, 5600 N. River Rd., Suite 720, Rosemont, IL 60018, 773-714-8880

Admission Requirements: Successful completion of high school Biology and Algebra or equivalent is required. Required courses must be taken prior to entering the program. (High School chemistry is highly recommended). Chemistry may be taken the first semester in the MLT program. The following criteria is required for applicants: minimum of a high school diploma (GPA 2.5) or equivalent (GED 550), ACT scores of 18 in reading, English, and math; COMPASS scores (writing 65, reading 80, pre-algebra 39, algebra 46); or ASSET scores of 40 in each category (writing, reading, numeric).

Advanced Standing: Individuals accepted into the MLT program who have an understanding of and prior experience in the operations of the medical laboratory may qualify to complete a proficiency exam to "test out" of the Fundamentals of Laboratory Science course.

Program of Study

First Semester		Sem. Hrs.
MLT-120	Urinalysis	3
BIO-168	Human Anatomy & Physiology I w/lab	4
CHM-165	General Chemistry I	4
*HSC-113	Medical Terminology	2
*MLT-111	Fundamentals of Lab Science	4
	Total Hours	**17**

Second Semester		Sem. Hrs.
BIO-186	Microbiology w/lab	4
BIO-173	Human Anatomy & Physiology II w/lab	4
MLT-133	Erythrocyte Hematology	3
MLT-171	Immunology & Serology	3
	Total Hours	**14**

Summer Session		Sem Hrs.
ENG-105	Composition I	3
PSY-111	Introduction to Psychology	
	or	
PSY-121	Developmental Psychology	3
	Total Hours	**6**

Third Semester		Sem. Hrs.
MLT-234	Leukocyte Hematology/Coagulation	4
MLT-250	Clinical Microbiology	4
MLT-241	Clinical Chemistry I	4.5
MLT-260	Immunohematology	4
	Total Hours	**16.5**

Fourth Semester		Sem. Hrs.
MLT-243	Clinical Chemistry II	2
MLT-253	Parasitology & Mycology	2
MLT-280	Clinical Practicum I	8
	Total Hours	**12**

Summer Session (9 weeks)		Sem. Hrs.
MLT-290	Clinical Seminar & Review	2
MLT-281	Clinical Practicum II	4.5
	Total Hours	**6.5**

*Test out option is available. See Science, Health and Human Services Dean or Program Coordinator.

**Students may extend the Medical Laboratory Technician Program over three years by taking partial semester class loads. See the MLT Coordinator.

Enrollment Date: Fall Semester
Program Length: 4 semesters & 2 summer sessions (second year summer session in nine weeks)
Award: Associate in Applied Science
Campus: Fort Dodge

Practical Nursing

Health Science Department CIP#5116130100

Program Mission Statement: The Practical Nursing (PN) program is committed to providing quality nursing education to aid students to meet their diverse learning needs in preparing for a career as a Licensed Practical Nurse.

Program Description: The Practical Nursing (PN) program prepares students for entry-level positions, to provide nursing care under the supervision of a Registered Nurse or Physician. The first two semesters are identical in both the Practical Nursing (PN) program and the Associate Degree Nursing (ADN) program, enabling students to finish the Practical Nursing program after the first summer, or to continue in the Associate Degree Nursing program. The Practical Nursing program will educate you for this career in concentrated classroom studies, along with extensive clinical work (360 hours) based in a wide-range of health care settings.

Program Requirements: Students must earn a grade of a "C" or better in all Practical Nursing program of study courses and meet the necessary prerequisites to progress in the program. Students must retake any nursing (PNN) courses completed over three years ago.

Student Responsibilities: A medical health form and certification in basic cardiac life support must be completed prior to starting the nursing classes. Transportation to the clinical site is the student's responsibility. Uniforms are purchased by the students and worn to clinical. All nursing students must complete a Criminal Record/Child and Adult Abuse check prior to attending clinical. Any student with a felony conviction must notify the Iowa Board of Nursing after they have completed requirements for licensure including completion of a course of study and filing an application. Upon completion of the program, graduates are qualified to take the National Council Licensure Exam (NCLEX).

Approval: The Practical Nursing program is approved by the Iowa Board of Nursing.

Admission Requirements: This program is a selective, limited enrollment program. Students who would like to be considered for admission must complete an additional nursing application packet. Students must also be enrolled in, or have previously completed any pre-requisites of the program with a "C" or higher before they will be considered for the program. Students must submit proof of their enrollment in/or completion prior to the application deadline. The following criteria is required for applicants: minimum of a high school diploma (GPA 2.5) or equivalent (GED 550); minimum ASSET scores of 40 in writing and reading and 46 in math, COMPASS (writing 65, reading 80, pre-algebra 64, or algebra 51), or ACT scores of 18 in reading, English, and 20 in math; complete the TEAS exam earning a composite score of 58.7%. High School Biology, Algebra, English and Chemistry are highly recommended.

Program of Study - Fort Dodge, Storm Lake, Webster City/Goldfield

Pre-requisite		Sem. Hours
HSC-172	75 Hour Nurse Aide T9905 or equivalent Nurse Aide course...	3
	(Student must pass state certification exams)	
BIO-168	Human Anatomy & Physiology I w/lab	4

First Semester		Sem. Hours
PNN-127	Fundamentals of Nursing in Health Care	5
*HSC-112	Medical Terminology	1
PNN-121	Clinical Practicum 1	1.5
PNN-206	Medication Administration for Nurses	1
PSY-121	Developmental Psychology	3
BIO-151	Nutrition	3
BIO-173	Human Anatomy & Physiology II w/lab	4
SDV-035	Classroom Assistant	1
	Total Hours	**19.5**

Second Semester		Sem. Hours
**PNN-621	Life Span Health Care	8.5
PNN-622	Clinical Practicum 2	4
	Total Hours	**12.5**

Spring (Fort Dodge only) 6 wks
Summer (Fort Dodge, Storm Lake, or Webster City) 6 wks

		Sem. Hours
PNN-811	Selected Clinical Nursing	1
PNN-731	Clinical Practicum	2.5
PNN-311	PN Issues & Trends	1
	Total Hours	**4.5**

*Test out option is available. See Health Science Dean or Program Coordinator.

**Webster City students will attend these classes at Goldfield.

Students may extend the Practical Nursing program over two years by taking the Arts and Science courses during the first year and the nursing courses during the second year.

Enrollment Date: Fall and Spring in Fort Dodge; Fall in Webster City, Storm Lake
Program Length: 2 semesters & a six week summer session (with fall start)
Award: Diploma
Campus: Fort Dodge, Storm Lake, Webster City/Goldfield

Radiologic Technology

Health Science Department CIP#5109110200

Program Mission Statement: The Radiologic Technology program prepares students to become skilled entry level diagnostic Radiologic Technologist. The program provides an excellent learning environment while preparing students for this profession.

Program Description: The Radiologic Technology program is an intensive program which prepares students to become skilled professionals in performing imaging examinations and accompanying responsibilities. Students receive clinical experience in radiology departments of health care affiliates located throughout Northwest and North Central Iowa. The program provides the students with entry level skills consistent with career opportunities nationwide.

Program Requirements: Students must earn a grade of a "C" or better in all Radiologic Technology program of study courses and meet the necessary prerequisites to progress in the program. The student must complete the program with a grade point average of 2.0 or better. The student must complete all radiology specific courses within three years.

Student Responsibilities: Students receive clinical experience in a variety of clinical settings. A medical health form and certification in basic cardiac life support must be completed prior to attending clinical. Transportation to the clinical site is the student's responsibility. Uniforms are purchased by the student and worn to clinical. Graduates of the program are academically eligible to take the exam administered by the American Registry of Radiologic Technologists. Upon successful completion of this exam, they become a Registered Radiologic Technologist R.T. (R) All radiology students must complete a Criminal Record/Child and Adult Abuse Check prior to attending clinical. Students with a felony or misdemeanor conviction must notify the American Registry of Radiologic Technologists prior to entering the program, to ensure they are eligible to take the Registry's Examination.

Accreditation: The Radiologic Technology Program is accredited by The Joint Review Committee on Education in Radiologic Technology, 20 North Wacker Drive, Suite 2850, Chicago, Illinois, 60606-3182. Telephone number: 312-704-5300.

Admission Requirements: This program is a selective, limited enrollment program. Students who would like to be considered for admission must complete an additional application packet. Students must also be enrolled in, or have previously completed any pre-requisites of the program with a "C" or higher before they will be considered for the program. Students must submit proof of their enrollment in/or completion prior to the application deadline. The following criteria is required for applicants: a minimum of a high school diploma (GPA 2.5) or equivalent (GED 550); minimum Asset scores of 40 in writing, reading, and 46 in math, Compass (writing 65, reading 80, pre-algebra 64 or algebra 51), or ACT scores of 18 in reading, english, and 20 in math. High school Biology, Algebra, English, and Chemistry are highly recommended.

Program of Study

Pre-requisites		Sem. Hrs.
*HSC-113	Medical Terminology	2
BIO-168	Human Anatomy & Physiology I w/lab	4
	College Math Elective	3

First Semester		Sem. Hrs.
HSC-104	Introduction to Health Care	2
BIO-173	Human Anatomy & Physiology II w/lab	4
RAD-320	Imaging I	2
RAD-122	Radiographic Procedures I	4
RAD-210	Clinical Education I	4
	Total Hours	**16**

Second Semester		Sem. Hrs.
PSY-111	Introduction to Psychology	
	or	
PSY-112	Psychology of Human Relations	3
RAD-430	Radiographic Physics	3
RAD-365	Imaging II	2
RAD-142	Radiographic Procedures II	4
RAD-230	Clinical Education II	4
	Total Hours	**16**

Third Semester (Summer Session)		Sem. Hrs.
RAD-163	Radiographic Procedures III	2.5
RAD-270	Clinical Education III	3
RAD-182	Special Procedures	2
	Total Hours	**7.5**

Fourth Semester		Sem. Hrs.
ENG-105	Composition 1	3
RAD-770	Film Critique & Evaluation	2.5
RAD-896	Quality Assurance	2
RAD-510	Clinical Education IV	6
	Computer Course	2
	Total Hours	**15.5**

Fifth Semester		Sem. Hrs.
RAD-570	Clinical Education V	8
RAD-738	Radiologic Pathology	2
RAD-850	Radiation Protection & Biology	3
	Total Hours	**13**

Sixth Semester (9 Week Summer Session)		Sem. Hrs.
RAD-690	Cross Sectional Anatomy	1
RAD-946	Seminar	2
RAD-620	Clinical Education VI	4
	Total Hours	**7**

CT/MRI/US Internship
Iowa Central is partnering with the University of Iowa in the radiation sciences to offer Computed Tomography (CT), Magnetic Resonance Imaging (MRI) and Ultrasound (US) internships. The agreement will allow students to receive their clinical education through Iowa Central while taking classes online through the University of Iowa. Students will receive a certificate upon successful completion of the program. Students have the opportunity to continue and complete a Bachelors degree online from the University of Iowa. See program coordinator or Iowa Central website for internship application

Electives: ENG-106, CHM-110 & CHM-111, SPC-112, FLS-111, PEC-127, PEC-121, SOC-110, ART-101

*Test out option is available. See Science, Health and Human Services Dean or Program Coordinator.

**Students may extend the Radiologic Technology Program over three years by taking the Arts and Science courses the first year and the Radiologic Technology courses during the second and third years.

Enrollment Date: Fall Semester
Program Length: 6 semesters which include 2-nine week summer sessions
Award: Associate of Applied Science
Campus: Fort Dodge

Administrative Specialist

Business Department

CIP# 5204010200

Program Description: Today's businesses have sophisticated equipment such as computers, copiers, scanners, telephones, and video display projectors to name a few. Businesses everywhere need employees who can operate these machines efficiently and productively. The Administrative Specialist program at Iowa Central provides students the opportunity to learn and to improve the technical and communication skills that today's business offices demand.

Students learn to refine their spoken, written, and listening communication competencies. They have ample opportunity to work cooperatively and in team settings. In addition, they are encouraged to develop the work attitudes employers value most—dependability, initiative, follow-through, cooperation, and human relations.

In the technical skills area, students strive to increase their speed and accuracy at the keyboard and on the calculating machine, to apply business math concepts, and to learn general accounting principles. Students also develop the essential computer applications of word processing, spreadsheet, database management, and Web publishing. They are well prepared for Microsoft certification and placement in a business environment.

Program of Study - Office Assistant- Diploma

First Semester		Sem. Hrs.
BUS-161	Human Relations	3
ADM-112	Keyboarding**	3
BUS-102	Intro to Business	3
CSC-110	Intro to Computers*	3
ADM-260	Personal Development	1
ENG-105	Composition I	3
	Total Hours	**16**

Second Semester		Sem. Hrs.
ADM-148	Transcription	2
ADM-162	Office Procedures	3
ADM-116	Keyboarding II	3
ACC-111	Introduction to Accounting	3
BUS-121	Business Communications	3
ADM-131	Office Calculators	1
ADM-258	Professional Development	1
	Total Hours	**16**

*OR (BCA-122, BCA-146, BCA-164, and BCA-174)

**Student must complete a 3-minute timed writing with a minimum speed of 35 words per minute with three (3) or fewer errors. If this minimum is not met, the student will be required to enroll in ADM-105 Intro to Keyboarding as a pre-requisite.

Summer Semester		Sem. Hrs.
ADM-941	Practicum	2
	Total Hours	**2**

Summer semester is optional for Office Assistant Diploma. The practicum is also applicable for the A.A.S Degree.

Office Assistant Diploma
Total Hours 32/34

Program of Study - Administrative Specialist - AAS Degree

Third Semester		Sem. Hrs.
BUS-180	Business Ethics	3
ACC-364	Excel for Accounting	3
CIS-256	Dreamweaver I or	
BCA-251	Publisher or	
GRA-176	Layout Design I	3
ADM-108	Keyboarding Skill Development	1
ADM-180	Administrative Management	3
	Program Elective****	3
	Total Hours	**16**

Fourth Semester		Sem. Hrs.
BUS-112	Business Math***	3
ADM-941	Practicum	2
ADM-297	Certification Preparation	1
ADM-146	Integrated Applications	3
BCA-252	Access for Business Apps.	3
	Program Elective****	3
	Total Hours	**15**

***Course may be substituted with a related course from either AA, AS, or Approved Gen. Ed. List for Applied Science and Technology.

****See Program Coordinator for approved list and description of courses to fulfill electives.

Administrative Specialist A.A.S. Degree
Total Hours 63

Applicable toward A.A. Degree
Total Hours 40

The following program requirements must be met:
Minimum GPA of 2.0 cumulative
Minimum "C" grade required in:
ADM-112 Keyboarding
ADM-116 Keyboarding II
ADM-146 Integrated Applications
ADM-941 Practicum

Enrollment Date: Fall and Spring in Fort Dodge
Program Length: 60 weeks
Award: Associate of Applied Science Degree
Campus: Fort Dodge

Broadcasting

Business Department

CIP#1002020200

Program Description: Iowa Central's Radio Broadcasting Program provides thorough, hands-on training and experience for a career in the radio industry. From writing to announcing, sales to sports, digital audio production to programming, we'll teach you the skills you need in order to succeed in this highly competitive field.

Iowa Central's Broadcasting Program offers an intense and practical blend of classroom studies and hands-on experience. The two-year program includes a summer internship session. During the eight-week summer internship, students work at a professional radio station, gaining valuable experience and networking with industry professionals. During their time at Iowa Central, students may also take advantage of part-time opportunities at one of eight professional radio stations in Fort Dodge and the surrounding area. Upon completion of the program graduates receive an Associate in Applied Science Degree.

Graduates of our program learn how to prepare effective resumes and audition tapes. They gain valuable "real life" interviewing experience. And they can take advantage of our job placement service. Course credits are also transferable to four-year institutions for students wishing to continue their education at the university level.

KICB-FM (88.1 FM) is a fully-licensed, 240-watt radio station, broadcasting seven days a week from the Iowa Central campus. KICB is the only student-staffed, student-managed community college radio station in the state. The station has been on the air since 1971. KICB operates under the supervision of the department's professional teaching staff, all of whom have years of professional experience in the industry.

Program of Study:

First Semester		Sem. Hrs.
MMS-101	Mass Media	3
MMS-105	Audio Production	3
MMS-106	Audio Production Lab	1
MMS-118	Announcing	3
MMS-119	Announcing Lab	1
MMS-120	Media Practices I	3
	Total Hours	**14**

Second Semester		Sem. Hrs.
MMS-121	Media Practices II	3
MMS-131	Reporting	3
MMS-205	Advanced Audio Production	3
MMS-206	Advanced Audio Production Lab	1
MKT-110	Principles of Marketing	3
	Total Hours	**13**

Summer Session		Sem. Hrs.
MMS-938	Broadcasting Field Experience	4

Third Semester		Sem. Hrs.
MMS-201	Media Practices III	3
MMS-145	Broadcast Writing	3
BUS-112	Business Math*	3
ENG-105	Composition I	3
	Social Science or Humanities Elective	3
	Total Hours	**15**

Fourth Semester		Sem. Hrs.
MMS-203	Media Practices IV	3
MMS-265	Mass Communication Law	3
MMS-190	Broadcasting Promotions	3
MMS-259	Management & Operations	3
MKT-153	Advertise/Promotions	3
	Total Hours	**15**

**Course may be substituted with a related course from either the AA, AS, or Approved Gen. Ed. list for Applied Science and Technology.*

Computer Networking Technology

Business Department

CIP# 1503030200

Program Description: The Computer Networking Technology Program is designed to provide graduates with the necessary skills to succeed in the jobs of the future. Graduates are able to administer a local area network, install and troubleshoot communication hardware/software and integrate technologies that the business world demands. The program aims to prepare one to be involved in a complex telecommunications environment.

Students learn to set up the complete system that facilitates information exchanges between networks. The program offers a theoretical and hands-on approach to networking. For every hour of theory, students get two hours of lab time. Second-year students assist with on-campus networks and get practical experience in a student-run network in the technology lab. They install the network, run the cable, and debug and maintain the system.

Program of Study:

First Semester		Sem. Hrs.
NET-774	Help Desk I	1
NET-110	Microcomputer Fundamentals	3
NET-191	Network Cabling	2
NET-211	CISCO Networking	2
NET-790	PC Support I	3
	English/Speech Elective*	3
	Social Science/Humanities Elective*	3
	Total Hours	**17**

Second Semester		Sem. Hrs.
NET-345	Windows Scripting	3
NET-483	Network+ Certification	3
NET-222	CISCO Routers	3
NET-791	PC Support II	3
NET-775	Help Desk II	1
	Math Elective*	3
	Total Hours	**16**

Third Semester		Sem. Hrs.
NET-750	Telecommunication Services	3
NET-232	CISCO Switches	3
NET-314	Windows Server	4
NET-413	Linux System Administration	4
NET-161	Network Design and Documentation	2
NET-776	Help Desk III	1
	Total Hours	**17**

Fourth Semester		Sem. Hrs.
NET-347	Windows Directory Scripting	2
NET-612	Fundamentals of Network Security	3
NET-152	Advanced Networking Technology	3
NET-242	CISCO Wide Area Network (WAN)	3
NET-343	Windows Directory Services	3
NET-455	Advanced Linux System Administration	3
NET-777	Help Desk IV	1
	Total Hours	**18**

**Course must be selected from appropriate AAS General Education list.*

***All CNT courses must receive a grade of "C" or better for graduation.*

****See Program Coordinator for approved list and description of courses to fulfill electives.*

Computer Repair

Business Department

CIP# 1109010100

Program Description: Students will develop skills in computer hardware repair and maintenance, operating systems, networking, and technical support. Hardware skills include assembly, upgrade, repair and troubleshooting of personal computers. The students will also focus on learning how to install, configure, and manage a variety of operating systems. These will include operating systems such as DOS, Microsoft Windows, and Linux. The students will be introduced to the basics of networking including setting up networks, what is required for Internet access, and basic network troubleshooting.

Students interested in computer repair must also have good professional skills. These include technical writing, customer service, help desk operations, and user training. Courses will feature hands-on experience as well as theory to properly equip the student for career success. Another feature of the program is preparation for industry certifications. These certifications include A+, N+ and possibly MCP. Upon successful completion of this program, students will be awarded a diploma in Computer Repair.

Program of Study:

First Semester		Sem. Hrs.
NET-774	Help Desk I	1
NET-110	Microcomputer Fundamentals	3
NET-191	Network Cabling	2
NET-211	CISCO Networking	2
NET-790	PC Support I	3
	English/Speech Elective*	3
	Social Science/Humanities Elective*	3
	Total Hours	**17**

Second Semester		Sem. Hrs.
NET-345	Windows Scripting	3
NET-483	Network+ Certification	3
NET-222	CISCO Routers	3
NET-791	PC Support II	3
NET-775	Help Desk II	1
	Math Elective*	3
	Total Hours	**16**

**Course must be selected from appropriate AAS General Education list.*

All CNT courses must receive a grade of "C" or better for graduation.

Culinary Arts

Business Department

CIP#1205000200

Program Description: The Culinary Arts Program will offer an Associate in Applied Science (AAS) degree through Iowa Central Community College. This program combines the important components of food preparation and culinary arts, along with nutrition, food safety and sanitation, baking, art of cuisine, and food service management.

The culinary arts program will also provide an introduction to hospitality and restaurant management with applicable hands-on experience throughout the program. These combined learning experiences will provide program graduates with the necessary skill sets to successfully enter the food industry. The students will complete an on-the-job training practicum in an industry field of their choice to complete their well-rounded culinary program. This will provide the student with a real-life experience and introduction, not only in culinary arts, but also food service management.

Program of Study:

First Semester		Sem. Hrs.
HCM-108	Safety and Sanitation	3
HCM-608	Introduction to Hospitality	3
HCM-143	Food Preparation I	3
HCM-144	Food Preparation Lab I	3
HCM-148	Food Fundamentals	3
HCM-513	Hospitality Professionalism	1
	Total Hours	**16**

Second Semester		Sem. Hrs.
HCM-157	Food Preparation II	3
HCM-158	Food Preparation II Lab	3
HCM-228	Culinary Nutrition and Food Science	3
HCM-128	Basic Baking and Lab	2
HCM-131	Basic Pastry and Lab	2
HCM-513	Hospitality Professionalism	1
	Total Hours	**14**

Summer Session		Sem. Hrs.
HCM-511	Food Technology Internship	3

Third Semester		Sem. Hrs.
HCM-129	Advanced Baking and Lab	2
HCM-132	Advanced Pastry and Lab	2
BUS-121	Business Communications	3
HCM-178	International Restaurant/Hotel Cuisine/Lab	4
HCM-254	Purchasing for Profit and Loss	2
BUS-112	Business Math*	3
HCM-517	Hospitality Professionalism II	1
	Total Hours	**17**

Fourth Semester		Sem. Hrs.
HCM-179	Advanced Cuisine for Restaurant and Hotel Lab	4
HCM-332	Hospitality Personnel Management	2
HCM-272	Garnishing and Finishing Techniques	2
HCM-300	Beverage Management	2
HCM-517	Hospitality Professionalism II	1
	General Education Elective*	3
	Social Science/Humanities Elective*	3
	Total Hours	**17**

**Course may be substituted with a related course from either AA, AS, or Approved General Education list for Applied Science and Technology.*

Graphics Technology

Business Department

CIP# 1003030200

Program Description: The Graphics Technology Program combines the most essential skills from desktop publishing and graphic design to prepare students for a career in one of the top six fastest growing careers in the nation. Through hands-on projects, students will study and apply the techniques and tools it takes to create powerful and intelligent visual communications. Students build skill in developing the images used in a variety of creative projects including brochures, posters and advertisements as well as the skill for design, layout, and formatting of these materials. Students build a strong foundation for a career by learning design techniques, visual thinking, and typography through applied learning.

Program of Study:

First Semester		Sem. Hrs.
ART-133	Drawing	3
CIS-256	Dreamweaver I	3
GRA-111	Vector Graphics I	2
GRA-176	Layout Design I	3
CIS-254	Basic Multimedia Design	2
CIS-255	Web Graphics I	3
	Total Hours	**16**

Second Semester		Sem. Hrs.
CIS-257	Web Graphics II	3
CAD-138	Virtual Modeling	2
GRA-115	Vector Graphics II	2
GRA-177	Layout Design II	2
ART-184	Photography	3
	Social Science/Humanities Elective	3
	Total Hours	**15**

Students can graduate with a diploma in Graphics Technology after successful completion of first and second semester. Students can continue to third and fourth semesters to complete an Associate of Applied Science Degree (AAS).

Third Semester		Sem. Hrs.
MKT-110	Principles of Marketing	3
MMS-101	Mass Media	3
CIS-194	Layout Design III	3
BUS-112	Business Math*	3
	English/Speech Elective*	3
	Total Hours	**15**

Fourth Semester		Sem. Hrs.
GRA-166	Web Animation	3
CIS-195	Layout Design Projects	3
MKT-153	Advertising and Promotions	3
CIS-261	Media Projects	3
	English/Speech Elective*	3
	Total Hours	**15**

Summer Semester (Optional)		Sem. Hrs.
BUS-932	Internship	2

*Course may be substituted with a related course from either the AA, AS, or Approved General Education list for Applied Science and Technology.

**Program Requirements: Must pass all classes with a prefix of ART, CIS, and GRA with a "C" or better for Graduation.

Health & Beauty Management

Business Department

CIP#1204010200

Program Description: The Health and Beauty Management program will provide students with a comprehensive program to prepare them for professions in the health and beauty fields. By incorporating college level business courses along with the courses required to prepare students to pass the state board exams, this degree will give the students opportunities to progress further within their field and give them the essential skills that will help them be successful as self employed cosmetologists. Iowa Central Community College and La James International Colleges have formed a partnership for the delivery of this program that combines licensure with an associate in applied science degree component.

Program of Study:

Courses that will be taught during the Diploma in Cosmetology at LaJames International College:

Theory of Applied Art
Design Decisions
Applied Principles
Career Essentials
Core Life Sciences
Salon Tech/Practicum

Iowa Central Courses Required for Graduation

BUS-121	Business Communication*	3
BUS-112	Business Mathematics*	3
MGT-101	Principles of Management	3
BUS-161	Human Relations*	3
MKT-110	Principles of Marketing	3
BUS-130	Introduction to Entrepreneurship	3
	Total Hours	**18**

*Course may be substituted with a related course from either the AA, AS, or Approved General Education list for Applied Science and Technology.

Program Graduation Requirements:
To graduate with an AAS in Health and Beauty Management from Iowa Central Community College a student must complete the following:

1. Student must have graduated from La James International College with a diploma in either:
   a) Cosmetology, or
   b) Massage Therapy and Esthetics
   A copy of the La James transcript must be sent to Iowa Central Community College
2. Student must hold a current state license from Iowa or Nebraska in either:
   a) Cosmetology, or
   b) Massage Therapy and Esthetics
   A copy of the state license must be sent to Iowa Central Community College
3. Student must complete the 18 credits required by Iowa Central Community College

Logistics & Transportation Management

Business Department

CIP#5202030200

Program Description: Logistics and Transportation Management are disciplines concerned with the efficient and effective flow of materials through the supply chain system. Logistics and Transportation Management assume the "supply chain system" approach to the management of activities such as purchasing, material management, inventory management, operations, packaging, warehousing, transportation, and customer service.

The two-year program culminates with the internship (on-the-job training) in a logistics or transportation related position. The internship program provides students with the opportunity to gain valuable, real-world experience linking logistics and transportation theories and practices with the working world.

Program of Study:

First Semester		Sem. Hrs.
MGT-260	Introduction to Business Logistics	3
MGT-261	Principles of Transportation Management	3
BUS-102	Introduction to Business	3
CSC-110	Introduction to Computers	3
MGT-101	Principles of Management	3
	Total Hours	**15**

Second Semester		Sem. Hrs.
MGT-262	Principles Purchasing & Logistics	3
MGT-263	Principles Distrubution & Warehouse Management	3
ENG-105	Composition I	3
BUS-161	Human Relations	
	or	
PSY-112	Psychology of Human Relations	3
BUS-185	Business Law I	3
	Total Hours	**15**

Third Semester		Sem. Hrs.
MGT-264	Demand Planning & Inventory Management	3
SPC-112	Public Speaking	3
PHI-145	Introduction to Ethical Conflict	3
ECN-120	Principles of Macroeconomics	3
ACC-111	Introduction to Accounting	3
SOC-110	Introduction to Sociology	3
	Total Hours	**18**

Fourth Semester		Sem. Hrs.
MGT-265	International Transportation and Logistics	3
MGT-270	Operations Production Management	3
ECN-130	Principles of Microeconomics	3
BUS-932	Internship (On Campus Student)**	
	or	
MGT-280	Capstone (Online Student)**	3
	Math Elective*	3
	Total Hours	**15**

**Course may be substituted with a related course from either AA, AS, or Approved General Education list for Applied Science and Technology.*

***On campus students are required to take BUS-932 and online students are required to take MGT-280.*

Restaurant & Hospitality Management

Business Department

CIP#5209010200

Program Description: The Hospitality and Restaurant Management program is an Associate in Applied Science degree offered by Iowa Central Community College with a hands-on approach to learning and decision making. The students will gain valuable learning experiences in the areas of hospitality and restaurant management, safety and sanitation, food service technology, purchasing and cost control, accounting, management, marketing, and beverage management. The students will also be doing an on-the-job training practicum experience to give them a well rounded education. This will allow the students the experience of operating and making decisions for a real food and beverage establishment.

Program of Study:

First Semester		Sem. Hrs.
HCM-608	Introduction to Hospitality	3
HCM-108	Safety and Sanitation	3
HCM-148	Food Fundamentals	3
HCM-143	Food Preparation I	3
HCM-144	Food Preparation I Lab	3
HCM-513	Hospitality Professionalism	1
	Total Hours	**16**

Second Semester		Sem. Hrs.
HCM-228	Culinary Nutrition and Food Science	3
CSC-110	Introduction to Computers	3
HCM-128	Basic Baking and Lab	2
HCM-131	Basic Pastry and Lab	2
MGT-101	Principles of Management	3
HCM-513	Hospitality Professionalism	1
	Total Hours	**14**

Summer Session		Sem. Hrs.
HCM-511	Food Technology Internship	3

Third Semester		Sem. Hrs.
ACC-111	Introduction to Accounting	3
HCM-254	Puchasing for Profit and Loss	2
HCM-242	Event Planning and Customer Service	2
	Introduction to Business/Entrepreneurship	3
BUS-121	Business Communications*	3
BUS-112	Business Math*	3
HCM-517	Hospitality Professionalism II	1
	Total Hours	**17**

Fourth Semester		Sem. Hrs.
HCM-300	Beverage Management	2
ACC-142	Financial Accounting	3
MKT-110	Principles of Marketing	3
HCM-332	Hospitality Personnel Management	2
HCM-517	Hospitality Professionalism II	1
	Social Science/Humanities Elective*	3
	Total Hours	**14**

**Course may be substituted with a related course from either AA, AS, or Approved General Education list for Applied Science and Technology.*

Turfgrass Management

Business Department

CIP#0106070200

Program Description: The Turfgrass Management program includes topics of interest in Turfgrass Management, Pesticide Application, Irrigation Systems, Landscaping, Soils, and Plants. The program will utilize facilities on campus, such as the athletic complexes, residential life building landscaping, as well as general field and campus landscaping maintenance. The student will leave the program with valuable knowledge and experience to be able to maintain personal residences, golf courses, athletic fields and parks.

A second option of study allows the student to take the four core Turfgrass Management Classes: Principles of Horticulture, Woody Plants and Trees, Herbaceous Plant Materials, and Landscape Design Techniques I. The student will also take general education classes, such as Biology, Chemistry, Finite Math, Economics and Western Civilization, which will allow him/her to start in the Turfgrass Management program at a university.

This program will give the students hands-on experience of taking skills learned in the classroom directly to Willow Ridge Golf Course for implementations.

Program of Study - AAS Degree:

First Semester		Sem. Hrs.
AGH-112	Introduction to Turfgrass Management	3
AGH-221	Principles of Horticulture	3
AGH-124	Woody Plants/Trees	3
BIO-102	Introductory Biology	3
BIO-103	Introductory Biology Lab	1
CSC-110	Introduction to Computers	3
	Total Hours	**16**

Second Semester		Sem. Hrs.
AGH-211	Advanced Turfgrass Management	3
AGH-152	Landscape Design Tech	3
AGA-380	Int. Pest Management	4
BUS-112	Business Math*	3
BUS-121	Business Communications	3
	Total Hours	**16**

Summer Session		Sem. Hrs.
AGH-805	Horticulture Internship I	3

Third Semester		Sem. Hrs.
AGH-180	Turfgrass Facilities Management	2
AGH-120	Herbaceous Plant Materials	3
AGH-156	Lansdscape Design II	3
AGA-154	Fundamentals of Soil Science	3
AGA-155	Fundamentals of Soil Science Lab	1
	Total Hours	**12**

Fourth Semester		Sem. Hrs.
AGH-141	Equipment Operations	3
AGH-161	Irrigation Systems	3
AGH-172	Landscape Maintenance	3
	Humanities/Social Science Elective	3
	Business Elective**	3
	Total Hours	**15**

Program of Study - AA Degree:

First Semester		Sem. Hrs.
ENG-105	Composition I	3
BIO-112	General Biology	4
AGH-124	Woody Plants/Trees	3
AGH-221	Principles of Horticulture	3
SDV-108	College Experience	1
	Total Hours	**14**

Second Semester		Sem. Hrs.
ENG-106	Composition II	3
BIO-113	General Biology II	4
AGH-152	Landscape Design Technology	3
CSC-110	Introduction to Computers	3
ECN-130	Microeconomics	3
	Total Hours	**16**

Third Semester		Sem. Hrs.
CHM-165	General Chemistry I	4
AGH-120	Herbaceous Plant Materials	3
MUS-104	Exploring Music	3
SPC-112	Public Speaking	3
MAT-140	Finite Math	3
	Total Hours	**16**

Fourth Semester		Sem. Hrs.
SOC-110	Introduction to Sociology	3
CHM-175	General Chemistry II	4
ECN-120	Macroeconomics	3
PHI-145	Introduction to Ethical Conflict	3
HIS-112	Western Civilization	4
	Total Hours	**17**

**Course may be substituted with a related course from either AA, AS, or Approved General Education list for Applied Science and Technology.*

***Choose one of the following courses:*
BUS-121 Business Communications
ACC-111 Introduction to Accounting
ECN-130 Microeconomics
BUS-130 Introduction to Entreprenuership
BUS-102 Introduction to Business

Web Technology

Business Department

CIP#1108010200

Program Description: The Web Technology program is a great opportunity to combine your artistic abilities with complex technological skills. The Associate in Applied Science (AAS) in Web Technology provides an understanding of the fundamental building blocks of web site creation and design. This includes the use of HTML, CSS, scripting to add functionality, server-side programming to handle web forms and allow interactions with database servers, plus digital image manipulation, audio, video, and animation to enhance the appearance and effectiveness of web content. This essential knowledge is ideally suited to those designing a web presence for small organizations with the goal of offering website visitors a more professional look and feel.

Program of Study - Design Emphasis

First Semester		Sem. Hrs.
CIS-256	Dreamweaver I	3
CIS-253	HTML Basics	3
CIS-254	Basic Media Design	2
CIS-255	Web Graphics I	3
GRA-111	Vector Graphics I	2
GRA-176	Layout Design I	3
	Total Hours	**16**

Second Semester		Sem. Hrs.
CIS-257	Web Graphics II	3
CIS-258	Dreamweaver II	3
CIS-260	Web Databases	3
GRA-115	Vector Graphics II	2
GRA-177	Layout Design II	2
	Social Science/Humanities Elective	3
	Total Hours	**16**

Students can graduate with a diploma in Web Technology after successful completion of first and second semester. Students can continue to third and fourth semesters to complete an Associate in Applied Science Degree (AAS).

Third Semester		Sem. Hrs.
GRA-158	Web Multimedia	3
CIS-259	Dreamweaver III	3
MKT-110	Principles of Marketing	3
BUS-112	Business Math*	3
	English/Speech Elective*	3
	Total Hours	**15**

Fourth Semester		Sem. Hrs.
CIS-262	Dreamweaver Projects	3
GRA-166	Web Animations	3
CIS-261	Media Projects	3
MKT-153	Advertising and Promotions	3
	English/Speech Elective*	3
	Total Hours	**15**

Summer Semester		Sem. Hrs.
BUS-932	Internship (Optional)	2

**Course may be substituted with a related course from either AA, AS, or Approved General Education list for Applied Science and Technology.*

***Program requirements: Must pass all classes with a prefix of ART, CIS, and GRA with a "C" or better for Graduation.*

Professional Photography

Humanities Department

Program Description: The Professional Photography program at Iowa Central Community College will provide students with an in-depth knowledge of the photo industry and all the requisite skills to go into the business of photography. Students will be prepared to gain entry-level jobs in the areas of commercial photography, event photography, photojournalism, and portraiture. Students will receive a strong education in Professional Photography by participating in hands-on learning and classroom discussions in Iowa Central's state-of-the-art studios, classrooms, and computer labs. Instruction will focus on digital applications of photography, but students will also have an opportunity to learn analog darkroom techniques for a fully-rounded photographic education.

Program of Study:

First Semester		Sem. Hrs.
ART-184	Photography	3
SPC-122	Interpersonal Communication or any general education equivalent	3
ART-151	Design I	3
SDV-108	College Experience	1
PSY-111	Introduction to Psychology or any general education equivalent	3
CSC-110	Introduction to Computers	3
	Total Hours	16

Second Semester		Sem. Hrs.
PHT-185	Photography II	3
BUS-102	Introduction to Business	3
BUS-112	Business Math or any general education equivalent	3-4
PHT-288	Photography in Journalism	3
ART-115	Graphic Design	3
	Total Hours	15/16

Third Semester		Sem. Hrs.
PHT-189	Photography III	3
BUS-161	Human Relations	3
PHT-195	Basic Set and Prop Design I	3
PHT-250	Marketing in Photography	2
PHT-233	Commercial Photography	3
PHT-191	Darkroom Photography (optional)	1
ART-116	Graphic Design II (optional)	3
	Total Hours	14/18

Fourth Semester		Sem. Hrs.
PHT-192	Photography IV	3
PHT-196	Basic Set and Prop Design II	3
PHT-299	Photography Portfolio Development	1
PHT-258	Business of Photography	2
PHT-230	Advanced Portraiture	3
ACC-111	Introduction to Accounting	3
	Total Hours	15

Biotechnology

Science Department

CIP#4103010200

Program Description: The AAS Biotechnology degree offers extensive hands-on training for students who desire to work in specialized vocations associated with the manufacture of biologically-based products. The biotechnology industry seeks employees with excellent analytical skills, accurate documentation skills, and the ability to operate and maintain sophisticated equipment. Successful completion of the biotechnology degree will provide students with the knowledge and skills necessary to be competitive in the biotechnology labor market. Beginning in the first year of the program, students will have the opportunity to visit area industries to observe the practical application of information obtained during classroom instruction. Students will be required to complete an internship before graduation.

Program of Study:

First Semester		**Sem. Hrs.**
BIO-112	General Biology I	4
	or	
BIO-102	Introductory Biology	3
	and	
BIO-103	Introductory Biology Lab	1
BPT-148	Biotechnology Methods I	3
BPT-149	Biotechnology Methods I Lab	1
CHM-165	General Chemistry I	4
	or	
CHM-110	Introduction to Chemistry	3
	and	
CHM-111	Introduction to Chemistry Lab	1
	Total Hours	**12**

Second Semester		**Sem. Hrs.**
BPT-134	Energy and the Environment	3
BPT-162	Introduction to Biotechnology	2
BPT-163	Introduction to Biotechnology Lab	1
CHM-130	Introduction to Organic and Biochemistry*	3
CHM-131	Introduction to Organic and Biochemistry Lab*	1
ENG-105	Composition I	3
	or	
ENG-111	Technical Writing	3
MAT-156	Statistics	3
	or	
MAT-150	Discrete Math	3
	Total Hours	**16**

Three Semester		**Sem. Hrs.**
BPT-120	Molecular and Cellular Biology	3
BPT-152	Biotechnology Methods II	4
PHY-162	College Physics	4
	or	
PHY-184	Applied Physics	4
SPC-112	Public Speaking	3
	or	
BUS-121	Business Communication	3
	Total Hours	**14**

Fourth Semester		**Sem. Hrs.**
BPT-154	Biotechnology Methods III	4
BPT-210	Applied Microbiology & Immunology	4
PSY-111	Introduction to Psychology	3
	or	
BUS-161	Human Relations	3
BPT-220	Biotechnology Workforce Readiness	3
	Total Hours	**14**

Summer Session		**Sem. Hrs.**
BPT-932	Internship	4

**Student may substitute Organic Chemistry I & II, CHM-261 & CHM-271 (in a 2 semester sequence), for Intro to Organic and Biochemistry w/Lab, CHM-130 & CHM-131.*

Agriculture Technology

Industrial Technology Department — CIP# 0101020200

Program Description: In the dynamic realm of today's agriculture, this program is designed to prepare students for the production, retail, and service aspects of the agriculture industry. Students will gain employable skills through such courses as animal science, crop production, farm business management, and field studies. In addition, students will receive practical experience in some of the largest agricultural businesses in the Midwest. The college farm also provides the resources for students to apply many farm management skills. Upon the completion of this Associate of Applied Sciences program, students may seek full-time employment in agriculture or may choose to continue their education.

Program of Study

First Semester		Sem. Hrs.
AGS-113	Survey of the Animal Industry	3
AGC-201	American Agricultural History*	3
AGA-852	Principle of Crop Production	3
ACC-111	Introduction to Accounting	3
	Ag Tech Elective**	3
	Total Hours	**15**

Second Semester		Sem. Hrs.
AGB-206	Field Ops & Management I	3
AGC-318	Field Studies/Career Opps	3
AGB-235	Introduction to Ag Markets***	3
	Ag Tech Elective**	3
	Ag Tech Elective**	3
	Total Hours	**15**

Summer Session		Sem. Hrs.
AGB-934	Practicum (Required)	3
	Ag Tech Fast Track Courses:	3
	Must complete 3 credit hours from the following electives: AGM-101 Ag DSL Tractor/Equip. Main. (1), AUT-121 Small Engines (1), CON-100 Basic Carpentry (1), ELE-162 Basic Wiring (1), CON-130 Concrete Theory (1)	
	Total Hours	**6**

Third Semester		Sem. Hrs.
AGA-154	Fundamentals of Soil Science	3
AGA-155	Fundamentals of Soil Science Lab	1
AGB-207	Farm Ops & Management II	3
	Ag Tech Elective**	3
	Ag Tech Elective**	3
	Communications Elective*	3
	Total Hours	**16**

Fourth Semester		Sem. Hrs.
AGA-380	Integrated Pest Management	4
AGB-330	Farm Business Management	3
	Ag Tech Elective**	3
	Ag Tech Elective**	3
BUS-112	Business Math or Math Elective*	3
	Total Hours	**16**

**Elective must be chosen from the current approved A.A.S./A.A. degree list.*
***Ag Tech electives must be chosen from the list to the right.*
****Satisfies General Education Elective.*

Fall Electives		Sem. Hrs.
AGS-308	Livestock Management Techniques	3
AGH-221	Principles of Horticulture	3
AGP-336	Precision Ag	3
AGC-940	On The Job Training	3
AGB-133	Introduction to Ag Business	3
AGS-401	Swine Production+	3
AGB-336	Ag Sales	3
IND-127	Shop Operations	1
WEL-122	Beginning Welding	2

Spring Electives		Sem. Hrs.
AGC-129	Sustainable Agriculture	3
AGS-553	Beef Production+	3
AGE-219	Equine Science	3
AGA-271	Adv. Corn & Soybean Production+	3
AGA-390	Introduction to Renewable Resources	3
AGC-940	On The Job Training	3
AGP-330	Advanced GPS	3

+ Third or Fourth Semester Classes Only

Automotive Collision Technology

Industrial Technology Department

CIP#4706030200

Program Description: The Automotive Collision Technology Program will train students to work in all levels of the Auto-Body repair and restoration industry. Students will learn the necessary electrical systems, suspension and steering systems, panel repair and replacement, paints and refinishing and repair estimating. Students may graduate with a diploma in Automotive Collision after successful completion of first and second semesters. Students can continue to third and fourth semesters to complete an Associate in Applied Science (A.A.S) Degree.

Program of Study:

First Semester		Sem. Hrs.
MAT-743	Technical Math*	3
CRR-303	Introduction to Auto Body Repair	3
CCR-337	Beginning Metal & Filler Work	3
CRR-110	Auto Body Welding	3
CRR-204	Repair of Plastics & Adhesives	3
CRR-309	Auto Body Prep and Masking	3
	Total Hours	**18**

Second Semester		Sem. Hrs.
CRR-850	Computerized Paint Mixing	3
CRR-807	Auto Body Refinishing	3
CRR-401	Panel & Door Skin Replacement	3
CRR-813	Advanced Auto Body Repair & Refinish	3
CRR-501	Frame Machine Use	3
	Humanities/Social Science Elective*	3
	Total Hours	**18**

Students may graduate with a diploma in Automotive Collision after successful completion of first and second semester. Students can continue to third and fourth semesters to complete an Associate in Applied Science (A.A.S) Degree.

Third Semester		Sem. Hrs.
CRR-910	Auto Body Rebuild Project I	3
CRR-345	Adv. Metal Sectioning & Repair	3
CRR-852	Custom Painting & Airbrush	3
CRR-620	Electrical Mechanical Systems	3
CRR-415	Restraint Systems	3
	Communications Elective*	3
	Total Hours	**18**

Fourth Semester		Sem. Hrs.
CRR-612	Introduction to Suspension & Steering	3
AUT-703	Automotive Heating & Air Condition Systems	3
CRR-911	Auto Body Rebuild Project II	3
CRR-750	Damage Estimating & Shop Operations	3
CRR-817	Buffing and Detailing	3
	General Education Elective*	3
	Total Hours	**18**

A student is to have completed all core program courses for the semester prior to the one in which they are currently enrolling with a "C" or better grade. Any exception will have to be approved in writing by the Program Coordinator and Division Dean. Core program requirements are courses beginning with the following prefixes: CRR, AUT.

Because of changes in technology, students taking programs over an extended period of time may be advised to retake courses to update skills and competencies.

**Course must be chosen or substituted with a related course from either AA, AS, or Approved General Education list for Applied Science and Technology.*

Automotive Technology

Industrial Technology Department

CIP#4706040200

Program Description: The Automotive Technology program is designed to prepare students for employment in the fast paced, ever-changing, high technology automotive service industry and to update those currently employed in the automotive industry. During the first year of the program, students develop competence in servicing today's automotive systems and additional diagnostic and repair expertise on automotive engines, heating and air conditioning systems, fuel and exhaust systems, ignition and emission systems, and suspension and steering systems. During the second year of the program, the diagnostic and repair emphasis is concentrated in the areas of advanced engine repair, manual transmissions and trans-axles, automatic transmissions and trans-axles, automotive electronics, power train control systems, and advanced brake systems. Upon successful completion of the Automotive Technology course of study, students will receive an Associate of Applied Science Degree.

Program of Study:

First Semester		Sem. Hrs.
MAT-743	Technical Math*	3
AUT-108	Introduction to Transportation Tech	3
AUT-503	Automotive Brake Systems	3
AUT-610	Auto Electrical I	4
AUT-164	Automotive Engine Repair	4
AUT-879	Automotive Lab I	1
	Total Hours	**18**

Second Semester		Sem. Hrs.
AUT-304	Manual Transmissions	4
AUT-205	Automatic Transmissions	5
AUT-404	Steering & Suspension	4
AUT-172	Advanced Engine Repair	2
	Humanities/Social Science Elective*	3
	Total Hours	**18**

Third Semester		Sem. Hrs.
AUT-656	Automotive Electrical II	4
AUT-826	Automotive Ignition Systems	3
AUT-833	Automotive Fuel Systems	3
AUT-803	Engine Performance I	3
AUT-539	Advanced Brake Systems	2
	Communications Elective*	3
	Total Hours	**18**

Fourth Semester		Sem. Hrs.
AUT-654	Automotive Advanced Electrical	4
AUT-704	Automotive Air Conditioning	4
AUT-811	Auto Engine Performance II	4
AUT-882	Automotive Lab II	3
	General Education Elective*	3
	Total Hours	**18**

A student is to have completed all core program courses for the semester prior to the one in which they are currently enrolling with a "C" or better grade. Any exception will have to be approved in writing by the Program Coordinator and Division Dean. Core program requirements are courses beginning with the following prefix: AUT.

Because of changes in technology, students taking programs over an extended period of time may be advised to retake courses to update skills and competencies.

**Course must be chosen or substituted with a related course from either AA, AS, or Approved General Education list for Applied Science and Technology.*

Auto Restoration Technology

Industrial Technology Department

CIP#47006030200

Program Description: The Auto Restoration Technology Program will train students in the steps involved in restoring, welding, customizing, fabricating, custom painting, various ways of metal stripping and custom design. Along with the use of specialty tools and equipment used in today's custom shops.

The first year in this program is identical to the first year of the Auto Collision Technology program of study. Therefore, students could complete the two-year Auto Collision program and stay an addition year to complete the 3rd and 4th semesters of the Auto Restoration Program. Otherwise, students would follow the Auto Restoration program of study and complete their degree in two years.

Program of Study:

First Semester		Sem. Hrs.
CRR-303	Introduction to Auto Body Repair	3
CRR-337	Beginning Metal and Filler Work	3
CRR-110	Auto Body Welding	3
CRR-204	Repairs of Plastic & Adhesives	3
CCR-309	Auto Body Prep and Masking	3
MAT-743	Technical Math*	3
	Total Hours	**18**

Second Semester		Sem. Hrs.
CRR-850	Computerized Paint Mixing	3
CRR-807	Auto Body Refinishing	3
CRR-401	Panel and Door Skin Replacement	3
CRR-813	Advanced Auto Body Repair & Refinish	3
CRR-501	Frame Use Machine	3
	Humanities/Social Sciences Elective*	3
	Total Hours	**18**

Third Semester		Sem. Hrs.
CRR-104	Introduction to Auto Restoration	3
CRR-105	Introduction to Speciality Tools	3
CRR-111	Street Rod Welding	3
CRR-341	Metal Fabrication	3
CRR-346	Metal Stripping	3
	Communications Elective*	3
	Total Hours	**18**

Fourth Semester		Sem. Hrs.
CRR-913	Restoration Project I	3
CRR-853	Custom Street Rod Painting	3
CRR-613	Altered Steering and Suspension	3
CRR-914	Restoration Project II	3
CRR-887	Complete Refinish & Detail	3
	General Education Elective*	3
	Total Hours	**18**

A student is to have completed all core program courses for the semester prior to the one in which they are currently enrolling with a "C" or better grade. Any exception will have to be approved in writing by the Program Coordinator and Division Dean. Core program requirements are courses beginning with the following prefix: CRR.

Because of changes in technology, students taking programs over an extended period of time may be advised to retake courses to update skills and competencies.

**Course must be chosen or substituted with a related course from either AA, AS, or Approved General Education list for Applied Science and Technology.*

Carpentry

Industrial Technology Department

CIP# 4602010100

Program Description: The Carpentry program provides students with the skills needed to successfully enter the construction industry. The main emphasis of this program is residential carpentry with related instruction in concrete, dry wall, roofing, and mechanical systems. Building Science and "House as a System" technology are integrated throughout this program. Upon completion of this program students will be prepared for employment in the carpentry trade. Students who successfully complete this program will be awarded a diploma in Carpentry.

Program of Study (start classes in June or September)

First Semester		Sem. Hrs.
BUS-112	Business Mathematics*	3
CAD-194	Architectural Modeling	2
CON-102	Introduction to Residential Construction	2
CON-129	Concrete Theory & Lab	3
CON-131	Site Layout & Blueprint Reading	1
CON-301	Framing for Sustainable Design+	7
CON-302	Building Science I	1
	Total Hours	**19**

Second Semester		Sem. Hrs.
CON-321	Residential Estimating	2
CON-303	Building Science II	1
CON-133	Construction Technology Lab	4
CON-308	Interior Finish I	2
CON-175	Residential Construction Applications	6
	Communications Elective*	3
	Total Hours	**18**

Summer Session		Sem. Hrs.
CON-386	Sustainable Design	1
CON-219	Exterior Finish	4
CON-309	Interior Finish II	3
	Total Hours	**8**

Optional		Sem. Hrs.
CON-307	Basic Woodworking	3

A student is to have completed all core program courses for the semester prior to the one in which they are currently enrolling with a "C" or better grade. Any exception will have to be approved in writing by the Program Coordinator and Division Dean. Core program requirements are courses beginning with the following prefix: CON.

Because of changes in technology, students taking programs over an extended period of time may be advised to retake courses to update skills and competencies.

+ CPR, First Aid, and Safety Certification included in this course.

**Course must be chosen or substituted with a related course from either AA, AS, or Approved General Education list for Applied Science and Technology.*

Computer Integrated Fabrication Technology

Industrial Technology Department

CIP# 4805010200

Program Description: The Computer Integrated Fabrication Technology program prepares students for entry level positions as numerical control technicians, general machinists, tool and die makers, mold makers, tool designers, and quality control technicians. During the first year, students will develop a solid foundation in basic machine tools such as lathes, milling machines, and surface grinders. In the second year, students will develop basic skills in CNC programming, CAD/CAM, jig & fixture making, tool & die, and mold making. Upon completion of the program, graduates are awarded an Associate of Applied Sciences (A.A.S.) Degree.

Program of Study:

First Semester		Sem. Hrs.
MAT-743	Technical Math*	3
IND-126	Precision Measurements Lab	1
IND-127	Shop Operations	1
IND-128	Blueprint Reading	1
IND-184	Mechanical Processes	2
MFG-256	Introduction to Lathe Operations	2
MFG-266	Introduction to Mill Operations	2
WEL-122	Beginning Welding	2
CAD-101	Intro to CAD	3
	Total Hours	**17**

Second Semester		Sem. Hrs.
MAT-748	Technical Math II*	3
CAD-164	Solid Modeling I	2
MFG-238	Machine Processes I	2
MFG-257	Advanced Lathe	2
CAD-230	Geometric Tolerancing	2
MFG-506	Quality Assurance	1
WEL-190	Gas Tungsten Arc Welding	2
WEL-196	Adv. Gas Tungsten Arc Welding	2
	Total Hours	**16**

Required		Sem. Hrs.
MFG-932	Internship	4
	Total Hours	**4**

Third Semester		Sem. Hrs.
MFG-305	CNC Operations	2
MFG-312	Advanced CNC	2
MFG-320	Computer Aided Machining	3
MFG-400	Introduction to Die Making	3
EGT-450	Computer Integrated Manufacturing	3
	Communications Elective*	3
	Total Hours	**16**

Fourth Semester		Sem. Hrs.
PHY-184	Applied Physics*	4
MFG-326	Computer Assisted Machining II	3
MFG-453	Introduction to Mold Making	2
MFG-422	Jigs and Fixture Design	3
WEL-710	Robotic Welding	3
	Social Science/Humanities Elective*	3
	Total Hours	**18**

A student is to have completed all core program courses for the semester prior to the one in which they are currently enrolling with a "C" or better grade. Any exception will have to be approved in writing by the Program Coordinator and Division Dean. Core program requirements are courses beginning with the following prefix: MFG.

Because of changes in technology, students taking programs over an extended period of time may be advised to retake courses to update skills and competencies.

**Course must be chosen or substituted with a related course from either AA, AS, or Approved General Education list for Applied Science and Technology.*

Diesel Technology

Industrial Technology Department

CIP#4706050200

Program Description: The Diesel Technology program is designed to provide training in the repair and maintenance of agricultural, over-the-road diesel trucks and off-road diesel power units. The Diesel Mechanic graduates will be trained in entry level skills of mechanical, electrical, fuel systems, power trains, brake systems, air conditioning, welding, and hydraulics. Upon completion of the program, graduates are awarded an Associate of Applied Science (A.A.S.) Degree.

Program of Study:

First Semester		Sem. Hrs.
MAT-743	Technical Mathematics*	3
DSL-323	Introduction to Diesel Technology	3
DSL-426	Introduction to Medium & Heavy Duty Elect.	3
DSL-427	Advanced Meadium & Heavy Duty Elect.	3
DSL-620	Semi Tractor Trailer Suspension & Alignment	3
DLS-634	Servicing Tractor Trailer Pneumatic Brake Systems	3
	Total Hours	**18**

Second Semester		Sem. Hrs.
DSL-357	Diesel Engines I	3
DSL-358	Diesel Engines II	3
DSL-445	Diesel Fuel Systems	3
DSL-804	Ag & Commercial Equipment Maintenance	3
DSL-547	Ag Power Train	3
	Humanities/Social Science Elective*	3
	Total Hours	**18**

(required)		Sem. Hrs.
DSL-932	Internship in Diesel Mechanics	4

Third Semester		Sem. Hrs.
DSL-403	Electronic Engine Control I	3
DSL-413	Electronic Engine Control II	3
DSL-840	Diesel Operations & Maintenance I	3
DSL-841	Diesel Operations & Maintenance II	3
DSL-850	On-Board Communication Systems	3
WEL-122	Beginning Welding	2
	Communications Elective*	3
	Total Hours	**20**

Fourth Semester		Sem. Hrs.
DSL-838	Diesel Automotive Systems	3
DSL-743	Air Conditioning & Refrigeration	3
DSL-545	Power Train Maintenance/System Procedures	3
DSL-615	Mobile Hydraulic Systems	3
DSL-835	Commercial Drivers License Training	2
PHY-184	Applied Physics*	4
	Total Hours	**18**

A student is to have completed all core program courses for the semester prior to the one in which they are currently enrolling with a "C" or better grade. Any exception will have to be approved in writing by the Program Coordinator and Division Dean. Core program requirements are courses beginning with the following prefix: DSL.

Because of changes in technology, students taking programs over an extended period of time may be advised to retake courses to update skills and competencies.

**Course must be chosen or substituted with a related course from either AA, AS, or Approved General Education list for Applied Science and Technology.*

Electrical Technologies

Industrial Technology Department

CIP#4701050200

Program Description: The Electrical Technologies program provides training essential for entry-level positions as residential electricians, plant maintenance electricians, and wind farm technicians. During the first year, students will develop a solid electrical foundation essential to the many fields of the electrical and electronics industry. The eight-week summer internship will provide relevant industry work experience to insure a classroom-to-work transition. The second year of the program will provide additional skills in motor controls, programmable controllers, motor fundamentals, industrial wiring, and conduit bending. Upon successful completion of the program, students are awarded an Associate in Applied Sciences Degree.

Program of Study:

First Semester		Sem. Hrs.
MAT-150	Discrete Math*	3
ELE-124	Tools/Adaptors/Instrumentation	2
ELE-114	DC Fundamentals	3
ELE-111	AC Fundamentals	3
ELE-155	National Electrical Code I	2
ELE-164	Residential Wiring	2
IND-315	Computerized Maintenance Management Systems	2
	Total Hours	**17**

Second Semester		Sem. Hrs.
CAD-401	Electrical CAD	3
ELE-167	Industrial Electrical Systems	3
ELE-195	Motor Control	3
ELE-170	Power Distribution	2
IND-184	Mechanical Process	2
WEL-122	Beginning Welding	2
	Humanities/Social Science Elective*	3
	Total Hours	**18**

Required		Sem. Hrs.
ELE-932	Internship	4
	Total Hours	**4**

Third Semester		Sem. Hrs.
ELE-156	National Electrical Code II	2
PHY-184	Applied Physics*	4
ELE-198	Solid State Motor Controls	2
ELE-204	Programmable Logic Theory	2
ELE-205	Advanced Programmable Controllers	2
ELE-187	Advanced Industrial Electrical Systems	4
ELE-104	Print, Reading & Estimating	1
	Total Hours	**17**

Fourth Semester		Sem. Hrs.
ELE-221	Instrumentation & Control	3
IND-116	Pneumatic & Hydraulic Systems	2
ELE-206	Networking PLC's	2
ELE-149	UL & Electrical Safety	2
ELE-158	National Electric Code III	2
ELE-245	Integrated Motion Controls & Robotics	4
	Communications Elective*	3
	Total Hours	**18**

Optional		Sem. Hrs.
ENV-377	Sustainable Heating Systems	3
ENV-175	Introduction to Photo Voltaics	2
IND-106	Industrial Pumps and Drive Systems	2

A student is to have completed all core program courses for the semester prior to the one in which they are currently enrolling with a "C" or better grade. Any exception will have to be approved in writing by the Program Coordinator and Division Dean. Core program requirements are courses beginning with the following prefix: ELE.

Because of changes in technology, students taking programs over an extended period of time may be advised to retake courses to update skills and competencies.

**Course must be chosen or substituted with a related course from either AA, AS, or Approved General Education list for Applied Science and Technology.*

Electrical/Mechanical Technician

Industrial Technology Department

CIP#4701050200

Program Description: The Electrical/Mechanical Technician program was designed in response to industry needs. The program will provide training for entry-level positions working as a machine repairer, building and plant maintenance, and also as a plant maintenance electrician. Graduates will have a solid electrical foundation, and the skills to install, maintain, and troubleshoot the equipment utilized by today's industries. Upon completion of the program, graduates will be awarded an Associate of Applied Sciences degree.

Program of Study:

First Semester		Sem. Hrs.
MAT-150/743	Discrete Math/Technical Math*	3
ELE-124	Tools/Adapters/Instrumentation	2
ELE-114	DC Fundamentals	3
ELE-111	AC Fundamentals	3
ELE-155	National Electrical Code I	2
ELE-164	Residential Wiring	2
IND-126	Precision Measurements Lab	1
IND-315	Computerized Maintenance Management Systems	2
	Total Hours	**18**

Second Semester		Sem. Hrs.
CAD-401	Electrical CAD	3
ELE-167	Industrial Electrical Systems	3
ELE-149	UL and Electrical Safety	2
ELE-195	Motor Control	3
IND-106	Industrial Pumps & Drive Systems	2
IND-127	Shop Operations	1
ELE-170	Power Distribution	2
WEL-122	Beginning Welding	2
	Total Hours	**18**

Required		Sem. Hrs.
ELE-932	Internship	4
	Total Hours	**4**

Third Semester		Sem. Hrs.
ELE-156	National Electrical Code II	2
PHY-184	Applied Physics*	4
MFG-256	Introduction to Lathe Operations	2
IND-128	Blueprint Reading	1
IND-184	Mechanical Processes	2
ELE-187	Advanced Industrial Electrical Sys	4
	Communications Elective*	3
	Total Hours	**18**

Fourth Semester		Sem. Hrs.
WEL-213	Fabrication, Layout, Estimating	
	or	
WEL-214	Advanced Fabrication	2
WEL-340	Maintenance Welding	2
IND-183	Industrial Machine Maintenance	4
MFG-266	Introduction to Mill Operations	2
MFG-505	Lean Manufacturing	1
IND-185	Predictive/Preventative Maintenance	2
IND-116	Pneumatic & Hydraulic Systems	2
	Humanities/Social Science Elective*	3
	Total Hours	**18**

A student is to have completed all core program courses for the semester prior to the one in which they are currently enrolling with a "C" or better grade. Any exception will have to be approved in writing by the Program Coordinator and Division Dean. Core program requirements are courses beginning with the following prefix: ELE, IND.

Because of changes in technology, students taking programs over an extended period of time may be advised to retake courses to update skills and competencies.

**Course must be chosen or substituted with a related course from either AA, AS, or Approved General Education list for Applied Science and Technology.*

Engineering & Design Technology

Industrial Technology Department

CIP# 1500000200

Program Description: The Engineering & Design Technology program provides students with technical training needed to enter the various fields of computer aided drafting and design. The focus of the program is to give students experience in developing media to industry standards using computers. Included are drafting fundamentals & techniques, software applications, math and communication skills, and object representation using 2-D and 3-D principles. The diploma program is 38 weeks in length. Upon successful completion of the program, graduates will be awarded a diploma in Engineering & Design Technology. Students may continue to third and fourth semesters to complete an Associate in Applied Science degree.

Program of Study:

First Semester		Sem. Hrs.
MAT-743	Technical Math*	3
CAD-101	Introduction to CAD	3
CAD-155	Engineering Graphics I	3
EGT-400	Introduction to Engineering & Design	3
IND-126	Precision Measurements Lab	1
WEL-122	Beginning Welding	2
IND-127	Shop Operations	1
	Total Hours	**16**

Second Semester		Sem. Hrs.
MAT 748	Technical Math II*	3
CAD-156	Engineering Graphics II	3
CAD-138	Virtual Modeling	2
CAD-164	Solid Modeling I	2
EGT-410	Principles of Engineering	3
MFG-256	Introduction to Lathe	2
MFG-266	Introduction to Mill	2
	Total Hours	**17**

Summer Session		Sem Hrs.
CAD-157	Engineering Graphics III	3
CAD-166	Solid Modeling II	2
CAD-194	Architectural Modeling	2
	Total Hours	**7**

Third Semester		Sem. Hrs.
MAT-749	Technical Math III	4
CAD-217	Engineering Mechanics I	3
CAD-198	Applied Geometry & Technology	2
CAD-315	Computational Design	2
EGT-450	Computer Integrated Manufacturing	3
	Communication Elective*	3
	Total Hours	**17**

Fourth Semester		Sem. Hrs.
CAD-218	Engineering Mechanics II	3
CAD-158	Engineering Graphics IV	2
CAD-232	Virtual Modeling II	2
CAD-275	Applied Logical Processes	2
WEL-213	Fabrication, Layout, & Estimating	2
MFG-506	Quality Assurance	1
CAD-230	Geometric Dimensioning & Tolerancing	2
	Humanities/Social Science Elective*	3
	Total Hours	**17**

A student is to have completed all core program courses for the semester prior to the one in which they are currently enrolling with a "C" or better grade. Any exception will have to be approved in writing by the Program Coordinator and Division Dean. Core program requirements are courses beginning with the following prefixes: CAD, EGT, MAT.

Because of changes in technology, students taking programs over an extended period of time may be advised to retake courses to update skills and competencies.

**Course must be chosen or substituted with a related course from either AA, AS, or Approved General Education list for Applied Science and Technology.*

Industrial Business Degree

Industrial Technology Department

CIP#3099991200

Program Description: The Industrial Business Degree Program is a one-year program which is designed for one-year Industrial Technology diploma graduates who desire to complete their Associate Degree and earn an AAS degree. The Industrial Business Degree Program will develop additional business and communication skills essential for management and supervision in the technical fields.

The Industrial Business Degree program can be used in addition to the following one-year diploma programs -

Welding
Engineering & Design Technology
Industrial Mechanics
Carpentry

Program of Study:

First Semester		Sem. Hrs.
CSC-110	Introduction to Computers	3
BUS-102	Introduction to Business	3
MKT-110	Principles of Marketing	3
	Business or Industrial Technology Electives**	6
	Total Hours	**15***

Second Semester		Sem. Hrs.
ACC111	Introduction to Accounting	3
	Communications Elective*	3
	Humanities or Social Science Elective*	3
	Business or Industrial Technology Electives**	6
	Total Hours	**15***

**Course may be substituted with a related course from either AA, AS, or Approved General Education list for Applied Science and Technology.*

*** Credits in addition to the diploma program*

Industrial Mechanics

Industrial Technology Department

CIP#4703030100

Program Description: The Industrial Mechanics Program provides training essential for entry-level positions as a machine repairer, or building and plant maintenance technician. The program will provide basic skills in welding, fabrication, pneumatics & hydraulics, blueprint reading, lean manufacturing, and predictive and preventive maintenance. Students will utilize hands-on training to install, maintain and troubleshoot the equipment currently utilized by today's industries. Upon completion of the program, the graduates will be awarded a Diploma in Industrial Mechanics. All courses taken will also satisfy some of the requirements for other Industrial Technology Associate Degree programs.

Program of Study:

First Semester		Sem. Hrs.
ELE-114	DC Fundamentals	3
MAT-743	Technical Math*	3
IND-126	Precision Measurements Lab	1
IND-127	Shop Operations	1
IND-128	Blueprint Reading	1
IND-184	Mechanical Processes	2
MFG-256	Introduction to Lathe Operations	2
WEL-122	Beginning Welding	2
IND-315	Computer Maintenance Management Systems	2
	Total Hours	**17**

Second Semester		Sem. Hrs.
WEL-213	Fabrication, Layout & Estimating	
	or	
WEL-214	Advanced Fabrication	2
WEL-340	Maintenance Welding	2
IND-116	Pneumatic and Hydraulic Systems	2
IND-183	Industrial Machine Maintenance	4
IND-185	Predictive & Preventative Maintenance	2
IND-106	Industrial Pumps and Drive Systems	2
MFG-266	Introduction to Mill Operations	2
MFG-505	Lean Manufacturing	1
	Total Hours	**17**

Optional		
IND-932	Internship	4
MFG-257	Advanced Lathe	2
MFG-238	Machine Processes	2
BUS-114	Workplace Communications	3

A student is to have completed all core program courses for the semester prior to the one in which they are currently enrolling with a "C" or better grade. Any exception will have to be approved in writing by the Program Coordinator and Division Dean. Core program requirements are courses beginning with the following prefixes: IND, MFG, ELE.

Because of changes in technology, students taking programs over an extended period of time may be advised to retake courses to update skills and competencies.

**Course must be chosen or substituted with a related course from either AA, AS, or Approved General Education list for Applied Science and Technology.*

Process Technology

Industrial Technology Department

CIP#4103030200

Program Description: Have you ever wondered who makes ethanol, anhydrous ammonia, feed stuffs, or bio diesel? Process Technicians make this happen. Technicians take raw materials like corn, soybeans, natural gas, and even air and make them into things we use or consume in some way all the time, by monitoring the process with complex technology.

The Process Technology program is made up of a wide variety of technology and troubleshooting techniques, which are taught in a hands-on manner with classroom labs and field trips to local process plants that are willing to allow us to come in and see first hand what this career field is all about. This will give students the real life exposure to make a well-rounded process technician. Knowing the different systems that intertwine all of the different processes, and making graduates a very hot commodity to the starving work force are the key ingredients in supplying our quickly expanding industry. Graduates will know how things like cooling, steam, and distillation systems all work, which will help secure them a job where no two days are the same and make for a challenging, rewarding, and good paying job.

Upon completion of the Process Technology Program, students will receive an Associate of Applied Science (A.A.S.) Degree.

Program of Study:

First Semester		Sem. Hrs.
MAT-150	Discrete Math*	3
ELE-114	DC Fundamentals	3
ELE-111	AC Fundamentals	3
IND-184	Mechanical Processes	2
BPT-300	Intro to Process Technology	3
	Total Hours	**14**

Second Semester		Sem. Hrs.
ELE-195	Motor Control	3
IND-106	Industrial Pumps & Drive Systems	2
PHY-184	Applied Physics*	4
CSC-125	Microsoft Fundamentals	2
BPT-305	Technical Diagrams	2
	Communications Elective*	3
	Total Hours	**16**

Summer Semester		Sem. Hrs.
IND-108	Advanced Safety Technology	2
ELE/IND-932	Internship	4
	Total Hours	**6**

Third Semester		Sem. Hrs.
CHT-105	Applied Chemistry*	4
BPT-315	Process Steam & Heating	3
BPT-320	Process Cooling System	2
BPT-310	Material Balance	2
BPT-129	Distillation & Evaporation Theory	3
	Total Hours	**14**

Fourth Semester		Sem. Hrs.
	Humanities/SS Elective*	3
BPT-325	Emission Control System	2
ELE-221	Instrumentation & Control	3
BPT-335	Basic Fermentation	2
BPT-211	Bio-manufacturing	2
BPT-330	DCS & SCADA Control System	2
IND-185	Predictive & Preventative Maint.	2
	Total Hours	**16**

Optional		Sem. Hrs.
WEL-122	Beginning Welding	2
IND-106	Industrial Pumps and Drive Systems	2

***Course may be substituted with a related course from either AA, AS, or Approved General Education list for Applied Science and Technology.*

Sustainable Energy Technology

Industrial Technology Department

CIP#1505031200

Program Description: The Sustainable Energy Technology program will prepare technicians to work in the growing fields of energy conservation and renewable energy production. The students will study bio-diesel fuel production and utilization, wind power conversion, solar heating and electrical application, co-generation of energy, and green investing. The Sustainable Energy Technology program offers graduates a wide variety of career options such as electrical energy technicians, photo-voltaic and small wind systems installers, wind farm technicians, environmental control, energy management or industrial maintenance supervisors. Students can complete the program in two years (summer internship optional) and receive the Associate in Applied Science Degree in Sustainable Energy Technology.

Program of Study:

First Semester		Sem. Hrs.
MAT-150	Discrete Math*	3
ELE-114	DC Fundamentals	3
ELE-111	AC Fundamentals	3
ELE-155	National Electrical Code I	2
ELE-164	Residential Wiring	2
ENV-175	Introduction to PhotoVoltaics	2
ENV-136	Energy, Resources & Environment	2
	Total Hours	**17**

Second Semester		Sem. Hrs.
ELE-170	Power Distribution	2
ELE-195	Motor Control	3
IND-116	Pneumatic & Hydraulic Systems	2
ENV-186	Advanced PhotoVoltaics	3
IND-184	Mechanical Processes	2
ENV-201	Wind Turbines	2
	Humanities/Social Science Elective*	3
	Total Hours	**17**

Optional		Sem. Hrs.
ENV-932	Internship	4

Third Semester		Sem. Hrs.
ELE-198	Solid State Motor Controls	2
ELE-204	Programmable Logic Theory	2
ELE-205	Advanced Programmable Controllers	2
ELE-156	National Electrical Code II	2
ENV-189	Solor PV/Res Hot Water Site Asses	2
ENV-377	Sustainable Heating Systems	3
	Communications Elective*	3
	Total Hours	**16**

Fourth Semester		Sem. Hrs.
BUS-102	Introduction to Business	3
ELE-221	Instrumentation & Control	3
ELE-206	Networking PLC's	2
IND-185	Predictive and Preventative Maintenance	2
PHY-184	Applied Physics*	4
ENV-182	Energy Efficient Concepts	2
	Total Hours	**16**

Optional		Sem. Hrs.
WEL-122	Beginning Welding	2
IND-106	Industrial Pumps and Drive Systems	2

A student is to have completed all core program courses for the semester prior to the one in which they are currently enrolling with a "C" or better grade. Any exception will have to be approved in writing by the Program Coordinator and Division Dean. Core program requirements are courses beginning with the following prefixes: ENV, ELE, BPT.

Because of changes in technology, students taking programs over an extended period of time may be advised to retake courses to update skills and competencies.

**Course must be chosen or substituted with a related course from either AA, AS, or Approved General Education list for Applied Science and Technology.*

Welding Technology

Industrial Technology Department

CIP#4805080100

Program Description: The Welding Technology Program is designed to teach fundamental techniques and principles. The program also provides for an overview of related topics such as metallurgy and fabrication, layout, estimating, and repair. The first semester of the program is devoted to learning about and practicing basic welding techniques. The second semester provides students an opportunity to develop additional welding skills and learn advanced techniques. Upon successful completion of the Welding Technology program, students will be awarded a diploma in Welding Technology.

Program Study:

First Semester		Sem. Hrs.
MAT-743	Technical Math*	3
IND-126	Precision Measurements Lab	1
IND-127	Shop Operations	1
WEL-110	Blurprint Reading for Welders	2
WEL-213	Fabrication, Layout Estimating & Repair	2
WEL-122	Beginning Welding	2
WEL-170	Shielded Metal Arc Welding	2
WEL-181	Gas Metal Arc Welding	2
MFG-266	Introduction to Mill Operations	2
	Total Hours	**17**

Second Semester		Sem. Hrs.
WEL-171	Adv. Shielded Metal Arc Welding**	2
WEL-214	Advanced Fabrication**	2
WEL-190	Gas Tungsten Arc Welding	2
WEL-301	Pipe Welding**	2
WEL-340	Maintenance Welding**	2
WEL-178	Adv. Gas Metal Arc Welding**	2
WEL-196	Adv. Gas Tungsten Arc Welding**	2
IND-184	Mechanical Processes	2
MFG-256	Introduction to Lathe Operations	2
	Total Hours	**18**

Optional		Sem. Hrs.
WEL-710	Robotic Welding	3
MFG-238	Machine Processes	2
MFG-257	Advanced Lathe	2
IND-315	Computerized Maintenance Management Systems	2
BUS-114	Workplace Communications	3

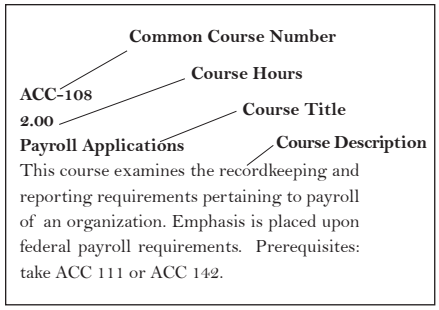
A student is to have completed all core program courses for the semester prior to the one in which they are currently enrolling with a "C" or better grade. Any exception will have to be approved in writing by the Program Coordinator and Division Dean. Core program requirements are courses beginning with the following prefix: WEL.

Because of changes in technology, students taking programs over an extended period of time may be advised to retake courses to update skills and competencies.

**Course must be chosen or substituted with a related course from either AA, AS, or Approved General Education list for Applied Science and Technology.*

***Pre-requisites:*
WEL-171 Adv. Shielded Metal Arc Welding pre-requisite is WEL-170 Shielded Metal Arc Welding
WEL-214 Advanced Fabrication pre-requisite is WEL-213 Fabrication, Layout Estimating & Repair and co-requisite is WEL-122 Beginning Welding
WEL-301 Pipe Welding pre-requisite is WEL-170 Shielded Metal Arc Welding
WEL-340 Maintenance Welding pre-requisite WEL-122 Beginning Welding
WEL-178 Advanced Gas Metal Arc Welding pre-requisite is WEL-181 Gas Metal Arc Welding
WEL-196 Advanced Gas Tungsten Welding pre-requisite is WEL-190 Gas Tungsten Arc Welding

COURSE DESCRIPTIONS



ACC-108
3.00
Payroll Applications
This course offers the student the opportunity to learn about the function of federal and state of Iowa payroll concepts, taxes, and laws.

ACC-111
3.00
Introduction to Accounting
Students will receive instruction in analyzing and recording various business transactions and in completing the accounting cycle by journalizing, posting, preparing worksheets, making adjusting and closing entries, and preparing financial statements for service and merchandising businesses. Instruction will be provided for accounting for cash by using a petty cash fund, reconciling a bank statement, and utilizing the cash short and over account; calculating and journalizing employees' payroll; and calculating and journalizing employer payroll taxes. No previous accounting instruction is necessary.

ACC-142
3.00
Financial Accounting
This course emphasizes fundamental bookkeeping procedures, including the handling of typical business and corporate transactions, adjusting, closing, and reversing entries, the use of controlling accounts, and subsidiary ledgers, and the voucher system, preparation of financial statements, and financial statement analysis. Computers are used.

ACC-146
3.00
Managerial Accounting
This course gives attention to partnership and corporation accounting, the use of departmental branch and manufacturing accounts, and an overview of job order and process cost accounting. Computers are used. Prerequisite: C or better in ACC-142 Financial Accounting

ACC-211
3.00
Intermediate Accounting I
This course includes an in-depth study of the worksheet, balance sheet, income statement, other supplementary statements and corporation procedures. Prerequisite: ACC-146 Managerial Accounting

ACC-212
3.00
Intermediate Accounting 2
This course provides an in-depth study of inventories; the acquisition, disposition, utilization, and impairment of property, plant and equipment; investments; current liabilities and contingencies; bonds and long-term notes.

ACC-221
3.00
Cost Accounting
This course provides a study of the methods of cost accumulation for inventory valuation and income determination for manufacturing concerns including utilization and evaluation of cost data for planning and controlling operations. Knowledge of Microsoft Excel will benefit the student. Prerequisite: ACC-146 Managerial Accounting

ACC-266
3.00
Tax Accounting
This course provides an introduction to the federal tax structure, the federal revenue system, business and non-business income and deductions, tax credits, capital gains and losses and tax return preparation utilizing tax software. Prerequisite: ACC-142 Financial Accounting

ACC-311
3.00
Computer Accounting
The course is designed to provide the student experience in handling automated accounting in a number of areas. These include General Ledger, Accounts Receivable, Accounts Payable, Payroll, Depreciation, Inventory and Accounting Statement Analysis. Simulation of business and its activities are processed through the entire accounting cycle culminating in the various accounting reports. The applications will be done on a computer. Prerequisites: ACC-111 Introduction to Accounting or ACC-142 Financial Accounting

ACC-330
1.50
Computer Accounting-Peachtree
This course is designed to provide the student experience in handling automated accounting in a number of areas. These include General Ledger, Accounts Receivable, Accounts Payable, Payroll, Depreciation, Inventory and Accounting Statement Analysis. Simulation of business and its activities are processed through the entire accounting cycle culminating in the various accounting reports. The applications will be done on a computer utilizing the software program Peachtree.

ACC-331
1.50
Computer Accounting - Quickbooks
This course is designed to provide the student experience in handling automated accounting in a number of areas. These include General Ledger, Accounts Receivable, Accounts Payable, Payroll, Depreciation, Inventory and Accounting Statement Analysis. Simulation of business and its activities are processed through the entire accounting cycle culminating in the various accounting reports. The applications will be done on a computer utilizing the software program QuickBooks.

ACC-364
3.00
Excel for Accounting
This course is designed to provide the student experience in applying accounting knowledge and skills to Microsoft Excel. Topics covered include: Excel basics, using formulas (beginning, intermediate and advanced), formatting, template tutorial, working with tables, data analysis features, automating repetitive tasks, importing, exporting, and distributing data, customizing, financial accounting, management accounting, financial statements, inventory, payroll, depreciation, amortization, cost of goods manufactured, job order cost accounting, process costing, and cost-volume-profit analysis. The applications will be done on a computer. Prerequisite: ACC 142, Financial Accounting or ACC 111, Introduction to Accounting.

ACC-932
3.00
Internship
This course provides an opportunity to gain practical experience through on-site training in an approved business or government office. The actual training will be at job site and will be under the supervision of a designated person in the business and coordinated by the program coordinator. This course is for the Accounting Associate Program. This course is to be taken during the final semester of the program.

ADM-105
1.00
Introduction to Keyboarding
Students will learn to key alpha characters using the touch system for use on a personal level or as a basic skill. At the completion of this course, students are expected to key at a rate of 25 words a minute for one minute and three minutes with one or less errors per minute allowed using the touch method and without the use of the backspace key.

ADM-108
1.00
Keyboarding Skill Development
Students will have the opportunity to improve both speed and accuracy in their keyboarding skills. This course is offered in the Flexlab for individualized scheduling. Pre-requisites: ADM-105, ADM-112, or instructor approval. Advanced standing credit may be received by completing a 5-minute timing with a minimum speed of 65 wpm with no more than 5 errors without the use of the backspace key.

ADM-112
3.00
Keyboarding
This course is designed to introduce students to keyboarding and word processing fundamentals. Emphasis is on the mastery of the keyboard, development of speed and accuracy, and production of formatted business documents using Microsoft Word. Prereq: Ability to key 35 wpm with 3 or fewer errors or the Coreq: ADM 105 Introduction to Keyboarding.

ADM-116
3.00
Keyboarding II
Students will be given the opportunity to process a variety of business documents using current formatting styles and different software applications. Emphasis will be on building keyboarding skills and increasing proficiency in Microsoft Word. Pre-requisite: ADM-112 Keyboarding or Program Coordinator approval.

ADM-131
1.00
Office Calculators
This course prepares students for mastery of both the 10-key electronic calculator and the computer keypad. Students will develop speed and accuracy and apply these skills in a variety of job simulations and applications.

ADM-142
3.00
Desktop Publishing
This course examines the basic concepts of creating page layouts and designs using desktop publishing software. A progressive sequence of computer publishing principles and skill-building activities will be presented. Students will have the opportunity to prepare various business publications that will include graphics and photos.

ADM-146
3.00
Integrated Applications
Students will be challenged to apply basic to advanced Microsoft Office software skills in realistic business situations. Projects include Marketing and Sales emphasizing word processing, Finance and Accounting emphasizing spreadsheet applications and Operations emphasizing database applications, media development, and Web page development. Electronic presentation applications are included throughout all projects. Prerequisite courses are ADM-112 Keyboarding, ADM-116 Keyboarding II and BCA-212 Introduction to Business Computer Applications. Exceptions to prerequisites per Administrative Specialist program coordinator.

ADM-148
2.00
Transcription
This course covers skill development in electronic transcription-dictated material into usable business documents. Emphasis will be placed on improving written communication skills while increasing the rate of transcription. Prereq: ADM-112 Keyboarding or the permission of the instructor.

ADM-162
3.00
Office Procedures
This course is designed to provide students with the working knowledge of current office systems and equipment. Students will be introduced to the mechanics and operational methods of various office systems and equipment in varied business environments.

ADM-180
3.00
Administrative Management
This course is designed to prepare students to identify basic concepts and trends within business and office environments. Students will practice management skills, employee motivational strategies, problem-solving and communication skills individually and as a team member. Human resource management, office environment issues and systems will also be explored.

ADM-258
1.00
Professional Development
This course is designed to provide a broad range of professional development opportunities for students. These opportunities will include but not be limited to areas of parliamentary procedure, meeting agendas, and minutes, note taking and transcription of that note taking, resume building, interview skills, portfolio building, teamwork projects and finally career specific expectations and professionalism necessary to be successful in an Administrative Specialist career. This course will also provide opportunities for guest speakers and field trips to assist in demonstrating the importance of professional development.

ADM-260
1.00
Personal Development
This course is designed to provide a broad range of personal development opportunities for students. These opportunities will include but not be limited to areas of personal hygiene and the importance of nutrition and fitness, business professional dress, business etiquette, time management/organization skills, teamwork projects and professionalism necessary to be successful in an Administrative Specialist career. This course will also provide opportunities for guest speakers and field trips to assist in demonstrating the important of professional development. A $15 fee will be added to the course for costs incurred during field trips.

ADM-297
1.00
Certification Preparation
Students will prepare for certification in Microsoft Office applications using tutorials and practice exams designed to simulate the certification process. Iowa Central is a Microsoft Office User Specialist Certification testing center.

ADM-941
2.00
Practicum
This course provides an opportunity to gain practical experience through on-site training in an approved office setting. The actual training on the job site will be under the supervision of a designated person in the business. The student must have taken/or be taking all courses required for the completion of the Administrative Specialist program. A letter grade of "C" or higher must be earned in this course to satisfy the program graduation requirements.

ADN-405
6.00
Maternal Child Health Care
This course uses the nursing process and a developmental approach to build upon previous principles of Man, Health and the Environment as they affect Maternal Child Nursing. Emphasis is placed on health teaching, and providing care for complex problems of the obstetrical, newborn, and pediatric clients. Prerequisites: PNN-621 Life Span Health Care, PNN-622 Clinical Practicum 2, PSY-121 Developmental Psychology, BIO-168 Human Anatomy & Physiology I with lab, BIO-173 Human Anatomy & Physiology II with lab, BIO-151 Nutrition, HSC-112 or HSC-113 Medical Terminology, BIO-186 Microbiology for Fort Dodge and Webster City/ Goldfield students. Co-requisites: ADN-407 Clinical Practicum 3, BIO-186 Microbiology (for Storm Lake students).

ADN-407
2.00
Clinical Practicum 3
Provides an opportunity for students to apply Maternal-Child Health Care theory in the clinical setting with obstetrical, neonatal, and pediatric clients. The nursing process is utilized to plan individualized care. Emphasis is placed on comprehensive nursing interventions and teaching. Prerequisites: PNN-621 Life Span Health Care, PNN-622 Clinical Practicum 2, PSY-121 Developmental Psychology, BIO-168 Human Anatomy & Physiology I with lab, BIO-173 Human Anatomy & Physiology II with lab, BIO-151 Nutrition, HSC-112 or HSC-113 Medical Terminology, BIO-186 Microbiology for Fort Dodge and Webster City/Goldfield students. Co-requisites: ADN-405 Maternal Child Health Care, BIO-186 Microbiology (for Storm Lake students).

ADN-465
5.00
Psychiatric Mental Health Care
This course focuses on the study and application of modern concepts of psychiatric and mental health care and effective interactions with others. The student will learn to respond therapeutically to a variety of clients including those with maladaptive behaviors through the utilization of the nursing process by applying the principles of psychiatric and mental health care. Self awareness and self knowledge are incorporated throughout the course. Prerequisites: PNN-621 Life Span Health Care, PNN-622 Clinical Practicum 2, PSY-111 Introduction to Psychology, PSY-121 Developmental Psychology, BIO-168 Human Anatomy & Physiology I with lab, BIO-173 Human Anatomy & Physiology II with lab, BIO-151 Nutrition, HSC-112 or HSC-113 Medical Terminology. Co-requisite: ADN-466 Clinical Practicum 4.

ADN-466
2.00
Clinical Practicum 4
This practicum provides an opportunity for students to utilize the nursing process in a variety of mental health care settings. A pass/fail grade is earned for this clinical course. Prerequisites: PNN-621 Life Span Health Care, PNN-622 Clinical Practicum 2, PSY-111 Introduction to Psychology, PSY-121 Developmental Psychology, BIO-168 Human Anatomy & Physiology I with lab, BIO-173 Human Anatomy & Physiology II with lab, BIO-151 Nutrition, HSC-112 or HSC-113 Medical Terminology. Co-requisite: ADN-465 Psychiatric Mental Health Care.

ADN-511
8.50
Adult Health Care
This course utilizes the nursing process to care for acute and chronically ill adults. It expands on knowledge previously obtained regarding principles of Man, Health, and the Environment as it affects nursing care during the adult life span. Emphasis is placed on comprehensive nursing interventions needed for complex health deviations. Prerequisites: PNN-621 Life Span Health Care, PNN-622 Clinical Practicum 2, BIO-186 Microbiology, PSY-121 Developmental Psychology, BIO-168 Human Anatomy & Physiology I with lab, BIO-173 Human Anatomy & Physiology II with lab, BIO-151 Nutrition, HSC-112 or HSC-113 Medical Terminology. Co-requisites: ADN-512 Clinical Practicum 5, SOC-110 Introduction to Sociology, ENG-105 Composition I.

ADN-512
4.00
Clinical Practicum 5
This course provides an opportunity for students to apply Adult Health Care theory in the clinical setting with adult medical/surgical clients. The nursing process is utilized to plan individualized care. Prerequisites: PNN-621 Life Span Health Care, PNN-622 Clinical Practicum 2, BIO-186 Microbiology, PSY-121 Developmental Psychology, BIO-168 Human Anatomy & Physiology I with lab, BIO-173 Human Anatomy & Physiology II with lab, BIO-151 Nutrition, HSC-112 or HSC-113 Medical Terminology. Co-requisites: ADN-511 Adult Health Care, SOC-110 Introduction to Sociology, ENG-105 Composition I.

ADN-805
1.00
Management in Health Care
This course focuses on leadership and managerial skills related to caring for a group of patients. Content areas include: organization, prioritization, health care delivery systems, group dynamics, change, health issues, and legal and ethical dilemmas as they affect nursing. The concepts of Man, Health and Environment as they affect the health care setting is explored. The transition from the student role to the RN practitioner is emphasized. Prerequisites: PNN-621 Life Span Health Care, PNN-622 Clinical Practicum 2, BIO-186 Microbiology, PSY-121 Developmental Psychology, BIO-168 Human Anatomy & Physiology I with lab, BIO-173 Human Anatomy & Physiology II with lab, BIO-151 Nutrition, HSC-112 or HSC-113 Medical Terminology, ADN-405 Maternal Child Health Care, ADN-407 Clinical Practicum 3, ADN-465 Psychiatric Mental Health Care, ADN-466 Clinical Practicum 4, ADN-511 Adult Health Care, ADN-512 Clinical Practicum 5. Co-requisite: ADN-806 Clinical Practicum 6.

ADN-806
2.50
Clinical Practicum 6
This course provides an opportunity for students to apply management principles in organizing, prioritizing and delivering care to a group of clients in the clinical setting. An emphasis is placed on decision-making and managing care in a realistic work setting. A pass/fail is earned for this clinical course. Prerequisites: PNN-621 Life Span Health Care, PNN-622 Clinical Practicum 2, BIO-186 Microbiology, PSY-121 Developmental Psychology, BIO-168 Human Anatomy & Physiology I with lab, BIO-173 Human Anatomy & Physiology II with lab, BIO-151 Nutrition, HSC-112 or HSC-113 Medical Terminology, ADN-405 Maternal Child Health Care, ADN-407 Clinical Practicum 3, ADN-465 Psychiatric Mental Health Care, ADN-466 Clinical Practicum 4, ADN-511 Adult Health Care, ADN-512 Clinical Practicum 5. Co-requisite: ADN-805 Management in Health Care.

AGA-154
3.00
Fundamentals of Soil Science
Students will acquire basic identification skills related to plant development stages, plant diseases, insects, fertility deficiencies, weeds, and integrated pest management.

AGA-155
1.00
Fundamentals of Soil Science Lab
This lab is designed to give students hands-on learning opportunities in discovering the complexities of soil. The emphasis is on discovery rather than recipe.

AGA-271
3.00
Advanced Corn & Soybean Production
This course is a follow up to Principles of Crop Production and focuses on the in-depth production and management of corn and soybeans in the Midwest. Some of the topics include tillage methods, planting procedures, weed, insect and disease identification, precision farming, nutrient requirements, and harvesting and storage.

AGA-283
3.00
Pesticide Application Certification
This course provides a core background with attention to specialty topics in agricultural, forestry, and horticultural pesticide applicator certification. Students select certification categories and are eligible for pesticide applicator certification upon completion of course. Commercial certification emphasized.

AGA-380
4.00
Integrated Pest Management
Students will acquire basic identification skills related to plant development stages, plant diseases, insects, fertility deficiencies, weeds, and integrated pest management. This course provides a core background with attention to specialty topics in agricultural, forestry, and horticultural pesticide applicator certification. Students select certification categories and are eligible for pesticide applicator certification upon completion of course. Commercial certification emphasized.

AGA-390
3.00
Introduction to Renewable Resources
This course will present an overview of soil, water, plants, and animals as renewable natural resources in an ecosystem context. Concepts of integrated resource management, history and organization of resource management will also be introduced.

AGA-852
3.00
Principles of Crop Production
The course is a study of principles of plant, soil, and climate relationships and their impact on crop production and animal food supply worldwide. Other topics covered are plant identification, anatomy and growth, as well as tillage and planting, pest control, harvesting and storage.

AGB-133
3.00
Intro to Agricultural Business
This course is an introduction to agribusiness management. It will emphasize the application of basic, practical business management skills in marketing, demand analysis, forecasting, production, finance, and leadership with a global perspective.

AGB-206
3.00
Farms Operations & Management I
Students participate in the operation and management of an actual Iowa farm. The class is responsible for the plans for the school-managed farm, record keeping, and decisions on buying the farm's crops and participating in the actual planting of the crops, and arrangements for equipment and fertilizers. Outside speakers on current topics affecting the farm and agriculture will be utilized.

AGB-207
3.00
Farm Operations & Management II
Students participate in the operation and management of an actual Iowa farm. The students are responsible for the plans, record keeping, and decisions of buying and selling the farm's crops, and participating in the actual harvesting of the crops, arrangements for equipment, and make decisions and perform the post-harvest field work. Outside speakers on current topics affecting the farm and agriculture will be utilized.

AGB-235
3.00
Introduction to Agriculture Markets
This course in professional agricultural selling will concentrate most heavily on both theoretical and practical aspects of selling in an agricultural environment, but may be applicable to almost any area of non-agricultural selling. Many sales scenarios and audio-visual aids will utilize agricultural business examples.

AGB-330
3.00
Farm Business Management
This course focuses on business and economic principles applied to decision making and problem solving in the management of a farm business. Some of the topics include cash flow, partial, enterprise, and whole farm budgeting. Information systems will be used for farm accounting, analysis, and control. Obtaining and managing land, capital, and labor resources will also be covered in the course.

AGB-336
3.00
Agriculture Sales
This course in professional agricultural selling will concentrate most heavily on both theoretical and practical aspects of selling in an agricultural environment, but may be applicable to almost any area of non-agricultural selling. Many sales scenarios and audio-visual aids will utilize agricultural business examples.

AGB-934
3.00
Practicum
This course provides an opportunity for students to gain practical experience through on-site training in an approved agricultural-based business setting. The actual job site training will be under the supervision of a designated person in the Ag business. The student must have taken/or be taking all the courses required for the completion of the Agriculture Technology Program.

AGC-129
3.00
Sustainable Agriculture
This course examines the social, economic, and scientific concepts relating to adding value to raw and processed agricultural products. The specific topics will include the impact of agriculture on economics, cultures, social structures, technologies, processing, products, nutrition and environmental issues resulting from adding value to agricultural products. Laboratory activities will provide opportunities for examining various technologies, evaluating products, examining nutritional advantages, assessing economic benefits to communities, and determining the environmental impact of various developments.

AGC-201
3.00
American Agricultural History
Students will learn about the History of American Agriculture. In this course students will be exposed to some of the changes and challenges American Agriculture has gone through starting in the 1850's through the present time. At the end of this course students will be able to relate to the similarities and differences of past and present day agriculture.

AGC-318
3.00
Field Studies/Career Opportunities
This course will provide students with field trips to agricultural businesses, college Ag facilities, operating farms, and livestock facilities. Students will also get a look at the various careers available to them in agriculture.

AGC-940
3.00
On-The-Job Training
This course provides a second opportunity for the students to gain on-site work experience in an agricultural related occupation in the spring or fall. The agricultural community values and looks for these experiences when hiring new employees. Students will be under the supervision of a designated person in the agricultural business.

AGE-219
3.00
Equine Science
Equine Science introduces students to contemporary concepts, basic practices, and decisions necessary when managing horses through stages of their lives.

AGH-112
3.00
Intro to Turf Grass Management
An introductory course discussing the establishment and maintenance practices used on turfgrasses. Topics covered include classification of turfgrasses, plant characteristics, warm and cool season grasses, the role of soil in successful turf installation and maintenance, selection of a turfgrass for a site, and practices required for a healthy turf area including fertilization, mowing and irrigation.

AGH-120
3.00
Herbaceous Plant Materials
This Course will acquaint students with plant characteristics, culture and maintenance of hardy and tender perennials, groundcovers, annuals, ornamental grasses, bulbs, herbs and roses grown in Iowa and the upper Midwest.

AGH-124
3.00
Woody Plants/Trees
This course will develop the student's skills in the identification, characteristics, culture, and landscape use of trees, shrubs, and woody vines native to the upper Midwest.

AGH-141
3.00
Equipment Operations
This course is designed to give the student knowledge of the different types of equipment that are used on turf grass facilities. Topics range from preventative maintenance, information on reel and rotary blades, selecting tools for the shop, training equipment operators and safety regulations.

AGH-148
3.00
Home Landscaping
This fundamental course will present the student with basic landscape principles that can be utilized in a residential setting. Topics covered will include an introduction to landscape design, basic landscape construction, an understanding of different plants to incorporate into different landscape settings, and maintenance techniques to ensure a long-lasting landscape environment.

AGH-152
3.00
Landscape Design Technology
This course focuses on providing the student with the foundation for good landscape design. The student will gain knowledge of landscape design tools and how they are used to graphically represent a landscape design. Also presented will be the landscape design process from interacting with the client, selling a landscape concept, to creating a design from start to the finished product. The student will have the opportunity to draw landscape designs.

AGH-156
3.00
Landscape Design II
This course is organized around the steps involved in landscape construction. From preconstruction activities, including safety, reading construction documents, basic construction math, to work associated with landscape construction. This work includes site preparation, drainage, irrigation, retaining walls, landscape paving, wood decks and landscape structures.

AGH-161
3.00
Irrigation Systems
This course will give the student knowledge in landscape and golf course irrigation systems. Topics include irrigation equipment, piping, pump stations, water supply, design, installation and maintenance.

AGH-172
3.00
Landscape Maintenance
This course is intended to give the student valuable information in the maintenance area of landscaping. Topics include different types of plants for different areas in a landscape, plant maintenance, lawn care, winterization, pest control and safety issues.

AGH-180
2.00
Turf Grass Facilities Mgt
This course will teach the student management skills specific to the turfgrass industry. The student will gain valuable experience on the day to day operations of a turfgrass facility.

AGH-211
3.00
Advanced Turfgrass Management
This course concentrates on practices that will promote a healthy turf area once the growth of the grass has been initiated. Topics covered include pesticides, weeds and insects. Also turfgrass diseases and other problems, such as thatch or compaction, improving unsatisfactory turf, golfcourse and other turf area management, a look at sports turf and business management practices.

AGH-221
3.00
Principles of Horticulture
The student will learn the applications of scientific principles to commercial horticultural practices, and how those practices can be improved. Topics covered include plant classification and structure, photosynthesis, soil management, plant growth substances, and plant pests.

AGH-805
3.00
Horticulture Internship I

AGL-136
3.00
Introduction to Equine Science
Introduction to contemporary concepts, basic practices, and decisions necessary when managing horses through stages of their lives.

AGM-101
1.00
Ag Dsl Tractor/Equip Main
Ag and commercial maintenance will teach students how to maintain agricultural and commercial heavy duty equipment in skills such as oil changes, hydraulic repair, heavy duty electrical starting systems, and general maintenance.

AGM-120
2.00
Basic Agricultural Mechanics
The topics in this course include basic agricultural mechanics consisiting of small engines and farm machinery maintenance and repair.

AGP-329
3.00
Introduction to GPS
Students will be introduced to site-specific agriculture by using Global Positioning Satellite (GPS) systems.

AGP-330
3.00
Advanced GPS
This course is designed for students who have successfully completed Introduction to GPS. Students will be able to evaluate yields, prescribe fertilization rates, and predict yield risks by real data taken through a number of input, analysis, and visualization steps. Prerequisite : AGP 329 Introduction to GPS.

AGP-336
3.00
Precision Agriculture
Students will be introduced to site specific agriculture by the use of Global Positioning Satellites. Students will be able to evaluate yields, prescribe fertilization rates, and predict yield risks by real data taken through a number of input, analysis, and visualization steps.

AGS-113
3.00
Survey of the Animal Industry
The course explores issues impacting the United States and the international animal industry. The main emphasis of the course is on different breeds, basic management, and marketing of farm animals. The animals include beef and dairy cattle, companion animals, horses, poultry, sheep, swine, and their products.

AGS-308
3.00
Livestock Managment Techniques
In this course students will learn and be able to demonstrate various livestock management practices with various types of livestock such as Beef Cattle, Swine, and Chickens. These management principles will be practical to real life situations such as livestock restraint, health management, proper castrating, weaning procedures, shorting, feeding, and many more.

AGS-401
3.00
Swine Production
This course allows students to learn modern swine production and management techniques they can take back to the farm or into the swine industry. Some of the topics include biology of the pig, nutrition and feeding, housing, management of pig health, and marketing.

AGS-553
3.00
Beef Production
This course allows students to learn modern beef production and management techniques in which they can take back to the farm or into the beef industry. Some of the topics include commercial cow-calf management, feedlot management, the global beef industry, reproduction, and nutrition.

ANI-105
3.00
Animation I
Animation I teaches the foundational principles, methods, and techniques of 2D, or hand-drawn animation through the completion of numerous projects culminating in a final project that demonstrates all previous knowledge. The successful completion of this course will prepare students for more advanced animation techniques and courses.

ANI-130
3.00
Animation II
This course is a continuation of the study of the processes, techniques, methods and concepts associated with 2D, or hand-drawn, animation. Coursework will build upon previous knowledge of animation techniques including weight, balance, exaggeration, and timing as well as introduce new concepts of secondary motion, lip sync, and character. Pre-requisite ANI 105

ANT-105
3.00
Cultural Anthropology
The development of culture, the origins of man, and concepts and techniques for understanding world cultural similarities, differences, and diffusion are studied.

ART-101
3.00
Art Appreciation
This class is designed for the non-Art major. It includes a survey of the themes, materials and processes associated with the visual arts. Students do not need to have either an art background or "talent" to succeed in the course. The course includes hands-on experiences, as well as lectures, films, small-group discussions, and trips to museums and/or galleries. This class fulfills a general education requirement. Pre-requisite: none

ART-111
1.00
Exploring Design
Exploring Design will focus on particular design applications in our world. Students will apply basic design knowledge to a variety of classroom projects and will study how movements of the past (such as the Arts and Crafts movement, Art Deco, or the Bauhaus) continue to influence contemporary thought. Potential topics might include graphic design, interior design, product design, architecture, landscape design, painting, sculpture and photography. No text. Repeatable for credit. Pre-requisite: none

ART-115
3.00
Graphic Design
This course will be a general survey of graphic design concepts and techniques. You will study and apply the elements and principles of design as they pertain to page layout and communication. Students will learn to create effective logos, brochures, catalogs, flyers, etc. The tool of choice will be the computer, but will not be the only tool used in the course. Pre-requisite: none

ART-116
3.00
Graphic Design II
This course is a continuation of Graphic Design. Students will continue to learn the principles of page layout and communication and will apply this knowledge to professional publishing systems. Prerequisite: ART-115 Graphic Design

ART-133
3.00
Drawing
This course is an introduction to the fundamentals of the drawing process. Students will develop visual skills and an understanding of pictorial problems. Emphasis is placed on the examination of space and form using a variety of media and tools. Students will explore the physical characteristics of line through the use of pencil, pen and ink, charcoal, conte crayon and colored pencil. The class will increase the understanding of the expressive as well as the representational properties of line as it relates to shape, value, texture, color and space. Students do not need prior drawing experience. No text. Small materials fee. Pre-requisite: none

ART-134
3.00
Drawing II
Students will study the process of drawing with an emphasis on the development of a personal style of visual communication. Students will continue to explore all types of drawing subjects, building on their skill and expanding their visual vocabulary. This course will include the gestural, structural, and dynamic expression of the human figure, as well as continued opportunity to experiment with the media of drawing. No text. Small materials fee. Pre-requisite: Drawing ART 133

ART-139
1.00
Introduction to Painting
This course is designed as a brief introduction to painting practices and techniques. Students will choose acrylics, oils, watercolors, or egg tempera as a focus for the course. The works and techniques of the masters, past and present, will be explored. No prerequisite. No text. Materials fee. Repeatable for credit.

ART-143
3.00
Painting I
Students enrolled in this course will gain skills in the use of oil, watercolor and acrylic paints. Students will develop an understanding of various painting techniques as well as an appreciation of paintings, both past and present. No text. Small materials fee.

ART-144
3.00
Painting II
This course is designed to develop additional skills in the use of various painting media and techniques. Students will explore a personal means of visual communication. No text. Small materials fee. Pre-requisite: Painting I ART 143

ART-151
3.00
Design I
This basic design course provides a problem-solving structure in which students can explore ideas, enhance perception and develop creative thinking skills. Through the investigation of five or six problems, students acquire a basic visual vocabulary, experience several different media and processes, and become familiar with criteria for making aesthetic judgments. No text. Small materials fee. Pre-requisites: none

ART-162
1.00
Introduction to Sculpture
This course is designed as an introduction to techniques and practices in sculpture. Students will experiment with various processes and sculptural methods. Possibilities include assemblage, welded metal, plaster, clay, plastics, cardboard, and paper. Materials fee. No text. Repeatable for credit. Pre-requisite: none

ART-163
3.00
Sculpture
Sculpture Studio will develop an understanding and appreciation of the interaction of form in space through the manipulation of materials and the experience of process. The student will investigate sources, develop the ability to conceptualize and apply three-dimensional (sculptural) design principles to create solutions to assigned problems. No text. Small materials fee. Pre-requisite: None

ART-168
1.00
Introduction to Ceramics
This course is designed as an introduction to techniques and practices in Ceramics. Students will experiment with wheel throwing and various hand building processes. Possibilities include coil, slab, pinch and extruded forms. There will be at least one Raku outdoor firing during the semester. Materials fee. No textbook. No prerequisites. Repeatable for credit.

ART-173
3.00
Ceramics
This course will introduce the basic methods of designing, forming, glazing and firing clay. You will develop a knowledge of good design as it relates to both function and expression. Using the techniques of coil, slab, pinch and wheel, students will achieve an understanding of the historic and cultural significance of this art form. No text. Small materials fee. Pre-requisite: none

ART-174
3.00
Ceramics II
Ceramics II is a continuation of Ceramics with an increased emphasis on skill development in handbuilding techniques and proficiency on the potter's wheel. Students will begin to concentrate on developing a personal style and a more complete understanding of the contemporary ceramics studio. No text. Small materials fee. Pre-requisite: ART-173

ART-179
1.00
Introduction to Photography
This course is intended as a brief survey of basic camera operations and the development of film and prints. Students will use black and white film and 35mm SLR cameras (students may provide their own camera or check one out from the Art Department). No text. Materials fee. Repeatable for credit. Pre-requisite: none

ART-184
3.00
Photography
This course is an introduction to camera selection and handling, the proper choice of lenses, ISO speed selection, shutter speed and aperture selection, photographic filter usage, and important elements of photographic composition. It will include theories of photography and photographic history. Students will be able to check out digital SLR cameras provided by the college, or may bring their own approved photographic equipment. Students will complete specific technique-based assignments and participate in class demonstrations, discussion and critiques. Materials fee. Pre-requisite: None

ART-187
3.00
Creative Photography
This course will use a variety of techniques to explore some of the creative directions that photography can take and emphasizes creative techniques, contemporary ideas, issues, and individual experimentation. Students will experiment with photograms, lith prints, sabattier effects, cliche verre photos,and more. No text. Materials fee. Pre-requisite: ART-184.

ART-191
1.00
Darkroom Photography
This course will cover basic darkroom (silver-based, including color) concepts and procedures, from developing roll film and making enlargements, to creating full-sized negatives for contact processes. No Text. Materials fee. Pre-requisite: ART-184 Photography

ART-203
3.00
Art History I
This is an introductory course to the painting, sculpture, and architecture of the Western World from the Stone Age to the Gothic period. You will study the development of regional and personal styles, and the social contexts for which art objects have been created. Pre-requisite: none

ART-204
3.00
Art History II
This is an introductory course to the painting, sculpture, and architecture of the Western World from the "Dawn of Individualism" in the 14th century to the Contemporary period. Students will study the development of regional and personal styles, and the social contexts for which art objects have been created Pre-requisite: none

ART-295
1.00
Portfolio Preparation and Development
This course is designed to prepare students to professional present art work and is targeted to students who are preparing to transfer into a four-year art program or those ready to enter the work force. Students who enroll in this course will learn to prepare and to present these portfolios. No text. Repeatable for credit. Pre-requisite: none

ART-929
2.00
Individual Projects
1, 2, 3, or 4 credit hours Highly motivated students may wish to work intensively on a creative or research project. The student should possess the necessary background for such works and should initiate an application for such study. A student must obtain written permission from the supervising staff member to enroll in this course.

ART-932
1.00
Internship
This course is designed to give students an opportunity to work directly in their community exploring their field of study in a meaningful and structured way. Students will, with faculty input, develop a proposal to work in an art setting that will benefit the student in a specific way. No text. Repeatable for credit. Pre-requisite: none

ART-949
1.00
Special Topics
1,2,3,or4 credit hours. This course, offered usually on a limited basis, provides an in-depth study on a topic of general interest pertaining to this department.

ASL-131
3.00
American Sign Language I
This course is designed to provide an introduction to the various systems of manual communications used with deaf and hard of hearing individuals and others with communication disabilities. The primary focus of the course is to develop a core vocabulary, syntax, fingerspelling, and grammatical non-manual signals, providing a foudation for the subsequent acquisition of skills American Sign Language. Introduces cultural knowledge and increases understanding of the deaf community.

ASL-161
3.00
American Sign Language II
This course continues to explore the various systems of manual communications used with deaf and hard of hearing individuals and others with communication disabilities. This course builds on the foundations in Sign Language I for the acquisition of skills in American Sign Language. Building on the fundamentals of American Sign Language (ASL) used by the deaf community, this course continues developmental of basic vocabulary, syntax, fingerspelling and grammatical non-manual signals. Focuses on communicative competence. Develops gestural skills as a foundation for ASL enhancement. This course continues to explore the culture and knowledge of the deaf community.

ASL-949
3.00
Special Topics
This course, offered usually on a limited basis only, provides an in-depth study on a topic of general interest pertaining to this department.

AUT-108
3.00
Introduction Transportation Technology
This introductory course provides an introduction to the many facets of the automotive industry, to include: careers affecting the automotive industry, environmental concerns affecting the automotive industry, basic automotive hand tools, specialty tools, precision measuring tools, power tools and shop equipment, using service and shop manuals, and shop safety.

AUT-117
1.50
Automotive Lab 1A
This course provides a review and analysis of the many facets of the Automotive Industry. To include established diagnostic procedures and routines, environmental concerns affecting the automotive industry; proper utilization of specialty tools, precision measuring tools, and shop equipment; utilization of service and shop manuals, and shop safety. This course will concentrate on reviewing the service areas in the automotive technology field to include operating in a simulated shop environment.

AUT-118
1.50
Automotive Lab 1B
This course provides a review and analysis of the many facets of the Automotive Industry. To include established diagnostic procedures and routines, environmental concerns affecting the automotive industry; proper utilization of specialty tools, precision measuring tools, and shop equipment; utilization of service and shop manuals, and shop safety. This course will concentrate on reviewing the service areas in the automotive technology field to include operating in a simulated shop environment.

AUT-121
1.00
Small Engines
This course will consist of classroom and lab instruction covering the theory of operation, disassembly, and reassembly of a one cylinder internal combustion gasoline engine. The engines will be operationally tested prior to disassembly and after reassembly.

AUT-130
1.00
Auto Maintenance/Inspection
This introductory course provides an introduction to the many facets of the automotive industry, to include: careers affecting the automotive industry, environmental concerns affecting the automotive industry, basic automotive hand tools, shop equipment, using service and shop manuals, and shop safety. Lab exercises will include but not limited to the following: Vehicle inspections, brake service, tire repair, engine tune-up, and fluid and filter replacement.

AUT-164
4.00
Automotive Engine Repair
This course will consist of classroom and lab instruction covering the theory of operation, disassembly, measurement, and reassembly of internal combustion gasoline and diesel power plants. When possible, power plants will be operationally tested prior to disassembly and after assembly.

AUT-172
2.00
Adv. Engine Repair
This course provides an in-depth analysis of gasoline engine to include diagnosis of head gaskets, timing chains/belts, valve adjustments, engine noises, and on car internal engine diagnosis.

AUT-205
5.00
Automatic Transmissions
This course covers automatic transmission/transaxle theory and repair. Students will receive classroom and lab instruction on the inspection, disassembly, reassemble, and operational testing of the automotive transmission. This course also covers an in-depth analysis of computer controlled transmissions and transaxles.

AUT-304
4.00
Manual Transmission & Dr. Axles
This course covers manual transmissions, trans-axles, transfer case, four wheel drive systems, and rear axle theory and repair. Students will receive classroom and lab instruction on the inspection, disassembly, reassembly and operational testing of the automotive transmission.

AUT-404
4.00
Auto Steering & Suspension
This course will provide an in-depth analysis of operation and service of automotive chassis and suspension systems. Emphasis will be placed on the principles of steering components, steering geometry, inspection and replacement of components, and the principles of two and four wheel alignment. Students will learn the inspection of steering and suspension components, steering geometry and adjustment procedures.

AUT-503
3.00
Automotive Brake Systems
The course covers the latest procedures of inspecting, measuring, diagnosing, and the repairing of drum and disc brakes. Classroom and lab instruction will be utilized to teach students the latest procedure for inspecting, measuring, diagnosing and repairing the modern brake systems in use today.

AUT-539
2.00
Adv. Brake Systems
Students will learn in-depth analysis of automotive brake systems used in today's vehicles to include anti-lock brakes, traction control, and stability control. Students will also be instructed on the theory and operation of wheel bearings. Students will be tested on the theory and operation of anti-lock brakes, traction control, wheel bearings, and stability control.

AUT-610
4.00
Automotive Electrical I
This introductory course covers basic electronic theory and utilization of electrical measuring instruments. Emphasis will be placed on the application of Ohm's Law and the proper utilization of electronic test equipment including instrument selection, interpretation of results, and maintenance of equipment. Students will receive classroom and lab instruction on the diagnosis and repair of batteries, starting and charging systems.

AUT-654
4.00
Automotive Advanced Electrical
This course will provide an in-depth analysis of the automotive electrical systems utilized in the modern automobile. Students will receive classroom and lab instruction on the electrical theories and its application in instrumentation, accessories, air bag systems, and hybrid electrical systems.

AUT-656
4.00
Automotive Electrical II
This course covers electrical and electronics systems and its application in the modern automobile. Students will receive classroom and lab instruction on electrical theories, principles, and its use in the automobile. Electrical components necessary for the operation of the automobile will be disassembled, tested, reassembled, and operationally tested. Emphasis will be made on reading wire diagrams, understanding relays and modules, voltage drops, and the lighting of the vehicle.

AUT-703
3.00
Automotive Heating and Air Conditioning
This course will place emphasis on the principles of air conditioning including theory of operation, maintenance, diagnosis, repair, and Freon recovery. Students will receive instruction on servicing air conditioning systems including system charging, operational testing, troubleshooting, repair and environmental concerns.

AUT-704
4.00
Automotive Air Conditioning
This course will place emphasis on the principles of heating and air conditioning including theory of operation, maintenance, diagnosis, repair, and Freon recovery. Students will receive instruction on servicing heating and air conditioning systems including system charging, operational testing, troubleshooting, repair, and environmental concerns.

AUT-803
3.00
Engine Performance I
This course is an overview of the Engines, Ignition, and Fuel classes. Students will review Theories, operation, and test procedures in Engines, Ignitions, and Fuel systems. Students will be instructed in new diagnostic procedures and have to diagnose vehicles with Engine, Ignition, and Fuel related problems.

AUT-811
4.00
Auto Engine Performance II
This course will provide an in-depth analysis of the various electrical systems utilized in the modern automobile. Students will receive classroom and lab instruction on electrical theories and its application to the computer controlled systems. Emphasis will be placed on computer controlled engine controls, emission control systems, computer networking/communications, and the use of automotive scan tools.

AUT-826
3.00
Automotive Ignition Systems
This course covers automotive ignition system theory, diagnosis, and repair. Students will receive classroom and lab instruction on theory, diagnosis, and repair of ignition systems. Students will do hands on testing on the theory and operation of ignition system components.

AUT-833
3.00
Auto Fuel Systems
This course covers automotive fuel systems theory, diagnosis, and repair of electronic fuel injection systems. Students will receive classroom and lab instruction on the theory, diagnosis, and repair of electronic fuel injection systems. Students will be tested on the theory and operation of fuel injection systems.

AUT-879
1.00
Automotive Lab I
This course provides a review and analysis of the many facets of the Automotive Industry. To include established diagnostic procedures and routines, environmental concerns affecting the automotive industry; proper utilization of specialty tools, precision measuring tools, and shop equipment; utilization of service and shop manuals, and shop safety. This course will concentrate on reviewing the service areas in the automotive technology field to include operating in a simulated shop environment.

AUT-882
3.00
Automotive Lab II
This course provides an in-depth review and analysis of the many facets of the Automotive Industry. To include established diagnostic procedures and routines, environmental concerns affecting the automotive industry; proper utilization of specialty tools, precision measuring tools, and shop equipment; utilization of service and shop manuals, and shop safety. This course will concentrate on reviewing the eight specific service areas in the automotive technology field to include operating in a simulated shop environment.

AUT-949
3.00
Spec Top: Automotive
This course, usually offered on a limited basis only, provides an in-depth study on a topic of general interest pertaining to this department.

AVI-124
2.00
Maintenance and Systems for Pilots
This course provides an introduction into aircraft maintenance and systems. The course is not intended to be an in-depth study of maintenance but rather is tailored to equip pilots with the knowledge and skill necessary to perform those preventative maintenance tasks authorized under FAA Part 43. The course also gives the student a working knowledge of aircraft systems and legal requirements in order to better equip the pilot to troubleshoot systems and keep the aircraft legal.

AVI-130
3.00
Private Pilot Ground School
This course is designed to develop the students' entry level knowledge and skill of aeronautical principles of flight and the Federal Aviation Administration rules and requirements for the Private Pilot license. This class is the basis of the pilot's aeronautical education and training and includes a variety of fundamental and advanced subject areas. The course begins with an overview of pilot training then progresses into aircraft systems and aerodynamic principles. The student also is introduced to aviation weather, flight operations, aircraft performance, navigation, and related human factors.

AVI-131
3.00
Private Pilot Ground School II
This course is designed to develop the students' entry level knowledge and skill of aeronautical principles of flight and the Federal Aviation Administration rules and requirements for the Private Pilot license. This class is the basis of the pilot's aeronautical education and training and includes a variety of fundamental and advanced subject areas. The course begins with an overview of pilot training then progresses into aircraft systems and aerodynamic principles. The student also is introduced to aviation weather, flight operations, aircraft performance, navigation, and related human factors. Prerequisite: AVI-130 Private Pilot Ground School

AVI-170
1.80
Flight Lab I
An introduction to flight that includes the necessary training to pass the FAA Private Pilot Practical Test. The course consists of a minimum of twenty-six flight lessons arranged between the instructor and the student, depending upon weather, availability of aircraft, and other uncontrollable circumstances.

AVI-211
3.00
Instrument Ground School
This course is designed to develop the pilot's knowledge and skill of flying solely by reference to instruments as well as those flight operations for compensation and hire. The course integrates concepts learned in the private pilot ground school course with those needed for instrument and commercial flying. The course covers a variety of subject areas including; principles of instrument flight, instrument charts and procedures, aviation weather, as well as advanced human factor concepts and commercial pilot operations. This in no way covers the entire scope of the course but in brief detail outlines the content. Prerequisites: AVI-115 Private Pilot Ground School 1 and AVI-116 Private Pilot Ground School 2

AVI-240
1.90
Flight Lab 2
This course includes 57.5 hours of flight instruction including both dual and solo flights as well as 7 hours in the simulator for the expressed purpose of preparing the pilot in gaining aeronautical knowledge and skill toward the FAA requirements for both the Instrument rating and the Commercial Pilot Certificate. This course includes 38 flight lessons outlined in the Commercial/Instrument training syllabus. The first twenty-nine lessons of this course include an in depth study and performance review of the commercial pilot maneuvers including, chandelles, lazy-eights, eights-on-pylons, and steep turns. The following nine lessons include cross-country flight, both with and without an instructor, in order to give the pilot much needed experience in navigation skills including radio navigation, pilotage, and dead reckoning. This also allows the student to build the required cross-country flight time needed for a commercial pilot certificate. Prerequisite: AVI-170 Flight Lab I

AVI-241
1.70
Flight Lab 3
This course includes 50 hours of flight instruction including both dual and solo flights for the expressed purpose of preparing the pilot in gaining aeronautical knowledge and skill toward the FAA requirements for both the Instrument rating and the Commercial Pilot Certificate. The first fourteen flight lessons are in depth study and performance review of basic attitude instrument flying, radio navigation and emergency procedures related to instrument flight. The following twelve lessons include the practice of various instrument approaches and holding procedures including precision and non-precision approach procedures and hold-entry procedures. This lab also incorporates some cross-country flight time in order to provide for the student the cross-country flight time needed for a commercial pilot certificate. Prerequisite: AVI-240 Flight Lab 2

AVI-242
1.40
Flight Lab 4
This course includes 41 hours of flight instruction including both dual and solo flights for the expressed purpose of preparing the pilot to fulfill and finish the FAA requirements for both the Instrument rating and the Commercial Pilot Certificate. The first seven flight lessons are the completion of the Instrument rating including the application of previously learned skills to the IFR cross-country environment. The following fourteen lessons include a transition to a complex aircraft as well as attaining proficiency for the Commercial Pilot Practical Test in that aircraft. Prerequisite: AVI-241 Flight Lab 3

AVI-249
3.00
General Aviation Operations Management
An introduction into the business operations and principles used in managing an airport and various other flight operations. The course is designed to give the student an inside look at the growing field of general aviation management as well as provide for the student the basic managerial training to be successful in their chosen career path.

AVI-260
2.00
Commercial Pilot Ground School
This course is designed to develop the pilot's knowledge and skill of flying solely by reference to instruments as well as those flight operations for compensation and hire. The course integrates concepts learned in the private pilot ground school course with those needed for instrument and commercial flying. The course covers a variety of subject areas including; principles of instrument flight, instrument charts and procedures, aviation weather, as well as advanced human factor concepts and commercial pilot operations. This in no way covers the entire scope of the course but in brief detail outlines the content. Prerequisites: AVI-130 Private Pilot Ground School and AVI-131 Private Pilot Ground School II

AVI-271
0.80
Flight Lab 5
This course includes 25 hours of flight instruction including both dual and solo flights for the expressed purpose of preparing the pilot to fulfill and finish the FAA requirements for becoming a Certified Flight Instructor. It follows a careful step-by-step progression of subject introduction and practice flying while incorporating accepted teaching styles and FAA proven procedures for teaching the pilot how to provide quality flight training. The course also fosters and facilitates a dramatic paradigm shift for the pilot to go from student to teacher. Prerequisite: AVI-242 Flight Lab 4

AVI-272
0.30
Flight Lab 6
This course consists of 10 hours of instruction and two stages of training. This course provides the necessary dual instruction to prepare the student for a VFR multi-engine rating. The course includes ground instruction, proper airplane flight control, emergency procedures and flight regulation procedures required by the FAA for the VFR multi-engine certificate.

AVI-273
0.20
Flight Lab 7
This course consists of 5 hours of additional instruction and one stage of training. This course provides the necessary dual instruction to prepare the student for an IFR add-on to their current multi-engine rating. The course includes ground instruction, proper airplane flight control, emergency procedures and flight regulation procedures required by the FAA for the add-on of IFR privileges to an existing multi-engine certificate. Prerequisite: AVI-272 Flight Lab 6

AVI-274
3.00
Practical Aviation Law
This course is designed to develop the students' knowledge and skill of the Federal Aviation Administration Code of Federal Regulations (CFR). It will help the student to apply legal principles set forth in the textbook to the kinds of decisions they will be making in the "real world" of aviation as aviation managers, professional pilots, airport managers, air traffic controllers, etc. The goal is to give the student the basic legal knowledge and perspective to understand how the legal system works in relation to aviation activities and avoid common aviation legal pitfalls.

AVI-275
3.00
Aviation Regulation
This course is intended to increase safety and make common sense of the Federal Aviation Regulations and designed to develop the pilot's knowledge and understanding of how an actual fixed base operator functions. The practical portion of the course is designed to be an actual job situation in airport management, exposing the student to the inside workings of a general aviation company. The course also entails an in depth study of flying multi-engine aircraft and conducting FAA Part135 charter operations.

AVI-300
3.00
Flight Instructor Ground School
The Flight Instructor Course prepares the pilot to function as a true professional in the aviation industry as a teacher. It follows a careful step-by-step progression of subject introduction and practice, incorporating accepted teaching styles and FAA proven procedures for providing flight training. It also provides an introduction into the requirements, rules, and regulations needed to become a certified flight instructor. The course also fosters and facilitates a dramatic paradigm shift for the pilot to go from student to teacher. Prerequisites: AVI-130 Private Pilot Ground School, AVI-131 Private Pilot Ground School II, AVI-211 Instrument Ground School, and AVI-260 Commercial Pilot Ground School

BCA-122
1.00
Basic Word Processing
This course is an introductory word processing course. Students will learn the basic features of Word that include creating, editing, and formatting documents.

BCA-124
1.50
Word
This course will assist students in learning word processing from concept to comprehension. The primary goal is to instill confidence, build the skills and insight necessary to master the software application, develop a basic understanding of the concepts behind each task, and comprehend how different applications are often used interactively to complete a variety of tasks. Familiarity with the keyboard is strongly recommended.

BCA-134
3.00
Word Processing
This course will assist students in learning word processing from concept to comprehension. The primary goal is to instill confidence, build the skills and insight necessary to master the software application, develop a basic understanding of the concepts behind each task, and comprehend how different applications are often used interactively to complete a variety of tasks. Familiarity with the keyboard is strongly recommended.

BCA-143
1.50
Spreadsheets
This course is an intensive study of speadsheets. Prerequisite CSC 110 Introduction to Computers, equivalent, or permission of instructor.

BCA-146
1.00
Basic Spreadsheets
This course is an introductory spreadsheets course. Students will learn the basic features of Excel that include creating, editing, formatting documents, and working with charts.

BCA-162
1.50
Access
This course is an intensive study of database management systems Prerequisite CSC 110 Introduction to Computers, equivalent, or permission of instructor.

BCA-164
1.00
Basic Databases
This course is an introductory database course. Students will learn the basic features of Access that include opening a database, using tables and queries, using forms, and using report documents.

BCA-174
1.00
Basic Presentation Software
This course is an introductory presentation course. Students will learn the basic features of PowerPoint that include creating, modifying, and enhancing presentations.

BCA-185
3.00
Beginning Webpage Development
This course is for students who are interested in learning the fundamentals of web page creation using Microsoft FrontPage as a web editor to construct and maintain websites.

BCA-193
0.50
Computer Concepts
Computer Concepts is intended for those students who are beginning or intermediate computer users. This course provides students the opportunity to navigate in the Windows environment; to utilize the Internet to research topics and communicate via electronic-mail; to explore application software; to explore graphics, sound, and video; and to purchase and/or upgrade a personal computer.

BCA-212
3.00
Intro to Computer Business Applications
This course is an intensive study of spreadsheets and database management systems. Prerequisite CSC-110 Introduction to Computers, equivalent, or permission of instructor.

BCA-251
3.00
Publisher
This course introduces students to desktop publishing by having them create newsletters, brochures, e-mail letters, business forms and tables using Microsoft Publisher 2003. Students will also learn creative ways to use color schemes, text-wrapping, clip-art and photographs throughout their projects.

BCA-252
3.00
Access for Business Applications
This course will assist students in learning databases from concept to comprehension. Students will learn the features of Access that include managing the access environment, building tables, building forms, creating and managing queries, and designing reports. Students will prepare for certification in Microsoft Access using a textbook, practice exercises, projects, tutorials, and practice exams designed to simulate the certification process. Iowa Central is a Microsoft Office User Specialist Certification testing center.

BCA-254
3.00
Excel for Business Applications
This course will assist students in learning spreadsheets from concept to comprehension. Students will learn the features of Excel that include managing the worksheet environment, creating cell data, formatting cells and worksheets, managing worksheets and workbooks, applying formulas and functions, presenting data visually, sharing worksheet data with other users, analyzing and organizing data, and working with macros and forms. Students will prepare for certification in Microsoft Excel using a textbook, practice exercises, projects, tutorials, and practice exams designed to simulate the certification process. Iowa Central is a Microsoft Office User Specialist Certification testing center.

BCA-281
1.00
Intermediate Word
This course is an intermediate word processing course. Students will learn the features of Word that include graphics, web pages, mail merge, styles and templates, multi-page documents, and collaborating on documents. This course is offered in the Flexlab.

BCA-282
1.00
Intermediate Excel
This is an intermediate spreadsheets course. Students will learn the features of Excel that include preparing worksheets for the Web, automating worksheet tasks, creating and analyzing lists, enhancing charts and worksheets, and setting up shared workbooks. This course is offered in the Flexlab.

BCA-283
1.00
Intermediate Access
This course is an intermediate database course. Students will learn the features of Access that include creating multiple tab queries, enhancing forms, analyzing data with reports, importing and exporting data, analyzing data design, and creating advanced queries. Prerequisite: CSC 110 or BCA 164 or instructor approval.

BCA-284
1.00
Advanced Powerpoint
This course is an advanced presentation course. Students will learn the features of PowerPoint that include enhancing charts; embedding and linking objects and hyperlinks; customizing a slide show; publishing, packaging, and broadcasting a presentation. This course is offered in the Flexlab.

BIO-102
3.00
Introductory Biology
An introduction to the science of biology. This course is designed for students who are not majoring in biology or health related fields. Topics include scientific method, diversity of life, genetics, ecology and evolution. This course satisfies a general education requirement in the Math/Science area. Three hours lecture.

BIO-103
1.00
Introductory Biology Lab
This is an introductory laboratory in biology. Basic biological principles and theories will be used to investigate the natural world. Students will learn to plan, conduct, analyze, and interpret simple experiments in biology. Critical thinking will be a major emphasis throughout the lab. This course satisfies a general education requirement in the Math/Science area. Two hours lab. Prerequisite/ Co-requisite: BIO-102 Introductory Biology or concurrent enrollment

BIO-112
4.00
General Biology I
The first of a two-semester sequence that introduces students to all major concepts within the scope of modern biology. This course is intended for students majoring in the biological sciences or related pre-professional programs (pre-medicine, pre-dentistry, etc.). Topics covered include cell structure and function, metabolism, and the biology of plants and animals. Laboratory exercises provide hands-on experiences that reinforce the lecture material.

BIO-113
4.00
General Biology II
The second of a two-semester sequence that introduces students to all major concepts within the scope of modern biology. This course is intended for students majoring in the biological sciences or related pre-professional programs (pre-medicine, pre-dentistry, etc.). Topics covered include genetics, ecology, diversity and evolution. Laboratory exercises provide hands-on experiences that reinforce the lecture material. Prerequisite: BIO-112 with a "C" grade or better

BIO-125
4.00
Plant Biology
This course is an introduction to the theories and conceptual schemes of modern plant biology. It includes the structure and function of plant organs and tissues, phylogeny, cell biology, reproduction, and a survey of the plant kingdom. In addition, the function of plant hormones and photosynthetic processes are emphasized. This course is designed for students who plan to specialize in some field of biology and for students who need botany in their pre-professional training. Three hours lecture, two hours lab.

BIO-130
4.00
Animal Biology
This course is an introduction to the facts and principles of modern animal biology. It includes a review of the molecular basis of life and the organization of cells and tissues and inter-relationships of structure and function in living systems as evidenced by the major animal phyla. The course is designed for students who plan to specialize in some field of biology and for students who need zoology in their pre-professional training. Three hours lecture, two hours lab.

BIO-151
3.00
Nutrition
The principles of human nutrition are studied in this course. This involves the metabolism of carbohydrates, lipids, and proteins. A study of vitamins, minerals, and water is also included. Emphasis is placed on proper nutrition during adulthood and proper diet in reference to disease. It is strongly recommended that BIO-112 General Biology I, BIO-168 Human Anatomy and Physiology I w/Lab, or equivalent precede this course. Three hours lecture.

BIO-163
4.00
Essentials of Anatomy and Physiology
This course is a study of the anatomy and physiology of human cells, tissues, and membranes, followed by a comprehensive study of the skeletal, muscular, circulatory, respiratory, nervous, digestive, urinary, endocrine and reproductive systems. This course is not equivalent to BIO-168 Human Anatomy and Physiology I w/Lab. Three hours lecture, two hours lab.

BIO-168
4.00
Human Anatomy & Physiology I w/Lab
A study of the structure and function of the human body. This course is the first course of a two-semester sequence. The study begins at the cellular level and proceeds through the integumentary system, skeletal system, muscular system, the central, peripheral and autonomic nervous systems and the senses. At least one year of high school biology or chemistry or the equivalent is recommended. Three hours lecture, two hours lab.

BIO-173
4.00
Human Anatomy & Physiology II w/Lab
The second course in a two-semester sequence. The study continues with the endocrine system, blood and cardiovascular system, lymphatic system and immunity, respiratory, digestive and the reproductive systems. Three hours lecture, two hours lab. Prerequisite: BIO-168 with a "C" grade or better

BIO-186
4.00
Microbiology
This is a study of microorganisms with emphasis on bacteria and viruses. An overview of fungi, protozoan and metazoan parasites is also included. The course also covers morphology, physiology, genetics, immunity, distribution of microbes, culturing techniques, identification, control, disease and disease resistance. It is designed for biology majors and others that require a general microbiology course. It is strongly recommended that BIO-112 General Biology I, BIO-163 Essentials of Anatomy and Physiology or BIO-168 Human Anatomy and Physiology I w/Lab or equivalent precede this course. Three hours lecture, two hours lab.

BIO-948
1.00
Special Projects
This course is open to students showing satisfactory preparation in a particular area of interest. Involves individual topic, conferences and preparation of reports. Designed to meet the needs of students wishing to study a selected topic in depth. Permission of the department chair and the staff member with whom the student wishes to work is required.

BIO-949
1.00
Special Topics
This course, offered usually on a one-time basis only, provides an in-depth study on a topic of general interest pertaining to this department.

BPT-120
3.00
Molecular and Cellular Biology
This is a study of the molecular structures and processes that underlie cellular functions. Topics include DNA, RNA, and protein synthesis, methods of isolation and purification of biological molecules, and relevant principles of microbiology, immunology, virology, and recombinant DNA technology. Offered alternating years during the fall semester. Prerequisite/Co-requisite: BIO-112 General Biology I or BIO-102 Introductory Biology and BIO-103 Introductory Biology Lab, CHM-165 General Chemistry I, or CHM-110 Introduction to Chemistry & CHM-111 Introduction to Chemistry Lab

BPT-123
3.00
Ethanol and Biodiesel Processing
The ethanol and biodiesel process fundamentals course will provide students with an overview of the biodiesel and ethanol production process from feedstock to finished product. The student will understand the biochemical and molecular mechanisms that produce biofuels and will be introduced to the equipment and process controls associated with industrial biodiesel and ethanol production. An emphasis will be placed on the physical processes and variables that affect the efficiency of the production process and the resultant fuel quality. Prerequisites/Co-requisites: BPT-162 Introduction to Biotechnology and BPT-163 Introduction to Biotechnology Lab.

BPT-129
3.00
Distillation and Evaporation Theory
This is an introduction to the fundamentals of distillation. Topics will include the basic principles behind the distillation of mixed composition solutions, the relationships between pressure, temperature, boiling point and vapor composition, and the construction and function of a basic distillation column. The laboratory portion of the course will provide hands-on experiences with the distillation of solutions under various conditions.

BPT-134
3.00
Energy and the Environment
This is an introduction to environmental science with an emphasis on renewable and nonrenewable energy resources. Topics will include the distribution, availability, patterns of use, and environmental impacts of energy resources. Relative efficiencies, political, and economic impacts on energy will be evaluated. Other topics will include human impacts on the environment, management of environmental systems, and an exploration of ways in which biotechnology impacts the environment.

BPT-136
4.00
Applied Biochemistry I
A survey of general biochemistry with an emphasis on the biochemical processes employed by various organisms in the biofuels and sustainable energy disciplines. Acid-base chemistry, enzyme kinetics, and the general properties of carbohydrates, amino acids, lipids and nucleic acids will be discussed. Laboratory exercises will demonstrate the biochemical properties of biomolecules and introduce the student to the batch preparation of biofuels.

BPT-137
4.00
Applied Biochemistry II
A survey of general biochemistry with an emphasis on the biochemical processes employed by various organisms in the biofuels and sustainable energy disciplines. Metabolism of carbohydrates, amino acids, lipids and nucleic acids, with an emphasis on ethanolic fermentation and lipid biosynthesis as it relates to biodiesel feedstock will be discussed. Additionally, the student will be introduced to the principles of genetics, gene regulation, and recominant DNA techniques. Laboratory exercises will include an in-depth exploration of the American Society for Testing and Manufacturing (ASTM)-approved analytical testing methods for the composition, purity, and physical properties of biofuels. Prerequisite: BPT-136 Applied Biochemistry I

BPT-148
3.00
Biotechnology Methods I
This is an introduction to commonly utilized laboratory equipment and methods. Topics include media and solution preparation, instrument care and calibration, laboratory mathematics, record keeping, GMP/GLP regulations, and methods for isolating and purifying important biological molecules. This class will provide students with the background necessary for subsequent Biotechnology courses. Prerequisite: High school algebra or ACT math score 20 or COMPASS math score of P-64. One semester high school biology and chemistry or concurrent enrollment is recommended. Concurrent enrollment in BPT-149 Biotechnology Methods I Lab is highly recommended.

BPT-149
1.00
Biotechnology Methods I Lab
This laboratory introduces commonly utilized laboratory equipment and methods. Knowledge from BPT-148 will be applied as students prepare media and solutions, utilize laboratory mathematics, maintain laboratory notebooks, and isolate and purify important biological molecules. This class will provide students with the background necessary for subsequent Biotechnology courses. Prerequisite/Co-requisite: BPT-148 Biotechnology Methods I or concurrent enrollment.

BPT-152
4.00
Biotechnology Methods II
This course is a continuation of BPT-148 & 149 Biotechnology Methods I. Topics covered in BPT-148 & 149 are continued in more depth and students will work independently on several biotechnology-related projects. These projects will cover a wide range of topics including DNA and RNA extraction, Southern and Northern Blotting, Polymerase Chain Reaction (PCR), and sub-cloning of DNA fragments. Prerequisite: BPT-148 & 149 Biotechnology Methods I & Lab.

BPT-154
4.00
Biotechnology Methods III
This course is a continuation of BPT-152, Biotechnology Methods 2. Students will continue to work indpendently on projects covering a variety of topics including protein extraction followed by polyacrylamide gel electrophoresis (PAGE), western blotting and immunological detection, proteomics (isoelectric focusing followed by PAGE; 2D-PAGE), mammalian tissue culture, and chromatography techniques including gas chromatography and high performance liquid chromatography. Prerequisite: BPT-152 Biotechnology Methods 2

BPT-162
2.00
Introduction to Biotechnology
An introductory course focusing on the fields of biotechnology, biofuels technology, and renewable sources of energy. Topics will include an introduction to employment opportunities in the field of biotechnology, basic biology, and biochemistry, lab math skills and an introduction to equipment used in biotechnology. There will also be a brief introduction to the production and refining of biofuels. Prerequisite: High school algebra or ACT math score 20 or COMPASS math score P-64; one semester high school biology and chemistry. Highly recommended to concurrently take with BPT 163 Introduction to Biotechnology Lab.

BPT-163
1.00
Introduction to Biotechnology Lab
An introductory laboratory course focusing on the fields of biotechnology, biofuels technology, and renewable sources of energy. Lab activities include basic laboratory skills, performing titrations, extracting DNA from plant tissue, biodiesel synthesis, ethanol biosynthesis, and more. Prerequisite/Co-requisite: BPT-162 Introduction to Biotechnology or concurrent enrollment.

BPT-210
4.00
Applied Microbiology & Immunology
This is a study of microorganisms with an emphasis on the ones used in industry. The course covers the methods used to cultivate bacteria, nutritional and environmental conditions required to grow bacterial cultures, the physical and chemical ways to control microbial growth, and the industrial cultivation of microbes and microbial products. The second half of this course addresses the immune system and focuses on specific and innate immunity. The chemical attributes and functions of antibodies and antigens are emphasized, as well as the role these chemicals play in immunity and in laboratory assays. The preparation of vaccines and the body's response to vaccination are the final topics. This course is designed for biotechnology majors. It is strongly recommended that BIO-112 General Biology I and BPT-163 Introduction to Biotechnology or BPT-148 Biotech Methods I precede this course. Three hours lecture, one hour lab.

BPT-211
3.00
Biomanufacturing
This course provides basic biomanufacturing skills and knowledge required by students planning to work in a biotechnology facility. The materials covered include applied math, technical writing, record keeping and workplace organization. Students will also develop an understanding of technical concepts that include cell culture maintenance, sterilization, aseptic technique, basic laboratory skills and downstream processing of fermentation broth. There is no formal lab but the lecture will be supplemented with hands-on activities designed to introduce students to laboratory equipment and practices. This course provides 30 contact hours.

BPT-220
3.00
Biotechnology Workforce Readiness
This course will include three units. One unit covers job skills and is designed to provide a broad range of professional development opportunities for students. These opportunities will include resume building, interview skills, career specific expectations and professionalism necessary to be successful in a Biotechnology career. A second unit provides an informal survey of the local, state and federal regulatory agencies that are involved with the biotechnology and biofuels manufacturing industries. This unit of the course will include guest lecturers from agency representatives, review of current literature, and open discussion. The third unit covers hazard identification, avoidance, control and prevention, OSHA compliance and regulations, safety and health training, first aid, and CPR. Three hours of lecture.

BPT-300
3.00
Intro to Process Technology
The students in the process control course will be introduced to the industrial process control systems. The students will learn process control that is extensively used in industry and enables mass production of continuous processes such as oil refining, paper manufacturing, chemicals, power plants, and many other industries. The students will also be introduced to all the aspects of sytems operations & how process control enables automation, with which a small staff of operating personnel can operate a complex process from a central control room.

BPT-310
2.00
Material Balance
The students in the material balance (also called a mass balance) course will be instructed in how all process systems follow the same principle rule that all the material entering the process system has to be accounted for when exiting the process system. The students will learn the formulas associated with material balance to account for all materials used in the process system. Finally, the students will be instructed in the science of waste water management.

BPT-315
3.00
Process Steam & Heating Sys
The students in the process steam systems class will be taught the principles of boiler operations and boiler control systems. The students will learn about the different components associated with a boiler system such as: steam traps, heat exchangers, low pressure, high pressure, condensate return, heating coils, pumps, and several more components used in the industrial heating process.

BPT-320
2.00
Process Cooling Systems
The students in the process cooling systems will learn about the industrial cooling process. The students will gain an understanding of chillers, cooling towers, cooling coils, and several more components used in the industrial cooling process.

BPT-932
4.00
Internship
The Biotechnology/Biofuels Technology Internship will allow the student to apply their knowledge gained from classroom instruction in a real-time manufacturing environment. The Internship will be performed with the cooperation of area biotechnology or biofuels manufacturing facilities. Prerequisites: BPT 148 Biotechnology Methods 1; BPT 149 Biotechnology Methods 1 lab; BPT 162 Introduction to Biotechnology; BPT 163 Introduction to Biotechnology lab; BPT 120 Molecular and Cellular Biology; BPT 152 Biotechnology Methods 2.

BUS-102
3.00
Introduction to Business
This survey course explores the various fields within the world of business, how they differ, and how they are interrelated. Topics include business in a global environment, starting and growing your business, management, marketing management, managing technology, and managing financial resources. Students who are interested in a career in business or want to further their knowledge of the business world would benefit from this course.

BUS-112
3.00
Business Math
The student applies basic mathematical skills used in personal and business operations. This course includes fractions, decimals, percents, trade and cash discounts, markups, markdowns, interest, depreciation, investments, insurance, payroll and annuities. Students may receive advanced standing credit by examination.

BUS-114
3.00
Workplace Communications
This course presents an introduction to communication for the workplace including inquiries, job application letters, resumes, and interviewing skills. Students will learn types of workplace communications, such as Excel spreadsheets, email, phone etiquette and Word documents. They will also learn and demonstrate their ability to express themselves in correct, clear, and effective oral and written communications. Students will discuss teamwork, conflict resolution, listening skills, and interpersonal relationships.

BUS-121
3.00
Business Communications
Introductory course designed to help you develop and refine the skills necessary to communicate effectively in a professional business environment. The focus will be on communicating clearly, concisely, considerately, and correctly, both orally and in writing. You will learn to plan, compose, and evaluate business documents, including letters, memos, and business reports; to use technology to communicate, including e-mail and discussion boards; and to prepare and deliver oral presentations. The course will also contain an introduction to employment communication, including resume, application letters, and interview skills. Emphasis throughout the course will be placed on intercultural communication and the ethics of communication. Teaching/learning methods will include reading, close analysis of business and professional documents, in-class writing and oral exercises, brief lectures, formal writing assignments, group projects, and examinations.

BUS-130
3.00
Intro to Entrepreneurship
Students will have the opportunity to observe business from an entrepreneurial viewpoint. Entrepreneurial drivers, entrepreneurial forces, business plans, customer service, quality, taking ideas to market, and intrapreneurism are also explored.

BUS-135
3.00
Managing the Entrepreneurial Venture
This course is designed to give entrepreneurs the management skills necessary to maximize the likelihood of success and minimize the chance of failure. Students will be encouraged to interact with successful entrepreneurs and to conduct research outside the classroom.

BUS-145
3.00
Financial Entrepreneurship
This class provides a straightforward practical overview of the business and financial knowledge required to become a successful entrepreneur. It examines the elements of entrepreneurial finance which addresses key questions that challenge entrepreneurs such as how much money can/should be raised, from whom, what the reasonable valuation of the company is, and how funding should be structured.

BUS-161
3.00
Human Relations
This course introduces students to the importance of people skills and personal strategies needed for anyone working in business today. By focusing on working with others in a business setting - coworkers, consumers, and vendors, the students will learn the dynamics occurring at every level of organizations by examining the people, practices, and events that make the world of business what it is today and will be tomorrow.

BUS-180
3.00
Business Ethics
Many people, faced with their own interests and standards, need reliable guidelines to address the moral implications of ethical & business decisions. This course offers a unique practical approach to learning business ethics and focuses on the relationships among various stakeholders, including individuals, groups, corporations, and nations. Students will study the latest research, current cases, and practical examples to examine the role of ethics in the contemporary business world. Outcomes include real-world ethical dilemmas encountered by managers, implementing a stakeholder analysis, and comprehensive coverage of employee workplace issues such as risk management, preferential hiring, corporate legitimacy, and moral accountability. This course will give students the realistic tools needed to handle complex moral dilemmas in the workplace and the world.

BUS-185
3.00
Business Law I
An introduction to the principles of law as they relate to business. The course content includes an introduction to contract law, criminal law, tort law, constitutional law, court systems, anti-trust law, agency law, employment law and labor law. Students may receive credit through CLEP examination.

BUS-186
3.00
Business Law II
This course emphasizes laws governing sales, commercial paper, secured transactions, bankruptcy, real property interests, leases, the landlord-tenant relationship, partnerships, corporations, personal property and bailments.

BUS-241
1.00
Developing Prof. & Ethical Practices
Are real estate agents really unethical? What are the ethical problems facing real estate practitioners today? Can ethics be taught? These are some of the questions addressed in the 15-hour program, "Developing Professionalism and Ethical Practices." In addition to meeting Iowa's licensing requirements, this course also satisfies NAR membership renewal requirements.

BUS-242
1.00
Buying Practices
This course will familiarize the students with buying practices such as qualifying buyers, financing, working with buyers, writing offers and responsibilities and services during closings.

BUS-243
1.00
Listing Practices
This course acquaints the student with the proper listing practices for residential real estate. In the course the students will cover: Steps to preparing a Competitive Market Analysis, estimating net proceeds, listing presentations and contracts, marketing and servicing listings, presenting offers and responsibilities and services during closings.

BUS-256
4.00
Real Estate Prelicensure
This course is accrediated by the Iowa Real Estate Commission and has been approved for real estate salesperson pre-licensing. Upon successful completition of this course students will be prepared to sit for the Iowa real estet salesperson exam. Students will complete their homework utilizing a required workbook.

BUS-932
3.00
Internship
Gain valuable work-and-learning experience in an organization under the direction of a faculty member and an employee of a participating firm. This course is for Web, Media, and Graphics Technology majors. This course is to be taken during the summer with the permission of the program coordinator. 120 hours of student work time are required during the internship. Enrollment is contingent upon the availability of appropriate internships.

BUS-949
3.00
Special Topics
This course, usually offered on a limited basis only, provides an in-depth study on a topic of general interest pertaining to this department.

CAD-101
3.00
Introduction to CAD
The student will be introduced to the use of Computer-Aided Drafting software to make drawings of various objects. Students will create and modify drawings, print hard copies, and change the drawing environment to meet task requirements.

CAD-138
2.00
Virtual Modeling
Students will use computer software to develop three-dimensional digital models for use in graphics applications. Students will learn about working in computer aided design environments, including concepts and techniques of geometry construction and placement, lighting and appearance, and rendering.

CAD-155
3.00
Engineering Graphics I
This course will introduce the student to the standard industry practices for technical and industrial illustration. Emphasis will be placed on understanding how edges and surfaces are represented using orthographic projection. Students will use computers to create technical drawings of mechanical components.

CAD-156
3.00
Engineering Graphics II
Coursework will build on basic skills and focus on using computer-aided design software to develop technical drawings. Topics will include advanced orthographics, auxiliary views, section views, representation of threading, and the application of fits & tolerancing in dimensioning.

CAD-157
3.00
Engineering Graphics III
Course work will focus on using computer-aided design software to develop technical drawings using advanced view development techniques. Students will study and create advanced sections, secondary auxiliaries, revolutions, and developments. Students will also learn to apply advanced dimensioning and tolerancing.

CAD-158
2.00
Engineering Graphics IV
Students will complete the engineering graphics sequence by examining and applying advanced design modeling and drawing principles to technical drawings.

CAD-164
2.00
Solid Modeling I
The student will be introduced to the principles of parametric design using computer aided design software. Students will construct digital models by use of elements of geometry, modeling theory, and parametric workflow. Topics will include sketching, constraining, feature construction, combination modeling methods and mating.

CAD-166
2.00
Solid Modeling II
Students will build on basic parametric skills. Students will explore the use of equation modeling, configurations, assembly techniques, sheet metal features, and advanced drawing features.

CAD-194
2.00
Architectural Modeling
Students will use computer software to develop digital representations of architecture and construction. Students will learn about working in computer aided design environments, including concepts and techniques of geometry construction and placement, dimensioning, and media preparation and presentation.

CAD-198
2.00
Applied Geometry & Technology
This course will examine the application of geometry in computer graphics. Students will study geometric principles, learn terms and concepts of plane and solid geometry, and apply them in problem solving. Students will also learn how to use calculators, computer algebra systems, and computer graphics software in solving geometry challenges.

CAD-217
3.00
Engineering Mechanics I
This course will introduce students to the basic principles of statics and the mechanics of materials. Students will learn about systems in equilibrium and use diagramming, calculations, and computer-aided design to construct simple systems and analyze them for reactions under various conditions. The physical properties of materials and their reactions to loading will also be covered.

CAD-218
3.00
Engineering Mechanics II
Students will build on experience in Mechanics I by exploring dynamics & kinematic analysis. Students will study principles of systems in motion and use diagramming, calculations, and computer-aided design to construct simple mechanisms and analyze them for reactions under various conditions.

CAD-230
2.00
Geometric Dimensioning and Tolerancing
The student will learn the fundamentals of Geometric Dimensioning and Tolerancing, according to ANSI standards. Skill will be developed in both the interpretation and application of Geometric Dimensioning and Tolerancing to engineering drawings.

CAD-232
2.00
Virtual Modeling II
This is a course that will build on skills from Virtual Modeling I. Students will learn about advanced surfacing methods, contrast and compare modeling paradigms, and learn about file exchange and management. Students will also use lab technology to create output.

CAD-275
2.00
Applied Logical Processes
Students will practice and build on the methods of problem solving. Students will utilize multiple skill sets in the problem solving process to collaboratively and independently identify goals and objectives, plan strategies, and design and execute solutions. Emphasis will be placed on research and development on projects. Students will present results for peer critique and public display.

CAD-315
2.00
Computational Design
This course is a programming course geared towards students in the various fields of design. Students will learn the methods and concepts involved in programming, and examine how programming is applied in real-world scenarios. Students will then use hands-on lab time to create programming, producing still and animated output.

CAD-401
4.00
Electrical Cad
The student will be introduced to the use of Computer-Aided Drafting software to make drawings of various electrical objects. Students will create and modify drawings, print hard copies, and change the drawing environment to meet task requirements.

CAD-949
1.00
Special Topics: Survey of Cad
This course, usually offered on a limited basis only, provides an in-depth study on a topic of general interest pertaining to this department.

CHM-110
3.00
Introduction to Chemistry
This course is a study of the basic principles of chemistry. Topics include measurements, atoms and molecules, stoichiometry, aqueous systems, gas laws, chemical reactions, equilibria, acids, bases, salts, and nuclear chemistry. A course such as this may be part of the requirements in certain health professions (nursing, dental and physical therapy), home economics, mortuary science, agriculture, forestry, and other related programs. This course is not equivalent to CHM-165 General Chemistry I. This course satisfies a general education requirement in the Math/Science area. Three hours lecture.

CHM-111
1.00
Introduction to Chemistry Lab
This is a three-hour laboratory which accompanies CHM-110 Introduction to Chemistry. This course satisfies a general education requirement in the Math/Science area. Three hours lab. Prerequisite: CHM-110 Introduction to Chemistry or concurrent enrollment or the equivalent

CHM-130
3.00
Introduction to Organic and Biochemistry
This course is a study of organic chemistry and biochemistry. Topics in the course include structure, nomenclature, nature and reactions of the functional groups, stereochemistry, carbohydrates, proteins, lipids, nucleic acids, and metabolism. Three hours lecture. Prerequisite: CHM-110 Introduction to Chemistry or equivalent

CHM-131
1.00
Intro to Organic and Biochemistry Lab
This is a three-hour laboratory which accompanies CHM-130 Introduction to Organic and Biochemistry. Prerequisite: CHM-130 Introduction to Organic and Biochemistry or concurrent enrollment or the equivalent

CHM-165
4.00
General Chemistry I
This course is a study of the following topics: stoichiometry, atomic structure, solutions, acids-bases, and oxidation-reduction. This course is intended for science, engineering, pre-vet, pre-dental, and pre-optometry majors. This course satisfies a general education requirement in the Math/Science area. Three hours lecture, three hours lab. Prerequisite: MAT-063 Elementary Algebra or equivalent and high school chemistry

CHM-175
4.00
General Chemistry II
This course is a continuation of CHM-165 General Chemistry I with consideration of states of matter, solutions, acids bases, reaction rates, equilibrium, thermodynamics, and electrochemistry. Three hours lecture, three hours lab. Prerequisite: CHM-165 with a "C" grade or better

CHM-261
4.00
Organic Chemistry I
This course is a study of the principles of organic chemistry including structure, bonding, nomenclature, reaction mechanisms, synthesis, and spectroscopy of common organic compounds. This course along with CHM-271 Organic Chemistry II are designed to satisfy the one year of organic chemistry required by most medical schools. Three hours lecture, three hours lab. Prerequisite: CHM-175 with a "C grade or better

CHM-271
4.00
Organic Chemistry II
This course is a continuation of CHM-261 Organic Chemistry I. The structure, nomenclature, and chemistry of aromatic compounds and various functional groups, carbohydrates, lipids and proteins are considered. Bonding, synthesis, reaction mechanisms and spectroscopy are also emphasized. Three hours lecture, three hours lab. Prerequisite: CHM-261 with a "C" grade or better

CHM-948
1.00
Special Projects
This course is open to students showing satisfactory preparation in a particular area of interest. Involves individual topic, conferences and preparation of reports. Designed to meet the needs of students wishing to study a selected topic in depth. Permission of the department chair and the staff member with whom the student wishes to work is required.

CHM-949
1.00
Special Topics
This course, offered usually on a one-time basis only, provides an in-depth study on a topic of general interest pertaining to this department.

CHT-105
4.00
Applied Chemistry
This course will provide students with an understanding of chemistry as it applies to industrial processes, as well as an understanding of some basic concepts that are relevant in the industrial world.

CIS-153
4.00
Data Structures
This course is a continuation of CIS-162 C++. It deals with the implementation of user-defined data structures including stacks, queues, linked lists, trees, heaps, and graphs. Object oriented features of C++ and recursion are used to help implement these data structures. Three hours lecture, two hours lab. Prerequisite: CIS-162 C++

CIS-162
4.00
C++
This is an introductory course in C++ which emphasizes the design and development of structured programs. All standard C++ topics are considered including input/output functions, logical constructs of sequence, selection and repetition, user-defined functions, parameter passing by value and by reference, and the use of simple variables, arrays and structures. Three hours lecture, two hours lab.

CIS-172
4.00
Java
This is an introductory course in Java programming. Java programs have uses in business, industry, and Web page design. This course is designed to guide the student in developing applications and applets. The course introduces the student to object-oriented programming concepts along with the Java syntax needed to implement them. Three hours lecture, two hours lab.

CIS-194
3.00
Layout Design III
Students take design and composition to the next level building on earlier Layout Design classes. Students work on design projects from concept to finished product to gain insights and experience while exploring the challenges of designing posters, logos, magazine covers and more. Prerequisite: Layout Design 1 and 2 or instructor permission

CIS-195
3.00
Layout Design Projects
This course is designed to immerse students in project based work - doing creative design while improving productivity and building portfolio-ready compositions. Prerequisites: Layout 1, 2, & 3 or instructor permission.

CIS-253
3.00
HTML Basics
HTML is the language of the Web. While not readily visible, this system of tags enables the display of graphics, text, and sound on the World Wide Web. Become skilled at the core concepts of HTML and create a project site from scratch. Upload files to a host server so people can view the files as pages on the Internet.

CIS-254
2.00
Basic Multimedia Design
Discover the principles of design that are essential to guide the viewers eye in every visual communication piece whether in print or on the Web. Gain knowledge of typography that enables the creation of interesting, provocative and effective type combinations. Course projects build on how to effectively place elements and unify a design work.

CIS-255
3.00
Web Graphics
Get a thorough grounding in Adobe Photoshop and Adobe ImageReady, the must-have digital imaging programs for today's web and print designers. Hands-on projects include working with layers, making selections, incorporating color technique, creating special effects with filters and more. Create complex web graphics such as rollovers and animations.

CIS-256
3.00
Dreamweaver I
Learn to create sophisticated web-sites with Macromedia's Dreamweaver - the preferred HTML editor of professional Web designers. Become skilled in designing sites with advanced layouts by using tables, style sheets, images and more. Go from beginner to intermediate as you create a portfolio-building project Web site.

CIS-257
3.00
Web Graphics 2
Students will learn to create original web graphics and interactivity using Macromedial Fireworks. Create valuable web components from simple graphical buttons to complex rollover effects and pop-up menus. Gain skill in optimizing images and exporting to Macromedia Flash and Dreamweaver. Prerequisite: CIS-255 Web Graphics or instructor approval.

CIS-258
3.00
Dreamweaver II
Build on previous knowledge of Dreamweaver and create a dynamic, database-driven Web site. Use Dreamweaver to bind data to a Web page in a totally visual environment. Learn to plan a dynamic web site, create web forms, incorporate a database and define a database connection. Prerequisite: CSI-256 Dreamweaver I or instructor permission.

CIS-259
3.00
Dreamweaver III
This course concentrates on building advanced skill in designing database driven sites with Dreamweaver. Create a portfolio-building project site that displays data and images dynamically. Process a search form and write code to enhance a Web site. Prerequisite: Dreamweaver II CIS-258 or instructor permission.

CIS-260
3.00
Web Databases
Learn to create relational databases for use in web applications using Microsoft Access. Make finding, organizing, and presenting data more efficient. Gain skill in creating tables, finding and editing table records. Learn to improve the management of information using queries, forms and reports.

CIS-261
3.00
Media Projects
When it comes to internship and job hunting, students want to be armed with original work that illustrates their talent and skills. In this project-based class, instructors work with students to prepare portfolio-level pieces. Pre-requisite: Students must be enrolled in one of the following programs or have instructor permission: Web Technology, Graphics Technology, Media Technology, CAD

CIS-262
3.00
Dreamweaver Projects
Students enrolled in this course will be creating websites using Dreamweaver. Emphasis is on the pre-production, production and post-production process.

CIS-604
3.00
Visual Basic
This is an introductory course in Visual Basic in which applications are developed that use the graphical user interface of Windows.

CIS-612
3.00
Advanced Visual Basic
This is a second course in Visual Basic Computer programming that will extend the coverage of the Visual Basic programming system that was covered in the first course of Visual Basic computer programming. Additional topics of coverage will include database access, management and data handling techniques, array development and utilization, developing Object-Oriented programs, SQL's, Drag-and-Drop concepts, and the Visual Basic graphics environment. Prerequisite: CIS-604 Visual Basic

CLS-130
3.00
African Cultures
This course is designed to introduce students to the modern history and culture of Africa and examines major themes relating to European conquest and imperialism, the development of the colonial economy, African responses to colonialism and the rise of nationalist movements that eventually achieved independence. Discussions about the post-colonial present, exploring recent socioeconomic transformations, continuities, as well as struggles over political authority, ethnic identity, gender, religion, media, popular culture, and access to resources, will be featured. The course will examine these themes by applying them to case studies of specific African nation-states.

CLS-141
3.00
Middle Eastern History & Culture
This course is an introduction to the history and culture of the modern Middle East from the late 18th century to the present. The course briefly surveys the early history of the region, beginning with the origins of Islam, but mainly focuses on the great pre-modern empires, their collapse under European pressures, the renaissance of Middle Eastern culture in the eighteenth and nineteenth centuries, the move toward independent states in the 19th and 20th centuries, and pan-Arabist and Islamist ideologies of the late 20th and early 21st centuries. Considerable attention will be devoted to the region since 1945 and to the problems and promises of the present day. Discussions about the post-colonial present, exploring recent socioeconomic transformations, continuities, as well as struggles over political and religious authority, ethnic identity, gender, religion, the arts and humanities, media, popular culture, and access to resources, will be featured.

CLS-150
3.00
Latin American History & Culture
This course is designed to introduce students to the modern history and culture of Latin America. The course examines major themes relating to European conquest and European/American imperialism, the development of the colonial economy, Latin American responses to colonialism and the rise of nationalist movements that achieved independence and resisted imperialism. Discussions about socioeconomic transformations, continuities, as well as struggles over political authority, ethnic identity, gender, religion, media, popular culture, and access to resources, will be featured. The course will examine these themes by applying them to case studies of specific Latin American nation-states.

CLS-170
3.00
Russian History & Culture
This course is an introduction to the modern history and culture of Russia and the former Soviet Union. The course is designed to acquaint students with Russian geography, ethnic groups, and religious institutions, as well as with social, political, and economic developments that have combined to produce a constantly evolving Russian nation. The course examines major themes relating to Russian imperialism, communism, the Cold War, and the fall of communism in the Soviet Union and other former Warsaw Pact states in Central Europe. Discussions about the post-communist present, exploring recent socioeconomic transformations, continuities, as well as struggles over political authority, ideology, ethnic identity, gender, religion, media, popular culture, the fine arts, and access to resources, will be featured.

CLS-181
3.00
American Diversity
What does it mean to be American? The Declaration of Independence states our inalienable rights as life, liberty, and the pursuit of happiness, but do we really know what this means? Does this concept of rights apply to all Americans? This course will emphasize the American quest for common ground by investigating our cultural roots through history and literature. Students will examine the varied American immigration experiences to find our common bonds. Students will complete a service learning component.

CLS-210
3.00
Cultures in Transition
This course is an interdisciplinary introduction to a world region in cultural transition. Students will explore topics relating to the region's history, social and political institutions, art, music, literature, economy, religion, agriculture, geography, and ecology.

COM-157
1.00
Newspaper Production
Students on the newspaper staff are to enroll in Newspaper Production if they are not in a journalism class, to earn credit for their work on the newspaper. Students accept and complete assignments for each of the four issues each semester. Assignments vary according to the student's interests and abilities, as well as the newspaper staff's needs.

COM-720
1.00
Communication in Workplace 1
This course presents an introduction to written communications for the workplace including inquiries, job application letters, resumes, and memos. Students will learn occupational terminology and communication strategies used in workplace correspondence, as well as conventions for structure and style for both formal and informal types of workplace communications. Students will learn and demonstrate their ability to express themselves in correct, clear, and effective written communications for the workplace. This course meets during the first five weeks of a semester.

COM-721
1.00
Communication in Workplace 2
This course will enhance the student's communication skills. Daily classroom writing assignments will be tailored to daily industry correspondence. Students' will prepare memos, e-mail messages, and distribution lists. Students will utilize word-processors and presentation graphics for classroom demonstrations.

COM-947
2.00
Special Projects
Highly motivated students may wish to work intensively on a creative or research project not covered in the course offerings of the department. The student should possess the necessary background for such work, and initiate an application for such study. A maximum of four hours of credit may be earned in any one department. Permission of the staff member with whom the student wishes to work is required.

COM-949
1.00
Special Topics
This course, usually offered on a limited basis only, provides an in-depth study on a topic of general interest pertaining to this department

CON-100
1.00
Basic Carpentry
Students will learn the complexities of working with hand and power tools. They will learn basic carpentry skills, which include wall framing, window and door framing, floor framing, and basic exterior finish.

CON-102
2.00
Introduction to Residential Construction
Students will be introduced to basic residential construction history, terminology, materials and basic construction techniques. This course will cover basic information and develop manual skills needed to begin construction of a new home.

CON-129
3.00
Concrete Theory & Lab
Emphasis of this course will be concrete estimation, poured foundation formwork and placement, insulated concrete forms erection and placement, and placement of exterior and interior flatwork by various methods including pumper trucks. A variety of applications and finishes will be covered. Safety will be strongly enforced.

CON-130
1.00
Concrete Theory
Understanding concrete and its relationship to residential construction will be discussed along with concrete safety and testing techniques.

CON-131
1.00
Site Layout & Blueprint Reading
This course will train students to interpret and use working drawings and blueprints. It includes an understanding of construction symbols and building specifications. Students will develop a site layout for various projects utilizing lasers, builder's levels, blueprints, and site plans.

CON-133
4.00
Construction Technology Lab
This course consists of construction of floors, stairs, walls, ceilings, and roof systems in a residential setting or shop location. This course will expand on Introduction to Residential Construction. Construction safety will be strongly enforced. Safety glasses are required when working on site as required by Iowa Law.

CON-175
6.00
Residential Construction Applications
Students will apply advanced construction procedures on decks, walls, roofs, stairwells, and related structures. Durable design and application of proven methods will be emphasized. The course relates to sustainable building practices.

CON-206
1.00
Framing Techniques Theory
This course will include layouts and study of floor decks, walls, and roof systems. Energy efficient design and construction will be emphasized.

CON-219
4.00
Exterior Finish
This course will present the various materials used for residential exterior coverings. Topics will include insulated sheathing, house wraps, drainage planes, and shingles, soffits, venting, windows and exterior doors. Emphasis will be on sustainable construction techniques.

CON-301
7.00
Framing for Sustainable Design
The students will utilize resource efficient framing methods that stress energy efficiency and sustainable design. The "House as a System" method of residential construction will be teamed with Universal Design and Optimum Value Engineering techniques, the "Building America" program and the LEED (Leadership in Energy and Environmental Design) program. This course will provide networking for the students with leaders in the energy efficiency and sustainable design arenas through guest speakers and the opportunity to present at conferences. Students will earn their OSHA 10-hour, First Aid, and CPR completion cards.

CON-302
1.00
Building Science I
Students will apply building science methods to determine how insulations, moisture, building pressures, heat flow and durable design apply to today's residential building methods.

CON-303
1.00
Building Science II
Students will be expanding on Building Science I, utilizing hands on activities to explore the effects of mold, volatile organic compounds, radon, healthy home design, renewable energy, and building failures.

CON-307
3.00
Basic Woodworking
The students will spend time constructing cabinets using various joint techniques. Safe tool operation and proper tool use will be emphasized. This course will give the students a basic knowledge of calculating, selecting, and using different types of cabinet materials.

CON-308
2.00
Interior Finish I
Students will discuss the theory and history of the residential interior system. Universal Design and a focus on indoor air quality will be stressed. Custom interior finish packages may be included.

CON-309
3.00
Interior Finish II
The lab portion of this course will be to apply gypsum board, tape, texture, and paint. The trim work will follow by installing pre-hung door units, casing, base mold, custom trim, closet finishes, hardware, and cabinetry. Universal Design and a focus on indoor air quality will be stressed. Custom interior finish packages may be included.

CON-321
2.00
Residential Estimating
Students will learn to estimate the residential construction costs of concrete, rough framing and finishes. Estimating skills will first be developed using a pencil paper analysis and then transferred to computer applications.

CON-386
1.00
Sustainable Design
Students will look at an overview of sustainable design and how to incorporate it into residential construction. There will be a continued emphasis on how to properly and efficiently install new and existing building products.

CON-500
2.00
Construction Tech Lab 1A
This course consists of construction of floors, stairs, walls, ceilings, and roof systems in a residential setting or shop location. This course will expand on Introduction to Residential Construction. Construction safety will be strongly enforced. Safety glasses are required when working on site as required by Iowa Law. This is the first of two classes to full fill CON 133 Construction Technology Lab requirement.

CON-501
2.00
Construction Tech Lab 1B
This course consists of construction of floors, stairs, walls, ceilings, and roof systems in a residential setting or shop location. This course will expand on Introduction to Residential Construction. Construction safety will be strongly enforced. Safety glasses are required when working on site as required by Iowa Law. This is the second of two classes to full fill CON 133 Construction Technology Lab requirement.

CON-949
2.00
Spec Topics: Woodworking Fundamentals
This course will give the students a basic knowledge of calculating, selecting, and using different types of cabinet materials. Safe tool operation and proper tool use will be emphasized. Students will spend time constructing cabinets using various joint techniques.

CRJ-100
3.00
Introduction to Criminal Justice
This course examines the criminal justice system and those areas closely related to it. Emphasis is on the relationships among law enforcement, adult and juvenile corrections, courts and private security and correctional agencies.

CRJ-110
3.00
Patrol Procedures
This course examines the organizational structuring and management within law enforcement agencies, community policing, procedures including traffic investigations, developing and handling informants and interview/interrogation techniques.

CRJ-120
3.00
Intro to Corrections
This course analyzes corrections and punishment in modern society, exploring the prison system, community based corrections, and alternatives to incarcerations. Probation and parole in the criminal justice system.

CRJ-132
3.00
Constitutional Law
This course covers arrest, search and seizure, review of court systems, procedures from incident to final deposition, principles of constitutional, federal, state and civil laws as they apply to and affect members of the criminal justice system.

CRJ-133
3.00
Constitutional Criminal Procedure
This course is the study of the philosophy and the basis for law, the historical development of criminal law and procedure, the structure, definition and the criminal law of Iowa. Explores the causation, preparation and perpetration of crimes, criminal conduct and parties to crimes.

CRJ-141
3.00
Criminal Investigation
This course examines the fundamentals of criminal investigation: rules of identification, including collection, preservation and processing of physical evidence, record reports and statements; case preparation; testimony in court; basic report writing and investigative techniques relating to specific crimes such as robbery, burglary, homicide and narcotics violations are explored. Methods/ services of the criminalistics laboratory are covered.

CRJ-152
3.00
Defensive Tactics
This course covers methods of protection against persons armed with dangerous and deadly weapons, demonstrations and drill in a limited number of holds, pressure points and come alongs and restraint of prisoners. Firearms and OC spray safety, handling and use will be covered with a Firearms Use-Of-Force Training Simulator. The other areas of emphasis will concern itself with the civil and criminal liabilities of the use of force.

CRJ-160
3.00
Intro to Forensic Investigation
This course aims at making the subject of forensic science comprehensible to a wide variety of students who are planning on being aligned with the forensic science profession. This course introduces the non-scientific student to the field of forensic science. Through applications to criminal investigations, clear explanations of the techniques, and the abilities and limitations of modern crime labs, this course covers the comprehensive realm of forensics. The text strives to make the technology of the modern crime laboratory clear to the non-scientist. Combining case stories with applicable technology, Criminalistics captures the excitement of forensic science investigations

CRJ-170
3.00
Overview of Cybercrime
The course provides an introduction and overview of computer crime. In particular, a categorization of types of computer crimes is presented including: the computer as a target; the computer as an instrument of a crime; the computer as incidental to crime, and crimes associated with the prevalence of computers.

CRJ-200
3.00
Criminology
This course explores the response of the criminal justice system in its attempt to prevent, predict and control criminal activity. Emphasis is also on the nature and causes of criminal activity.

CRJ-201
3.00
Juvenile Delinquency
This course explores the area of juvenile delinquency, its history, theories, laws, and the criminal justice system's response in caring for, treating, and controlling delinquent behavior.

CRJ-206
3.00
Terrorism Response
This course provides an in-depth look at consequence response-the safety procedures for emergency responders, scene search operations, precautions for secondary devices, and initial scene evaluation of a terrorism/tactical violence event.

CRJ-260
3.00
Medicolegal Death Investigation
This course aims at making the subject of death investigation comprehensible to a wide variety of students who are planning on being aligned with the criminal justice profession. This course introduces the non-scientific student to the field of death investigations. This course provides information to conduct a scientific, systematic, and thorough death scene investigation. Content includes information regarding the investigation of natural and unnatural cases of death such as asphyxial death, toxicological deaths, childhood deaths, firearm deaths,and deaths due to blunt and sharp force injury, as well as deaths from the natural disease processes. t

CRJ-300
3.00
Perspectives of Homeland Security
Terrorism has captured global attention to a degree without historical parallel. This course explores the events of 9/11 and beyond. In an uncertain world that has emerged since 9/11, intergovernmental organizations, national governments, policy analysts, law enforcement groups, scholars, and society at large are all faced with the arrival of difficult times that challenge older notions about international terrorism. At the same time, recent developments on the American scene remind us, despite the unprecedented scope of the 9/11 catastrophes, that homegrown terrorism and the extremist beliefs that accompany it remain a threat to public order in the United States. This course will explore these domestic terrorist groups in depth.

CRR-104
3.00
Introduction to Automotive Restoration
Introduction to the way vehicles were built in the past. Intro to Auto Restoration will consist of accessing vehicle repair parts, ordering parts, and putting ideas together for the design of custom vehicle.

CRR-105
3.00
Introduction to Specialty Tools
Students will learn to use an array of specialty tools related to custom fabrication of sheet metal.

CRR-110
3.00
Auto Body Welding
The Auto Body Welding course will introduce students to the basics of auto body shop safety, use of oxy-acetylene cutting and welding torches, spot welders MIG and TIG welding with auto body applications. Students will learn to weld and repair metal auto body parts.

CRR-111
3.00
St Rod Welding
Students will learn the basics of welding thicker gauge steel such as vehicle frames and different techniques for welding in body panels.

CRR-204
3.00
Repair of Plastics & Adhesives
The Repair of Plastics and Adhesives course will give students the knowledge and experience to identify and repair rigid, semi-rigid, and flexible plastic panels.

CRR-303
3.00
Introduction to Auto Body Repair
The Introduction to Auto Body Repair course will provide students with the basics of body-shop safety, use of common hand tools, power tools, body hand tool operations, and body fasteners. The study of mild and high strength steel, sheet metal design, and collision damage analysis. Students will begin to repair minor dents and rusted automobiles.

CRR-309
3.00
Auto Body Prep and Masking
Students will learn to evaluate surface conditions of vehicles and determine what must be done before painting an auto body surface. Checking paint thickness, paint removal procedures, sand blasting, media blasting, sanding of paint will be covered. Students will also prep bare metal-metal conditioners, metal replacement parts, using self etch primer, selecting and applying primer coats, sanding methods, surface scuffing, masking skills, cleaning substrate, liquid mask options,back masking, jam preparation, and masking plastic sheeting using proper taping methods. Students will learn to evaluate masking verses part removal, decal and stripe removal methods, masking aids wheel maskers, antenna masking, mirror masking, reverse masking, surface wax and grease cleaning, and roll masking for spot repairs. Bolt molding, trim removal, and removal of stationary glass will also be covered.

CRR-337
3.00
Beginning Metal and Filler Work
The Beginning Metal and Filler Work course will provide students with the necessary skills to work out various dents and properly apply various fillers.

CRR-341
3.00
Metal Fabrication
Students will explore the process involved in custom fabrication of sheet metal such as chopping tops and fabricating their own rust repair panels.

CRR-345
3.00
Advanced Metal Sectioning and Repair
Advanced metal sectioning and repair; the replacement class involved OEM and I-CAR approved sectioning repairs preformed on today's advanced unibody designs.

CRR-346
3.00
Metal Stripping
Students will use various methods to stripe paint finishes, such as sand blasting, media blasting, chemical stripping and soda blasting. Student will also learn how to treat bare metal surfaces with the correct coatings.

CRR-401
3.00
Panel & Door Skin Replacement
The Panel and Door Skin Replacement course will allow students to gain experience replacing door skins, fenders and rear quarter panels.

CRR-415
3.00
Restraint Systems
The student will learn to diagnose and repair various restraint systems used by OEM manufacturers today.

CRR-501
3.00
Frame Machine Use
The Frame Machine Use course will allow students to diagnose and measure structural damage using tram and self-centering gauges to identify misaligned or damaged steering, suspension, and power train components that can cause vibration, steering, and chassis alignment problems.

CRR-612
3.00
Intro to Suspension & Steering
This course will provide an in-depth analysis of operation and service of automotive chassis and suspension systems. Emphasis will be placed on the principles of restoring a collision damaged suspension back to its pre-accident condition, using manufactures specifications and tolerances. The principles of steering & suspension components, steering geometry, inspection and replacement of damaged components with manual and electronic measuring will also be covered.

CRR-613
3.00
Altered Steering and Suspension
Students will learn to install aftermarket suspensions such as air ride and lift kits. Students will learn to replace worn out suspension and steering parts and install new steering columns in antique vehicles.

CRR-620
3.00
Electrical Mechanical Systems
The Electrical Mechanical Systems course will allow students to learn the proper procedures for electrical repair work. The use of wire and solder. The repair of special electrical connectors. Students will learn the use of specialty electrical trouble shooting equipment.

CRR-750
3.00
Damage Estimating & Shop Operation
Introduction to procedure and sequence of writing collision damage estimates, familiarization with body shop management. Students will be introduced to material (physical) damage, insurance policies, and adjusting.

CRR-807
3.00
Auto Body Refinishing
The Auto Body Refinishing course will provide students with the necessary surface preparation prior to primer and paint applications. Students will learn the art of touch and feel to compliment visual inspection prior to final finish.

CRR-813
3.00
Advanced Auto Body Repair & Refinishing
This course includes job planning, sheet metal repair, and metal finishing operations, along with glass replacement, the alignment of doors, hoods, fenders, and applying body plastic filler and fiberglass repair.

CRR-817
3.00
Buffing & Detailing
Students will learn to color sand, buff, and detail freshly applied finishes, as well as aged finishes, as well as detailing interiors.

CRR-850
3.00
Computerized Paint Mixing
The Computerized Paint Mixing course will provide students the opportunity to utilize and compare traditional hand mix paint methods to that of computerized mixing. Students will experiment with spot-in verses entire panel restoration methods.

CRR-852
3.00
Custom Painting & Airbrush
This auto body painting course will cover basic custom painting and air brush work.

CRR-853
3.00
Custom St Rod Painting
Students will learn painting techniques used on antique and custom vehicles.

CRR-887
3.00
Complete Refinish and Detail
Students will learn the correct techniques involved in refinishing a complete vehicle, from surface preparation to final painting. Students will learn techniques in color sanding and buffing.

CRR-910
3.00
Auto Body Rebuild Project I
The Auto Body Rebuild Project I course will allow students to take on a major rebuild or restoration project from start to finish.

CRR-911
3.00
Auto Body Rebuild Project II
The Auto Body Rebuild Project II course will allow students to take on a major rebuild or restoration project from start to finish. Students are expected to work with less supervision than they received in the Rebuild Project I class. Pre-requisite: CRR910 Auto Body Rebuild Project I.

CRR-913
3.00
Restoration Project I
Students will disassemble and restore an antique vehicle from start to finish.

CRR-914
3.00
Restoration Project II
Students will design and assemble a fiberglass street rod from start to finish.

CRR-949
1.00
Spec Top: Spray Finishes
Students will get extensive experience spraying with different types of paint, including waterborne paint.

CSC-040
3.00
Computer Fundamentals
This fundamentals course will present the basic uses, understanding and knowledge of computer hardware and software. It will teach the fundamentals of the Windows Operating System environment and the use of popular business software using word processing and spreadsheet applications. E-mail communication skills and the use of the Internet as a communication and research tool will be developed.

CSC-110
3.00
Introduction to Computers
This is an introductory course in computer literacy and software applications. The literacy components of the course include history of computing, computer systems, communications, networks, and computers in society. The applications training will include word processing, spreadsheets, database management and presentation software. No prior computer experience necessary.

DHY-114
4.00
Dental Hygiene Anatomical Sciences
This course encompasses the fundamental study of head and neck anatomy, postnatal development, structure of the teeth, facial, oral and tooth anatomy, the morphology of the teeth, identification of the teeth, their functions and occlusion. Instruction emphasizes peer interaction with dental nomenclature and the inspection of teeth and surrounding structures. Prerequisites: BIO-168 Human Anatomy and Physiology I w/ lab & BIO-173 Human Anatomy and Physiology II w/ lab. Co-requisite: DHY-163 Radiology.

DHY-121
2.00
Oral Histology and Embryology
This course covers the normal growth and development of the face and oral structures. This course includes the descriptions of the processes which occur at the cellular level in the growth and development along with the normal microscopic anatomy of oral structures. Prerequisites: BIO-168 Human Anatomy and Physiology I w/ lab & BIO-173 Human Anatomy and Physiology II w/ lab.

DHY-132
3.00
Dental Pharmacology
This course covers general pharmacology and reviews drugs that may influence the management of dental hygiene patients. This course will enable the student to develop sufficient knowledge of pharmacology to permit safe and effective medical evaluation of patients for dental hygiene treatment. Pain control techniques are also covered including local anesthesia administration and nitrous oxide sedation. Prerequisites: BIO-168 Human Anatomy and Physiology I w/ lab & BIO-173 Human Anatomy and Physiology II w/ lab and CHM-130 Introduction to Organic/Biological Chemistry & CHM-131 Introduction to Organic/Biological Chemistry lab.

DHY-140
2.00
General and Oral Pathology
This course encompasses the fundamental study of abnormal findings in and around the oral cavity, including identification of lesions, developmental disorders, neoplasia, genetics, inflammation, degenerative changes, oral manifestations of diseases and/or conditions. Instruction emphasizes case studies, vocabulary and terminology; along with the comprehensive integration throughout all clinical aspects of the inspection of the oral cavity and surrounding structures. Prerequisites: DHY-114 Dental Hygiene Anatomical Sciences.

DHY-163
3.00
Radiology
This course emcompasses the physics of radiation and radiation biology are related to the principles, techniques and interpretation of intra and extraoral radiographs. Quality in exposing, mounting and processing dental x-rays is stressed along with an emphasis on the safety of the patient and operator included in this course. Laboratory exercises will develop the student's competency in exposing, processing and mounting radiographs. Co-requisites: DHY-114 Dental Hygiene Anatomical Sciences.

DHY-174
5.00
Principles of Dental Hygiene
This course introduces the students to the basic principles and theory of clinical dental hygiene. The course will cover the etiology of deposits and their effect on oral tissue. The student's skill and performance in removal of deposits through instrumentation is emphasized utilizing hands on instruction and demonstration. Prerequisites: Acceptance into the Dental Hygiene Program.

DHY-183
2.00
Dental Hygiene I Theory
This course builds upon the fundamental level dental hygiene knowledge and skills aquired in DHY 174 Principles of Dental Hygiene. Emphasis centers on the dental hygiene process of care and utilizes the care model as the basis for the provision of care to individuals in specific populations, patients with special needs, and medically compromised patients. Emergency procedures and protocol will be presented and practiced with emphasis placed on the recognition and prevention of emergency conditions, medico-legal considerations, and management of emergencies in a dental environment. Co-requisites: DHY-184 Clinical Dental Hygiene I.

DHY-184
3.00
Clinical Dental Hygiene I
This course is an application of the instrumental skills utilized in preventative and therapeutic dental hygiene clincal experiences in oral prophylaxis, application of preventative therapeutics and radiography techniques to beginner level.This course is a pass/not pass course Prerequisites: DHY-174 Principles of Dental Hygiene. Co-requisites: DHY-183 Dental Hygiene I Theory and DHY-209 Periodontology.

DHY-209
3.00
Periodontology
This course covers the initiation, development, pathogenesis, mechanism, etiology and process of periodontal disease that is fundamental to the clinical hygienist. Periodontology provides an in-depth study of the pathogenesis of periodontal disease. It presents the microscopic oral anatomy of the periodontium, plaque-induced and non-plaque induced diseases and the American Academy of Periodontology (AAP) classification of periodontal diseases, clinical characteristics, histopathology, and etiology of periodontal diseases. Special emphasis centers on the role of the immune system and host response to bacteria in the initiation and progression of periodontal disease, including risk factors associated with periodontal disease. Prerequisites: BIO-186 Microbiology with lab. Co-requisites: DHY-184 Clinical Dental Hygiene I.

DHY-224
1.00
Dental Materials
This course will cover the various materials used in restorative dentistry and other specialty areas in dentistry. Some of which are used to fabricate dental appliances and others for tooth restoration. Lecture and laboratory components will help students develop an understanding of the composition, properties, structure, and manipulative variables of dental materials historically used in dentistry as well as new materials and techniques that are rapidly evolving. Emphasis centers on practical application as well as clinical applications of materials and the need for educating patients regarding these materials along with the techniques for placement of materials in the oral cavity. Co-requisites: DHY-292 Clinical Dental Hygiene III.

DHY-233
2.00
Preventative Dentistry/Nutrition
This course focuses on preventing disease and nutrition's effect on oral health throughout the life cycle. It establishes the principles of counseling and emphasizes patient education and instruction in preventive dentistry necessary to maintain optimum oral health. Prerequisites: BIO-168 Human Anatomy and Physiology I w/ lab & BIO-173 Human Anatomy and Physiology II w/ lab and CHM-130 Introduction to Organic/Biological Chemistry & CHM-131 Introduction to Organic/Biological Chemistry lab.

DHY-253
1.00
Community Oral Health Rotations
This course allows the student to apply public health/health education principles through implementation and evaluation of the student's community dental health project and through participation in extramural rotations outside of the school setting. Emphasis is placed on students interacting with a variety of clients including children, the physically and mentally handicapped, indigent populations and geriatric groups. Prerequisites: DHY-256 Community Dentistry.

DHY-256
2.00
Community Dentistry
This course relates the concepts of dental public health and preventative dentistry, including principles of biostatistics, epidemiology, educational instruction, dental manpower and delivery systems. Students plan, implement and evaluate a community dental health project. Community Dentistry may include community service to be performed by the students. Prerequisite: DHY-280 Clinical Dental Hygiene II.

DHY-265
2.00
Current Dental Hygiene Practice
This course explores the integration of therapy and clinical experiences to the application of practice management of dental hygiene. It is designed to orient the student to the various office settings and each team member's role. This course will also help introduce the dental hygiene student the moral, legal and administrative challenges that can occur in the dental practice. Dental Hygiene is a licensed profession and are held accountable for their actions. This course will provide an introduction to various ethical theories, moral philosophy and reasoning. The American Dental Hygienists' Association Code of Ethics will provide a guide for the student in their daily practice. The governmental policy and employment regulations that impact the delivery of dental hygiene care will also be covered. Prerequisites: DHY-209 Periodontology.

DHY-278
2.00
Dental Hygiene II Theory
This course provides the continuing instruction and application of client education and clinical techniques. Dental Hygiene II is a continuation of clinical practices providing further instruction and application of patient education and oral prophylaxis techniques. Emphasis is placed on continued client assessment proficiency, instrumentation and radiographic skills with total over-all care of clients with simple to moderate patient classifications. Topics include mechanical scalers, air-polishing techniques, chemotherapeutics, endodontic pulp testing, sutures, intra-oral photography utilization. Pain control techniques are also covered including local anesthesia administration and nitrous oxide-oxygen inhalation analgesia. Prerequisites: DHY-183 Dental Hygiene I Theory.

DHY-280
3.00
Clinical Dental Hygiene II
This course continues the clinical practices providing further instruction and application of client education and clinical techniques. Emphasis is placed on continued client assessment proficiency, instrumentation and radiographic skills with total over-all care of clients with simple to moderate patient classifications. This is a pass/not pass course. Prerequisites: DHY-184 Clinical Dental Hygiene I.

DHY-292
5.00
Clincal Dental Hygiene III
This course expands clinical practices of client education and non-surgical periodontal therapy and maintenance and preventative therapies on more complex periodontal cases. Emphasis is placed on advanced instrumentation and radiographic skills, increase efficiency and effectiveness in assessment and communication providing comprehensive dental hygiene care to advanced cases. This is a pass/not pass course. Prerequisites: DHY-280 Clinical Dental Hygiene II. Co-requisites: DHY-221 Dental Materials.

DHY-293
2.00
Dental Hygiene III Theory
This course expands the processes of providing further instruction and application of client education and non-surgical periodontal therapy and maintenance and preventative therapies on more complex periodontal cases. Emphasis is placed on advanced instrumentation and radiographic skills, increase efficiency and effectiveness in assessment and communication providing comprehensive dental hygiene care to advanced cases. Topics will include polishing restorations, sexual harassment, substance abuse, completion of community projects and dental specialties. Prerequisites: DHY-279 Dental Hygiene II Theory.

DHY-302
5.00
Clinical Dental Hygiene IV
This course provides continued development of comprehensive care with emphasis placed on the ability to synthesize the instruction and techniques gained from the previous courses while providing comprehensive program exit-level competency for clients. Research principles are applied to facilitate growth as a professional and enhance clinical skills. This is a pass/not pass course. Prerequisites: DHY-292 Clinical Dental Hygiene III.

DHY-303
2.00
Dental Hygiene IV Theory
This course provides continued development of comprehensive care with emphasis placed on the ability to synthesize the instruction and techniques gained from the previous courses while providing comprehensive program exit-level competency for clients. Research principles are applied to facilitate the students' comprehension and ability to critique professional and scientific literature to continue to learn and grow as a professional and enhance clinical practice. Included in this course is baseline knowledge of Ethics as it relates to dental care issues, adult and child abuse and the legal aspects including the statutes, rules and regulations pertaining to the practice of dental hygiene in the state of Iowa. Prerequisites: DHY-293 Dental Hygiene III Theory.

DRA-101
3.00
Introduction to Theatre
This survey course overviews all the aspects of the theatrical process - from acting and directing to the historical development of the theatre. It is designed to develop in the student an understanding and appreciation of theatrical productions.

DRA-130
3.00
Acting I
This course offers training in the fundamentals of acting. It is a performance-based course which offers much individual and group practice on the basic techniques, including movement exercises, improvisation, concentration, imagination and some basic scene work.

DRA-132
3.00
Acting II
This course works beyond the fundamentals of acting covered in Acting I. There will be advanced improvisational technique, interpretation and characterization applied in scenes and plays, and attention to blocking choices and movement patterns in performance techniques. Prerequisite: Dra 130; or special instructor approval

DRA-154
3.00
Theatre Production
This hands-on course provides technical experience in the design and production process of a play or musical (as well as a series of smaller events) and includes a final project to be selected by the student with approval of the professor. All technical aspects of theatre will be covered in the class period and then implemented in the lab and required production hours.

DRA-254
3.00
Theatre Production II
This hands-on course provides more intensive technical knowledge and experience in the design and production process of plays, musicals, concerts, etc. and includes a group final project to be selected by the students with approval of the professor. Further study of the technical aspects of theatre, etc. will be covered in lecture during the class period and then individualized in the lab and required production hours. Pre-requisite: DRA-154 Theatre Production I

DRA-929
1.00
Individual Project
1,2,3,or4 credit hours. Highly motivated students may wish to work intensively on a creative or research project that is more advanced than the course offerings of the department in that area. The student should possess the necessary background, such as any pre-requisite classes, and should initiate an application for such study. A maximum of four hours may be earned. Permission from the faculty or staff member with whom the student wishes to work is required.

DSL-323
3.00
Intro to Diesel Technology
Intro to Diesel Technology will introduce students to the world of the diesel engine. It will get them familiar with the different engine manufactures and the different engine and power train systems used today. Shop safety and tools and fasteners of the diesel industry will be covered. Students will learn how to safely use shop equipment like jacks and presses. Shop skills like drilling, tapping, torching, and welding will be covered in the lab. Fine skills like precision measuring will be extensively covered.

DSL-357
3.00
Diesel Engines I
The Diesel Engines I course will provide students with the opportunity to learn the basic principles of diesel engine overhaul and service. Students will learn the basics of diesel engines.

DSL-358
3.00
Diesel Engines II
The Diesel Engines II course will provide students with some advanced diesel engine repair and trouble shooting skills

DSL-403
3.00
Electronic Engine Control I
The Electronic Engine Control I course will introduce electronic engine control systems and the components used on today's computer controlled engines.

DSL-413
3.00
Electronic Engine Control II
Electronic Engine Control II will utilize all major electronic diagnostic software. It will be used to trouble shoot and repair problems, and change software on engine ECMs for hourse power upgrades and service bulletin up dates. Students will use wiring schematics and rewire and trouble shoot electronically controlled engines. ABS brake systems and electronically controlled transmissions will also be covered.

DSL-426
3.00
Intro to Med. and Heavy Duty Electronics
Introduction to medium duty and heavy duty electronics will introduce students to the basics of electronic theory and concepts. Laws of electronics such as OHM's law will be covered in depth. Students will learn how to perform proper wiring repairs with solder and learn how to use voltage and amperage tools. The digital multi meter will be introduced and covered in depth on the proper uses and functions.

DSL-427
3.00
Adv. Med. & Hvy Duty Electronics
Advanced medium and heavy duty electronics will get students familiarized with the electronic components on trucks and equipment. Things like batteries, starters, and alternators will be covered in theory in the classroom. In the lab they will be disassembled and reassembled. Then using today's high tech testing methods and test equipment they will be performance tested. Students will learn how to use and read wiring schematics found today for equipment engines and chassis.

DSL-445
3.00
Diesel Fuel Systems
The Diesel Fuel Systems course will provide students with the basics of direct and indirect diesel injection systems. Students will learn the operation, troubleshooting and repair techniques associated with mechanical or electronic diesel injected fuel systems.

DSL-545
3.00
Power Train Maintenance & Syst Procedure
The Power Train Maintenance and Service Procedures course will provide students with the opportunity to learn the correct service procedures when working with clutches, transmissions and final drives components.

DSL-547
3.00
Ag Power Train
Ag and commercial power train will teach students the power train side of heavy duty equipment. Starting with gear fundamentals and various clutch designs. Manual transmissions, Power shift transmissions and hydrostatic transmissions will be covered. Track propelling systems and heavy duty differentials and final drives will also be covered.

DSL-615
3.00
Mobile Hydraulics Systems
The Mobile Hydraulics Systems course will cover the basics of hydraulic pump, piping control values, filtration and oil maintenance.

DSL-620
3.00
Semi Tractor Trailer Suspension & Align.
The Tractor Trailer Suspension Alignment course will provide students with the opportunity to learn how to service semi-tractor trailer suspension and laser alignment systems.

DSL-634
3.00
Service Tractor Trailer Pneumatic Brake
The Servicing Tractor Trailer Pneumatic Brake Systems course will provide students with the basics of pneumatic brake systems progressing up through anti-lock pneumatic tractor trailer brake systems.

DSL-743
3.00
AC & Refrigeration
The Air Conditioning and Refrigeration course will introduce students to the basics of heat pumps, the safe handling of refrigerant gases, gauge testing, gas reclamation, and preventative maintenance procedures.

DSL-804
3.00
Ag & Commercial Equipment Maintenance
Ag and commercial maintenance will teach students how to maintain agricultural and commercial heavy duty equipment. Things from oil changes, hydraulic repair, heavy duty electrical starting systems and general maintenance will be covered at first. Then a more in-depth coverage of heavy duty track systems, final drives and PTOs will be covered.

DSL-835
2.00
Commercial Drivers License
The Commercial Drivers License course will provide students with the opportunity to obtain their CDL License.

DSL-838
3.00
Diesel Auto Systems
The Diesel Automotive Systems course will provide students with the opportunity to learn to work on and service diesel powered automobiles.

DSL-840
3.00
Diesel Operations and Maintenance 1
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.

DSL-841
3.00
Diesel Operations and Maintenance II
The Diesel Operations and Maintenance II course will provide students with the opportunity to use all of the information learned in Diesel Operations and Maintenance I and apply it to a real shop setting.

DSL-850
3.00
On-Board Communication Systems
The On-Board Communication Systems course will provide students with knowledge of the internal and external communication systems utilized in today's over the road tractor trailer units.

DSL-932
4.00
Internship in Diesel Mechanics
The Internship in Diesel Mechanics course will allow students to experience working in a repair shop under the supervision of an experienced diesel mechanic.

DSL-949
1.00
Spec Top: Diesel
This course, usually offered on a limited basis only, provides an in-depth study on a topic of general interest pertaining to this department.

ECE-102
2.00
Introduction to Child Care Services
Introduction to Child Care Services is an introductory training curriculum designed to help the child care provider with little or no previous training to learn how to offer high-quality child care services.

ECE-810
2.00
Child Development Associate Portfolio
Students will either work in their own child care setting or for one that is either Head Start or Early Head Start or one that is approved by the instructor. The student will arrange a qualified advisor to observe and record the observation instrument. The student will arrange to be the teacher that day. In the correct setting the student will be applying for the CDA credential. The student will write an autobiography, activities they would provide to accomplish the Child Development Associate Competency goals.

ECN-120
3.00
Principles of Macroeconomics
This course is an introduction to the general field of economics, description and analysis of the American economic system, national income accounting, modern employment theory, fiscal policy, monetary policy and economic growth.

ECN-130
3.00
Principles of Microeconomics
This course examines the economics of the firm and resource allocation, current domestic economic problems, international economics, and comparative economic systems including the underdeveloped countries.

EDU-115
4.00
Education and the Teaching Process
The course is a study of general classroom methods and problems, the learning process and the role of the teacher. It provides for practical applications of educational concepts through both observation and participation in classroom situations. The course includes two hours of lecture and discussion and four hours of field experience per week.

EDU-120
2.00
Communication, Ethics & Confidentiality
Participants will develop skills and strategies to enhance communication and examine situations where professionalism, ethical standards, and confidentiality will guide the correct course of action when working with colleagues, students, parents and others.

EDU-121
2.00
Behavior Improvement
Participants will develop skills and strategies to support a safe, positive teaching and learning environment; assist in the development of physical and intellectual growth; and support social, emotional, and behavioral development.

EDU-122
2.00
Roles and Responsibilities
Participants will develop skills and strategies to support a safe, positive teaching and learning environment; assist in the development of physical and intellectual growth; become part of a team approach to interventions; and integrate technology effectively to support student learning.

EDU-213
3.00
Introduction to Education
This course is an appraisal of the teaching profession, the work and certification of teachers including administrative organization, instructional procedures and contemporary problems at both elementary and secondary levels. A survey of the historical and sociological foundations of education is made.

EDU-235
3.00
Children's Literature
This course includes a study of the history of children's literature, the place of literature in the lives of children, authors and illustrators, storytelling and trends. It also surveys children's books and evaluates both books and illustrations in terms of criteria for good literature.

EDU-255
3.00
Technology in the Classroom
In this course students will become members of a TLC (Technical Learning Community) comprised of 1-5 education majors and 1 K-12 and 1 Iowa Central teacher/mentor. Students will: 1. Study and discuss Best Learning Practices using online streaming video data bases and the textbook. 2. Learn the roles of educational media and computers in the teaching/learning process, using the text and the National Educational Technology Standards for Teachers (NETS) as a guide, 3. Operate, select, prepare, utilize, and evaluate media and computer software for educational use, and 4. Using what they have learned, create or revise a real life learning lesson or unit and help implement it in their mentor's classroom for the purpose of improving student achievement.

EDU-949
1.00
Special Topics
This course, offered usually on a one-time basis only, provides an in-depth study on a topic of general interest pertaining to this department.

EGT-400
3.00
PLTW-Introduction to Engineering Design
This course is an introduction to the elements of Engineering Design. Students will learn the history of design, design process, sketching and visualization, geometric relationships, and modeling. Elements of manufacturing production, marketing, analysis, and quality control will also be studied. Students will learn presentation techniques and develop a portfolio.

EGT-410
3.00
PLTW-Principles of Engineering
This course is an introduction to the opportunities and responsibilities of Engineering. Students will learn the fields of Engineering, and explore Engineering Careers. They will complete projects from areas such as Design, Engineering Systems, Thermodynamics, Fluid Systems, Electrical and Control Systems, Strength and Properties of Materials, and Production Process and Quality Control.

EGT-420
3.00
PLTW-Digital Electronics
This course is an introduction to Digital Electronics. Students will learn basic lab safety, electron theory, Ohm's and Kirchhoff's Laws, logic, number systems, binary addition and Boolean Expression applications. Students will design construct, troubleshoot and evaluate design problems, and will present oral reports of their results. Students will also study PLD's, Flip-Flops, microprocessors, and shift registers and counters.

EGT-450
3.00
PLTW-Computer Integrated Manufacturing
This course enhances computer modeling skills by applying principles of robotics and manufacturing automation to the creation of models of three-dimensional designs. Prerequisites: EGT 400 and EGT 410 are recommended, but not required.

ELE-104
1.00
Print Reading & Estimating
This course is designed to increase the proficiency of the student in the making of a material take off sheet from a print. The student will also be introduced into common building and electrical symbols.

ELE-111
3.00
AC Fundamentals
This course will build upon the concepts covered in DC Fundamentals with the addition of inductance, capacitance, and impedance. Emphasis will be on true and apparent power, power factor analysis and correction, mutual inductance, transformers, power supplies and three phase power.

ELE-114
3.00
DC Fundamentals
This introductory course will begin with the topics of Direct Current and Alternating Current (AC) fundamentals, electrical safety, VOM meter use, oscilloscope use, scientific notation, metric prefixes, Ohm's Law to solve series circuits, parallel circuits and series-parallel circuits. Electrical Symbols and schematic diagrams along with standard electrical prints will be introduced.

ELE-124
2.00
Tools/Adapters/Instrumentation
This class will introduce the student to basic hand and power tools for the electrician. The course will also introduce the student to types of metering tools, how to electrically troubleshoot different types of industrial equipment, and job site safety.

ELE-149
2.00
Ul and Electrical Safety
This class will introduce the student to the use of the UL White Book. The student will be instructed in the proper methods for electrical safety. The student will be instructed in the use of NFPA 70E electrical safety book and the requirements for arc flash protection.

ELE-155
2.00
National Electrical Code I
This course will introduce students to the National Electrical Code (NEC), Occupational Safety Health Administration (OSHA), and local building codes. Students will learn the correct terminology and correct wiring requirements to conform and establish safe electrical wiring procedures.

ELE-156
2.00
National Electric Code II
This course will expand on the principals introduced in National Electric Code I. The student will learn the principles of the approved wiring methods, boxes, service installations, feeder installations, introduction to grounding, & bonding, conductor properties, raceways, motor installations.

ELE-158
2.00
National Electric Code III
This course will expand on the principals introduced in National Electric Code 2. The student will learn a more in-depth way to perform service and feeder calculations. The student will explore requirements for special locations and special equipment. The student will also be introduced into preparing for licensing exams.

ELE-162
1.00
Basic Wiring
This course will provide wiring regulations and practices for residential wiring as presented by the National Electrical Code, state and local building codes.

ELE-164
2.00
Residential Wiring
This course will provide wiring regulations and practices for residential wiring as presented by the National Electrical Code, state and local building codes.

ELE-167
3.00
Industrial Electrical Systems
The Industrial Electrical Systems course will provide students with the essentials of industrial electrical system installation and troubleshooting. Students will study electrical safety, installation and design of electrical systems, conduit bending practices, industrial electrical diagrams, transformers and power distribution systems.

ELE-170
2.00
Power Distribution
This course will provide students with hands on experiences in electrical power distribution. Students will connect, construct and troubleshoot electrical systems consisting of transformers and power distribution panels. All wiring activities will be done in accordance with National Electrical Code and safety procedures will be stressed to comply with OSHA requirements.

ELE-187
4.00
Advanced Industrial Electrical Systems
The advanced Industrial Electrical Systems course will provide students with the essentials to install and maintain electrical systems related to industry in today's environment. Students will receive hands-on training. Electrical safety practices, installations, repair, maintenance, and preventative maintenance will be the emphasis of study.

ELE-195
3.00
Motor Control
This course will provide students with experiences related to electric motors, motor controls and relay logic in an industrial environment. Students will learn to apply ladder logic diagrams to install, maintain and troubleshoot motors and motor control circuits. Students will learn how to troubleshoot direct and alternating current motors and their control circuits. Motor replacement requirements are covered along with the NEC as it applies to motor circuits.

ELE-198
2.00
Solid State Motor Controls
This course will provide students experiences installing and maintaining systems with solid-state motor control devices. Students will install, program and troubleshoot systems with variable frequency drives, soft start motor starters, and solid-state motor control devices.

ELE-204
2.00
Programmable Logic Theory
This course will provide students with experiences related to Programmable Logic Controllers. Emphasis will be given on the Allen Bradley SLC 500, RSLinx, and RS500 software. Students will identify and install hardware and software associated with Programmable Logic Controllers. Students will create, edit, and apply instruction sets to programs and also learn how to troubleshoot problems using a PLC.

ELE-205
2.00
Advanced Programmable Controllers
Students will apply advanced instruction sets including analog input and output sequencers, subroutines, and message instructions. Data manipulation and file structure will also be covered.

ELE-206
2.00
Networking PLC's
This course will provide students with hands-on experiences installing and maintaining programmable logic controller networks. Emphasis will be on the Allen Bradley DH485, DH+, and Ethernet networks.

ELE-221
3.00
Instrumentation & Control
Students will learn the basics of closed and open loop industrial process control systems. Emphasis will be placed on the analog input of transducer-based sensors, analog signal conditioning, opto-isolation and thyristor and relay power control circuitry.

ELE-245
4.00
Integrated Motion Control & Robotics
This course will introduce students to touch screen graphic displays, PLC motion instructions, and 6-axis robotic equipment used in many aspects of industry. In addition to learning proper wiring and installation practices, the students will create graphics programs, PLC programs, and robotic programs, which will be used to operate integrated multi-axis motion systems, for hands-on experience in robotic automation.

ELE-932
4.00
Internship
The student will be able to apply classroom instruction in a real world industrial environment.

ELE-949
1.00
Spec Top: Electrical
This course, usually offered on a limited basis only, provides an in-depth study on a topic of general interest pertaining to this department.

EMS-113
3.50
Emergency Medical Responder
This course is a combined lecture/lab course which has been developed by the United States National Highway Traffic Safety Administration. The course follows the January 2009 National Emergency Medical Services Education Standards for the Emergency Medical Responder (EMR). This course emphasizes patient assessment and patient care procedures at the Emergency Medical Responder level. Patient assessment is introduced early and is reinforced with each new skill learned. Instruction is related to entry-level patient assessment in areas of basic life support, cardiac arrest, trauma, and medical emergencies. Skills practice sessions are scheduled throughout the program to provide an opportunity for students to apply the new skills they learn and to reinforce previous skills. Upon successful completion of the course students are eligible for National Registry of EMTs testing at the Emergency Medical Responder level. Prerequisite: Must be 17 years of age at time of enrollment and possess a valid driver's license. Current BCLS recognition at the Healthcare Provider (American Heart Association) or Professional Rescuer (American Red Cross) level is required prior to certification testing.

EMS-200
8.00
Emergency Medical Technician
This course is a combined lecture/lab/clinical course which has been developed by the United States National Highway Traffic Safety Administration. The course follows the January 2009 National Emergency Medical Services Education Standards for the Emergency Medical Technician (EMT). This course provides the student an opportunity to supply cognitive knowledge and psychomotor skills in the classroom, hospital, and pre-hospital setting. Students receive a letter grade for the classroom and lab portions of the course. The clinical portion is graded on a pass/fail basis. Instruction is related to patient assessment in areas of basic life support, cardiac arrest, trauma, and medical emergencies. Students must complete a minimum of 32 hours of clinical/field time to successfully complete the course. Upon successful completion of this course students will be eligible to take National Registry of EMTs certification testing at the Emergency Medical Technician level. Students will be required to undergo a national criminal background check and State of Iowa child/adult abuse registry check prior to clinical rotations. Mandatory reporter training and a health physical are required prior to starting clinical/field rotations. The cost of obtaining these requirements is in addition to course tuition and fees. Information on how to satisfy these requirements will be distributed the first night of class. Prerequisite: Must be 17 years of age at time of enrollment and possess a valid driver's license. Current BCLS recognition at the Healthcare Provider (American Heart Association) or Professional Rescuer (American Red Cross) level is required prior to starting class.

EMS-760
9.00
NSC Paramedic 1
This course is designed to prepare the student for the paramedic level as outlined by the 2009 National EMS Education Standards for the Paramedic. The student is introduced to the paramedic career field. Concepts taught include medical/legal considerations, the roles and responsibilities of the paramedic, anatomy and physiology, patient assessment techniques, pharmacology, and life span development. Students will complete a 90 hour clinical experience in outpatient surgery and emergency departments. Students must be currently certified at the EMT or higher level, be at least 17 years of age, have a high school diploma or equivalent, be able to speak, write, and read English, and hold a current course completion card in CPR prior to starting NSC Paramedic 1. Prerequisites - EMS 200 EMT, HSC 113 Medical Terminology, BIO 168 Human Anatomy and Physiology 1 with lab *NSC = National Standard Curriculum.

EMS-761
9.50
NSC Paramedic 2
This course is a continuation of NSC Paramedic 1. Pulmonology, advanced airway management, cardiology, and neurology will be discussed. Students will complete a 150 hour clinical/field experience in the hospital/pre-hospital setting. Clinical shifts will be performed in the operating room, emergency department, coronary care department, respiratory therapy department, and ambulance (following the ACLS class). Prerequisite - EMS 760 NSC Paramedic 1 Co-requisite - EMS 810 Advanced Cardiac Life Support *NSC = National Standard Curriculum.

EMS-762
6.50
NSC Paramedic 3
This course is a continuation of NSC Paramedic 1 and 2. Head, ear, eye, nose, and throat disorders, endocrinology, immunology, gastroenterology, renal/urology, medical musculoskeletal disorders, cutaneous, toxicology, hematology, and infectious/communicable diseases will be discussed. In addition students will discuss environmental emergencies, thoracic drainage systems, collagen vascular diseases, basic blood chemistries, central line monitoring and patients with agitated delirium. Students will complete 90 hour clinical experience in the hospital and pre-hospital setting. Clinical emphasis will be devoted to the emergency department and intensive care unit. *NSC = National Standard Curriculum Prerequisites - EMS 761 NSC Paramedic 2 and EMS 810 Advanced Cardiac Life Support Course *NSC = National Standard Curriculum.

EMS-763
9.50
NSC Paramedic 4
This course is a continuation of NSC Paramedic 1 - 3. Behavioral emergencies, gynecological emergencies, obstetrics, neonatology, pediatrics, geriatrics, abuse, and special patient populations will be discussed. Students will learn how to effectively manage a multiple casualty incident, gain Haz-Mat awareness, how to safely and effectively transport their patient, how to operate at a crime scene, and gain rescue awareness. Students will perform 120 hours of clinical time in the hospital setting. Clinical experiences will be gained in the emergency department, intensive care unit, coronary care unit, pediatric department, labor and delivery department, and psychiatric department. Students will be expected to perform a 30 hour field internship on an ambulance or fire based EMS service. Prerequisite - EMS 762 NSC Paramedic 3 Co-requisite - EMS 815 Pediatric Advanced Life Support *NSC = National Standard Curriculum.

EMS-764
8.50
NSC Paramedic 5
This course is a continuation of NSC Paramedic 1 - 4. Trauma and assessment based management will be discussed. Students will perform a 120 hour field internship with ambulance services and fire based EMS. During the latter half of the course students will review previous course content and practice NREMT practical skills stations in preparation for the NREMT-Paramedic practical and written exams. Prerequisites - EMS 763 NSC Paramedic 4 and EMS 815 Pediatric Advanced Life Support course. Co-requisite - EMS 820 Prehospital Trauma Life Support *NSC = National Standard Curriculum.

EMS-810
1.00
Advanced Cardiac Life Support
This course is designed to provide the student with advanced emergency cardiovascular knowledge and skills. Treatment protocols will be based on the current American Heart Association guidelines. Completion of a cardiac dysrhythmia course is highly recommended. If a cardiac dysrhythmia course has not been taken students must seek approval from EMS coordinator prior to taking this course. This course is offered pass/fail. Prerequisites - PS or EMT-P certification, RN licensure, Respiratory Therapist or completion of NSC Paramedic 1 (EMS 760)

EMS-815
1.00
Pediatric Advanced Life Support
This course is designed to provide the student with the knowledge and skills necessary to care for newborn and pediatric patients in emergency medical situations. Treatment protocols will be based on the current American Heart Association guidelines. This course is offered pass/fail. Prerequisites - PS or EMT-P certification, RN licensure, Respiratory Therapist or completion of NSC Paramedic 3 (EMS 762)

EMS-820
1.00
Prehospital Trauma Life Support
This course is designed to provide the student with the knowledge and skills necessary to care for patients in emergency trauma situations. The course is based on the current National Association of Emergency Medical Technician's Pre-hospital Trauma Life Support (PHTLS) curriculum. This course is offered pass/fail. Prerequisites - EMT or higher EMS certification or RN licensure

ENG-025
4.00
Basic Writing
This course teaches basic grammar and writing skills, punctuation, spelling, sentence structure, and paragraph structure. The student will be able to write one or two pages on one main idea. The course also covers basic study skills, time management, job-seeking skills, and an introduction to library skills. The course includes individual work and prepares the student for ENG 101 and ENG 105. This course does not meet graduation credit requirements for certificate, diploma, general studies, or associate degree programs.

ENG-096
5.00
Fundamentals of Writing
This course will help students develop their grammar skills based on their individual needs in order to prepare them for ENG-105. More comprehensive than Elements of Writing (ENG 101), Fundamentals of Writing will also help students learn and improve their basic writing, research, and documentation skills with an emphasis of sentence, paragraph, and essay development. Also, covered in class are basic study and reading skills, time management techniques, job-seeking skills, and an introduction to library skills. The course wraps up with a POST-COMPASS or equivalence exam. This course does not meet graduation credit requirements for certificate, diploma, general studies, or associates degree programs. Mandatory Placement Levels: ASSET: 23-34; COMPASS: 0-37; ACT: 0-13

ENG-100
4.00
English Block
This is not an English course, scores missing.

ENG-101
3.00
Elements of Writing
This course will help students develop their writing and critical thinking skills in order to prepare them for ENG-105. Elements of Writing will also provide opportunities for the improvement of oral expression and will help students learn and improve research and documentation skills with an emphasis of sentence, paragraph, and essay development. Also, covered in class are basic study and reading skills, time management techniques, job-seeking skills, and an introduction to library skills. The course wraps up with a POST-COMPASS or equivalence exam. Mandatory Placement Levels: ASSET: 35-39; Compass: 38-64; ACT: 14-17

ENG-105
3.00
Composition I
This course focuses on the process of writing expressive and informative prose, incorporating oral, visual and electronic modes. It introduces research skills and critical thinking skills.

ENG-106
3.00
Composition II
This course is a continuation of ENG-105 with advanced work in research techniques. The major focus is on persuasive and argumentative writing incorporating oral, visual, and electronic modes with an emphasis on critical thinking skills. Prerequisite: ENG-105 Composition I with a "C" grade or better.

ENG-111
3.00
Technical Writing
This course develops basic skills in technical writing using electronic and print media for writing both formal and informal documents.

ENG-221
3.00
Creative Writing
This course will cover the essentials of three creative writing genres: the short story, poetry and its elements, and creative non-fiction. Students will review various examples of professional authors and will produce their own creative work.

ENG-949
1.00
Special Topics
1,2,3, or 4 credit hours. This course, offered usually on a limited basis, provides an in-depth study on a topic of general interest pertaining to this department.

ENV-131
1.00
Environmental Science/Future Alternative
This is a five week interdisciplinary course that examines the future alternatives for survival on this planet. Solutions to environmental problems are discussed. Special emphasis is given to land use options, species diversity, energy usage, habitat loss and water as a resource. This course satisfies a general education requirement in the Math/Science area. Five weeks.

ENV-133
1.00
Environmental Sci/Population Problems
This is a five-week interdisciplinary course covering the dynamics of human population growth. Characteristics of population growth will be examined. Global, U.S. and Iowa population trends will be studied. Crises and conflicts centering around population growth and its threat to the environment will be analyzed. This course satisfies a general education requirement in the Math/Science area. Five weeks.

ENV-135
1.00
Environmental Science/Pollution Problems
This is a five-week interdisciplinary course that covers major topics in pollution. These include the fundamentals of air, water and soil contamination. An emphasis is given to ozone depletion, global warming, acid rain, toxic waste, pesticides, eutrophication and groundwater contamination. Current pollution problems are also discussed. This course satisfies a general education requirement in the Math/Science area. Five weeks.

ENV-136
2.00
Energy, Resources, and the Environment
This is an introduction to how energy has been utilized since the dawn of the Industrial Age and its impact on society. The course will focus on how fossil fuels (oil, natural gas, coal) have shaped modern civilization and how dwindling supplies and greater demand present economic, political and environmental issues for future generations. The environmental impacts and possible solutions of these concerns will be explored.

ENV-148
3.00
Intl. Perspective on Sustain Energy
This course is intended to provide an international perspective on energy and its use. Students will travel to Denmark to study and compare that countries approach to energy use with that of the United States. The international oil Cartel embargo of the 1970's demonstrated how dependent western economies were on imported oil. This course is intended to compare how other governments have dealt with their energy needs since the 1970's. Areas of comparison will include: energy use, energy waste, energy production, energy an the environment and the economics of energy. Course participants will be expected to observe Danish culture while living with a Danish host-family for approximately two weeks. The course will include a pre and post component of study at the student home college to enhance and reinforce the Danish experience. College level reading, writing and mathematics skills are required.

ENV-175
2.00
Introduction to Photovoltaics
This course uses a combination of lecture and lab to teach the basics of solar electric systems. Students will learn how photovoltaic (PV) systems work, diagram the four PV system types, describe and identify components, understand the best application and limitations of each system type, define the solar window, estimate system loads, and calculate overall system costs.

ENV-182
2.00
Energy Efficient Concepts
This course will give students an understanding of how a residence uses energy and how to reduce its energy consumption. The students will learn how to identify areas of strength and weakness in the energy efficiency of doors, windows, walls, basements, and attics by conducting an energy audit and how to remediate deficiencies with proper insulation and ventilation. Students will explore energy efficient appliances, materials, mechanical and electrical systems common to energy efficiency upgrades, and their associated installation.

ENV-186
3.00
Advanced Photovoltaics
This course uses lecture and hands-on classroom activities to teach the basic principles of PV system design and installation. Students will design and select PV components and interpret NEC codes that pertain to system installation. Students will also learn system sizing and layout, battery connections, safety, and basic installation techniques. Students will size, connect, and test a small stand-alone system and a utility interactive system.

ENV-189
2.00
Solar Pv & Res Hot Water Site Assessment
Students will learn how to perform a PV site assessment for a home or small business. The course will cover site assessment tools, load analysis, energy efficiency recommendations, array placement options, basic system sizing, cost estimates, and evaluating existing infrastructure on site. Participants will learn how to access online tools for solar resource analysis, PV system performance calculators, and incentives. Successful completion of this course and a passing grade on the MREA Site Assessment Exam will earn the student an MREA Site Assessment Certificate.

ENV-201
2.00
Wind Turbines
The Wind Turbines course will introduce students to the types of wind turbines, their development and their current status will be presented. The evolution of current models/sizes offered by existing companies will be traced from earlier models/sizes. The operating experiences, track record and number of turbines in operation will be evaluated for the major players in the industry. Students will be expected to carry out research and present reports on selected turbines or wind turbine manufactures.

ENV-377
3.00
Sustainable Heating Systems
This course will provide students with experiences installing and maintaining sustainable energy heating systems. Systems will include Geothermal, Solar Hot Water, and Boilers & HVAC equipment.

ENV-932
4.00
Internship
Students will work on-site at a local industry with supervision.

ENV-949
2.00
Special Topic
This course, usually offered on a limited basis only, provides an in-depth study on a topic of general interest pertaining to this department.

ESL-265
4.00
English As a Second Language
This is a basic English course for those whose native language is not English. The emphasis is oral and written communication. The course is designed for those students who score in Elements of Writing. This class meets daily.

ESL-266
4.00
English As a Second Language 2
This is a continuation of ESL-265. Emphasis is on oral communication, basic grammar, vocabulary building and writing skills. This class meets daily.

FIR-124
3.00
Building Construction
This course provides the components of building construction that relate to fire and life safety. The focus of this course is on firefighter safety. The elements of construction and design of structures are shown to be key factors when inspecting buildings, preplanning fire operations, and operating at emergencies. Prerequisites: FIR-127 Fire Behavior and Combustion or coordinator approval.

FIR-127
3.00
Fire Behavior and Combustion
This course explores the theories and fundamentals of how and why fires start, spread, and how they are controlled.

FIR-144
4.50
Fundamentals of Fire Fighting
This course provides information and skills needed to meet the fire-related performance objectives in NFPA 1001, Standard for Fire Fighter Professional Qualifications, Fire Fighter I.

FIR-145
3.00
Fire Strategies and Tactics
This course provides an in-depth analysis of the principles of fire control through utilization of personnel, equipment, and extinguishing agents on the fire ground.

FIR-149
3.00
Fire Protection Hydraulics and Water
This course provides a foundation of theoretical knowledge in order to understand the principles of the use of water in fire protection and to apply hydraulic principles to analyze and to solve water supply problems. Prerequisites: FIR-152 Fire Protection Systems or coordinator approved.

FIR-152
3.00
Fire Protection Systems
This course provides information relating to the features of design and operation of fire detection and alarm systems, heat and smoke control systems, special protection and sprinkler systems, water supply for fire protection and portable fire extinguishers.

FIR-180
3.00
Chemistry of Hazardous Materials
This course provides basic fire chemistry relating to the categories of hazardous materials including problems of recognition, reactivity, and health encountered by firefighters.

FIR-200
3.00
Occupational Safety/Health in Emerg Serv
This course introduces the basic concepts of occupational health and safety as it relates to emergency service organizations. Topics include risk evaluation and control procedures for fire stations, training sites, emergency vehicles, and emergency situations involving fire, EMS, hazardous materials, and technical rescue. Upon completion of this course, students should be able to establish and manage a safety program in an emergency service organization.

FIR-213
3.00
Principles of Emergency Services
This course provides an overview to fire protection; career opportunities in fire protection and related fields; philosophy and history of fire protection/service; fire loss analysis; organization and function of public and private fire protection services; fire departments as part of local government; laws and regulations affecting the fire service; fire service nomenclature; specific fire protection functions; basic fire chemistry and physics; introduction to fire protection systems; introduction to fire strategy and tactics.

FIR-214
3.00
Legal Aspects of Emergency Services
This course introduces the Federal, State, and local laws that regulate emergency services, national standards influencing emergency services, standard of care, tort, liability, and a review of relevant court cases.

FIR-221
3.00
Fire Prevention
This course provides fundamental information regarding the history and philosophy of fire prevention, organization and operation of a fire prevention bureau, use of fire codes, identification and correction of fire hazards, and the relationships of fire prevention with built-in fire protection systems, fire investigation, and fire and life-safety education.

FIR-226
3.00
Fire Administration I
This course introduces the student to the organization and management of a fire department and the relationship of government agencies to the fire service. Emphasis on fire service leadership from the perspective of the company officer.

FIR-235
3.00
Fire Investigation I
This course is intended to provide the student with the fundamentals and technical knowledge needed for proper fire scene interpretations, including recognizing and conducting origin and cause, preservation of evidence and documentation, scene security, motives of the firesetter, and types of fire causes. Prerequisites: FIR-127 Fire Behavior and Combustion, FIR-213 Principles of Emergency Services, FIR-221 Fire Prevention, FIR-124 Building Construction, FIR-200 Occupational Safety/Health in Emergency Services or coordinator approved.

FIR-236
3.00
Fire Investigation II
This course is intended to provide the student with advance technical knowledge on rule of law, fire scene analysis, fire behavior, evidence collection and preservation, scene documentation, case preparation and testifying. Prerequisites: FIR-235 Fire Investigation I or coordinator approval.

FLC-141
4.00
Elementary Chinese I
This is a basic course in Chinese. Attention is given to the essentials of structure and vocabulary.

FLC-142
4.00
Elementary Chinese II
This is a continuation of FLC 141. Further attention is given to the essentials of structure and vocabulary.

FLG-141
4.00
Elementary German I
This is a basic course in German. Attention is given to the essentials of structure and vocabulary.

FLG-142
4.00
Elementary German II
This is a continuation of FLG 141. Further attention is given to the essentials of structure and vocabulary.

FLG-241
4.00
Intermediate German I
This course is a review of the basic elements of the German language. There is intensive practice in oral communication and listening comprehension, using the audio-tutorial approach.

FLG-242
4.00
Intermediate German II
This is a continuation of FLG 241. Intensive practice is continued in oral communication and listening comprehension.

FLS-110
3.00
Spanish Professionals: Law Enforcement
1, 2 or 3 credits. This course is a beginning Spanish course designed to provide the basic vocabulary used in a particular profession. Culture as it applies to the profession will be a part of the course.

FLS-111
2.00
Spanish Professionals: Health
1,2 or 3 credits This course is a beginning Spanish course designed to provide the basic vocabulary used in a particular profession. Culture as it applies to the profession will be a part of the course.

FLS-141
4.00
Elementary Spanish I
This is a basic course in Spanish. Attention is given to the essentials of structure and vocabulary.

FLS-142
4.00
Elementary Spanish II
This is a continuation of FLS 141. Further attention is given to the essentials of structure and vocabulary.

FLS-241
4.00
Intermediate Spanish I
This course reviews the basic elements of the Spanish language. There is intensive practice in oral communication and listening comprehension.

FLS-242
4.00
Intermediate Spanish II
This is a continuation of FLS 241. Intensive practice is continued in oral communication and listening comprehension.

FLS-271
4.00
Advanced Spanish I
Assignments in the Advanced Spanish I course apply grammar concepts in the development of writing and reading skills within the context of Hispanic culture. Students have weekly reading and writing assignments which enhance their knowledge of Hispanic culture. Grammar concepts and usage are observed in the readings and integrated into the requirements of the writing assignments. All readings are taken from authentic materials. These include short stories, publications such as AMERICAS, Hispanic newspapers (from the web), and authentic sites on the web. Prerequisite: FLS 242 Intermediate Spanish II or 4 years of high school Spanish

FLS-272
4.00
Advanced Spanish II
This course is a continuation of FLS-271. The emphasis is on advanced study of structure through conversation and composition. Study units are drawn from the culture and civilization of the Spanish speaking world using authentic materials

FLS-948
2.00
Special Projects
1, 2 or 3 credits This course is open to students showing satisfactory preparation for topics chosen. It involves in-depth study, conferences and preparation of reports. A student must initiate the request for a special project course.

FLS-949
3.00
Special Topics
1, 2 or 3 credits This course, offered usually on a limited basis only, provides an in-depth study on a topic of general interest pertaining to this department

GEO-121
3.00
World Regional Geography
This introductory course in world geography acquaints the student with spatial relationships that exist between people, their culture, their environment, and places on earth.

GRA-102
2.00
Graphic Design Seminar
Students will utilize critical thinking skills in the discovery and implementation of graphic design. Students will compare and contrast both inside and outside pieces of design work and analyze the concepts used.

GRA-107
3.00
Introduction to Graphics Technology
Students will develop an understanding of the issues involved in the many facets of digital graphic industries. Students will evaluate what resolution to use when scanning artwork, manipulating images and displaying artwork to different electronic and printed media. Students will also become familiar with the language and terms commonly used in graphics and associated fields.

GRA-111
2.00
Vector Graphic I
Build a working knowledge of Adobe Illustrator, the graphic world's premier vector program for creating meticulous and scalable art. Course projects explore text and gradient tools, drawing tools, transforming and distorting objects, working with patterns, brushes and more. Create portfolio projects.

GRA-115
2.00
Vector Graphic II
Build on basic Illustrator skills to gain a working knowledge of Adobe Illustrator's advanced features. Learn how to create illustrations and designs using features from filters and blends to gradient meshes, transparency, effects and symbols. Develop portfolio-building projects. Prerequisite: Vector Graphics I or instructor permission.

GRA-158
3.00
Web Multimedia
Adobe Premiere is a digital video application used to create high quality videos for CD or web application. In this course you will learn to import video into Premiere and edit it to create short digital videos. Learn to add transitions, sound and text to your video.

GRA-166
3.00
Web Animations
Macromedia Flash is the leading tool for designing vector graphics and interactive multimedia for the Web. In this hands-on course, students will become skilled at the basics of drawing, tweening, and animating vector graphics. Become competent in creating rich web-user experiences such as user interfaces, navigation systems and complete websites that include images, text, animations, sound, and video.

GRA-176
3.00
Layout Design I
Whether it's a poster, brochure or Web page, a great layout communicates effectively. Master the basics of layout using Adobe InDesign, the latest environment for designing professional layouts. Prepare, package and export documents for print. Create portfolio-building projects in a hands-on environment.

GRA-177
2.00
Layout Design II
Work on advanced layout projects using the increasingly popular layout and production tool Adobe InDesign. Gain skill in working with transparency, tabs and tables. Explore advanced techniques in creating effective communication pieces. Prerequisite: GRA-112 Layout Design 1 or instructors permission

GRA-949
1.00
Graphics Tech Special Topics
This course, usually offered on a limited basis only, provides an in-depth study on a topic of general interest pertaining to this department.

HCA-151
3.00
Oveview of Health Care
This course will explore the career field as it relates to health care. Items covered in class will include identifying components of health care system in the U.S., quality, size, scope and business functions of health care. The student is introduced to different sectors of health care.

HCA-153
3.00
Career Opportunities in Health Care
This course allows the student the opportunity to explore the professional opportunities related to health care. Students who complete this course will be able to identify leadership styles and skills, human resource issues, recruitment strategies, compensation practices, and various health care professions.

HCA-155
3.00
Technology and Health Care
This course will examine the informational technology used in health care. Students will be able to define the implications, efficiency and effectiveness of technology, and identify the evolution of technology. Past, current and future issues relating to technology will be discussed.

HCA-157
3.00
Health Care and Economics
This course provides students an overview of economics and how it affects health care. Items such as financing systems, products and the costs associated with health care will be examined.

HCA-159
3.00
Financial Matters in Health Care
This course provides students with the general principles of the financial aspects of the health care professionals. Students will be able to define financial terminology, understand budgeting and cost analysis, payment methods for services and understand the responsibilities of financial management. Current issues of building a budget will be examined.

HCA-161
3.00
Legal Issues in Health Care
This course will discuss the legal and ethical issues dealing in health care. The intent of the course is to clarify legal issues that might approach health care professionals. Students will be able to define negligence, malpractice and understand the importance of confidentiality.

HCM-108
3.00
Safety and Sanitation
Principles and methods of sanitation safety and equipment. Equipment selection and facilities planning. Also includes preventive maintenance.

HCM-128
2.00
Basic Baking and Lab
This course offers instruction in the baking fundamentals and procedures as applied to bread, rolls, cakes, and cake decorating. Practical experience in sanitation, safety and the use of large equipment is also emphasized in this course.

HCM-129
2.00
Advanced Baking and Lab
This course offers instruction in the advanced baking fundamentals and procedures as applied to bread, rolls, cakes, and cake decorating. Practical experience in sanitation, safety and the use of large equipment is also emphasized in this course.

HCM-131
2.00
Basic Pastry and Lab
This course offers instruction in the baking fundamentals and procedures as applied to pastries. Practical experience in sanitation, safety and the use of large equipment is also emphasized in this course.

HCM-132
2.00
Advanced Pastry and Lab
This course offers instruction in the advanced baking fundamentals and procedures as applied to pastries. Practical experience in sanitation, safety and the use of large equipment is also emphasized in this course.

HCM-136
3.00
Basic Food Preparation

HCM-143
3.00
Food Preparation 1
Introduces the student to the scientific principles used in food preparation. Involves preparation procedures and techniques to be used with fruits, vegetables, starch products, cheese, eggs, meat, poultry, and fish. Establishes criteria needed to produce a standard product.

HCM-144
3.00
Food Preparation Lab 1
Preparation of small servings of salads, starch, cheese, egg, meat, poultry and fish products using the techniques studied in lecture. Oral and written evaluation of each product.

HCM-148
3.00
Food Fundamentals
This course offers a broad introduction to the foodservice industry. It also explores recipe structure, terminology, equipment, and the basics of cooking and sourcing of ingredients and knowledge of suppliers and their role in the industry.

HCM-157
3.00
Food Preparation 2
This course will be the next level of the preparation of food, such as meat, poultry, fish and shellfish as well as fruit, vegetables and salad. It will cover all cooking techniques and dish preparations. This course is accompanied by HCM 158 Food Preparation Lab 2.

HCM-158
3.00
Food Prep 2 Lab
This course is a laboratory to coincide with HCM 157 Food Preparation 2. The students will gain hands on experience in the preparations of meats, poultry, fish and shellfish as well as fruits, vegetables and salads

HCM-178
4.00
Int'l Restaurant/Hotel Cuisine/Lab
Provides experience in the preparation of quality food production and practice in following recipes to prepare a variety of dishes with varying levels of difficulty Introduces various international cuisines and the ingredients and preparation methods used

HCM-179
4.00
Adv Cuisine for Restaurant and Hotel
This course will provide experience in the preparation of quality food production and practice in following recipes to prepare a variety of dishes with varying levels of difficulty. The students will be introduced to various international cuisines including ingredients and preparation methods.

HCM-228
3.00
Culinary Nutrition and Food Science
Practical, 'how-to' course focusing on nutrition as it relates to personal health; foods, and food preparation; menu planning and recipe codification; and marketing of nutritious menu items in the food service industry.

HCM-238
2.00
Menu Planning/Kitchen Design
This course applies the principles of menu planning and layout to the development of menus for a variety of types of facilities and service. The course will also strongly examine the kitchen design, and facility layout.

HCM-240
2.00
Menu Planning and Design
This course applies the principles of menu planning and layout to the development of menus for a variety of types of facilities and service. The course will also strongly examine the kitchen design, and facility layout.

HCM-242
2.00
Event Planning and Customer Service
This course will cover all aspects of event planning and customer service relating to the restaurant and hospitality fields. Student will engage in a hands on learning experience of dealing with real life customers and planning events such as company parties, graduations, and wedding receptions.

HCM-254
2.00
Purchasing for Profit and Loss
This course teaches the principles and methods of food purchasing with emphasis on specifications and grading of various food products. The course includes financial procedures and controls used in the food service industry.

HCM-272
2.00
Garnishing and Finishing Techniques
This course is designed to illustrate the many and varied ways chefs can improve dishes with professional garnish skills and presentation methods. This course will also provide students training in the qualities of food service professionalism.

HCM-300
2.00
Beverage Management
This course will familiarize the student with all aspects of beverage service including wine and alcohol laws. The basic mechanics of beverage preparation, sales and promotion will be covered. This course will follow the Serv Safe curriculum.

HCM-332
2.00
Hospitality Personnel Management
This course is designed to provide the students with the human resource qualities that are required in the industry, plus diversity, regulations and legal requirements will be covered. Students will learn how to deal with situations that occur in the field and gain an understanding of the needs of employees and customers.

HCM-511
3.00
Food Technology Internship
This course provides an opportunity to gain practical experience through on-site training at Willow Ridge Golf Course. The student will work in all areas of the restaurant facility including front and back of house. A letter grade of "C"" or higher must be earned in this course to satisfy the program graduation requirements."

HCM-513
1.00
Hospitality Professionalism
This course will give the students hands on experience working in a real life restaurant. Students will work in the kitchen as well as in the front of the restaurant serving guests.

HCM-517
1.00
Hospitality Professionalism II
This course will give the students hands on experience working in a real life restaurant. Students will work in the kitchen as well as in the front of the restaurant serving guests.

HCM-592
3.00
Convention Management
Introduces the principles of convention management, event planning and food service. The students will learn the how, what and when of convention management, as well as being hands on with events and conventions organized in conjunction with the college through menu planning, purchasing, equipment needs and rentals, and food service operations.

HCM-608
3.00
Intro to Hospitality
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.

HCM-609
3.00
Hospitality Management
This course will give students a concise background into what is required of restaurant, hotel or food service manager, and to prepare them for the many facets and challenges of management and to arm them with all the knowledge they will need when the "I need to see the Manager" situation arises.

HCM-613
3.00
Hospitality Marketing and Sales
This course is designed to provide the students with the importance of marketing in the food service industry. They will learn that all facets of marketing will have a direct affect on the business. The students will gain an understanding of the importance of providing for customer needs which will make the student a better manager.

HCM-949
1.00
Introduction to Food

HIS-112
4.00
WestCiv:Ancnt to Early Modern
This course is a comprehensive study of the major political, social, economic, cultural and philosophical movements in Western Civilization from the Stone Age to the Age of Enlightenment.

HIS-113
4.00
WestCiv: Early Mod to Present
This course is a comprehensive study of the major political, social, economic, cultural and philosophical movements in Western Civilization from the Age of Enlightenment to the Present.

HIS-151
3.00
U.S. History to 1877
This course includes the political, socio-cultural, and economic factors in the development of American Civilization from the earliest European explorers until the end of the Civil War and Reconstruction. The course will focus on the changing aspirations and behavior of ordinary Americans as well as the transformative achievements of the powerful and famous. The objective is to understand not only what happened, but also why it happened. The course will allow students to analyze critically the significance of race, ethnicity, religion, class, and gender in the American Experience and prepare students to make their own judgments about the relative importance of different factors in shaping the American past.

HIS-152
3.00
U.S. History Since 1877
This course includes the political, socio-cultural, and economic factors in the development of American Civilization from the end of Reconstruction to the present. The course will focus on the changing aspirations and behavior of ordinary Americans as well as the transformative achievements of the powerful and famous. The objective is to understand not only what happened, but also why it happened. The course will allow students to analyze critically the significance of race, ethnicity, religion, class, and gender in the American Experience and prepare students to make their own judgments about the relative importance of different factors in shaping the American past.

HIS-211
3.00
Modern Asian History
This course is an introductory study of the main Asian civilizations today. A historical analysis of Asian ways of life and thought is made with an emphasis on the political, social, geographic, economic, religious, and cultural environment within which most Asians live.

HIT-237
3.00
Medical Coding I
This course is designed to develop the student's understanding of ICD-9-CM coding conventions and guidelines for the hospital setting. The course emphasizes basic coding principles and provides introduction to the different types of nomenclatures and classifications systems with emphasis on Neoplasm, Cardiovascular, Trauma, Poisoning and Obstetrical ICD-9-CM coding assignment. A prerequisite of Medical Terminology and Anatomy and Physiology/Pathophysiology is recommended.

HIT-239
3.00
Medical Coding II
This course introduces advanced coding principles and application to medical documentation. CPT-4 Coding is also introduced with emphasis placed on Evaluation and Management Coding, Coding skin repairs and removal of benign and malignant neoplasms, and an overview of Surgical CPT coding. Coding I is a prerequisite for this course.

HSC-104
2.00
Introduction to Health Care
Students will have a basic introduction to the health care delivery system, professionalism and legal and ethical responsibilities of the health care worker. The communication process will be introduced as well as an understanding of patients' needs and behavior. Aspects of patient care will be discussed involving safety, infection control, transfer techniques and vital signs.

HSC-112
1.00
Medical Terminology
The course will provide an introduction and overview of medical language with emphasis on basic, essential terminology. Definitions, standard abbreviations, pronunciation, correct spelling, will be included.

HSC-113
2.00
Medical Terminology
The student will study terminology of the human body systems in more depth than HSC-112 Medical Terminology. The emphasis will be on recognition and functional vocabulary related to medical science. Definitions, standard abbreviations, pronunciations, correct spelling, will be included. Students with prior experience in a health field may elect to "test out" of medical terminology. See Dean of Health Science for additional information.

HSC-172
3.00
Nurse Aide
This course provides students with a basic level of knowledge and skills to provide safe, effective resident care. This nurse aide course meets the training requirements of The Omnibus Budget Reconciliation Act of 1987 (OBRA) for aides working in nursing facilities (NF) and skilled nursing facilities (SNF).

HSC-178
3.00
Advanced Nurse Aide Course
The Advanced Nurse Aide course prepares students to provide patient care in the acute care (hospital) setting.

HSC-278
4.00
Limited Practice Radiography
This course is designed to meet requirements of Chapter 42 of the Rules and Regulations for Radiation Emitting Equipment. The course emphasis is placed on providing the knowledge and skills necessary to provide maximum protection from ionizing radiation for the patient and personnel. Included in the course is basic physics as applied to x-ray machines and technology, film processing, patient positioning and preparation for radiographs of the chest and extremities, image evaluation, factors that affect the image, and radiation biology and protection.

HSC-960
8.00
CT Internship
This course is available to qualified candidates that are accepted into the internship. This course is designed to enable accepted students to become proficient in Computed Tomography (CT) exams. The student will begin their internship by observing and assisting practicing CT Technologist conducting a variety of CT exams. As the student gains knowledge and experience in the various CT exams he/she gradually moves into an independent clinical performance stage. A student must independently, with direct supervision, perform the required amount of exams to complete the CT internship. A record of practice procedures and competency must be documented for ARRT competency. Co-requisites: Registered by ARRT in Radiologic Technology, Nuclear Medicine or Radiation Therapy. Must have an Iowa Permit to Practice.

HSC-965
8.00
MRI Internship 1
This course is available to qualified candidates that are accepted into the internship. This course is designed to enable accepted students to become proficient in Magnetic Resonance Imaging (MRI) exams. The student will begin their internship by observing and assisting practicing MRI Technologist or Radiologic Technologists conducting a variety of MRI exams. As the student gains knowledge and experience in the various MRI exams he/she gradually moves into an independent clinical performance stage. A student must independently, with direct supervision, perform the required amount of exams to complete the MRI Internship. A record of practice procedures and competency must be documented for ARRT competency and internship completion. Co-requisites: Registered by ARRT in Radiologic Technology, Nuclear Medicine or Radiation Therapy. Must have an Iowa Permit to Practice.

HSC-966
8.00
MRI Internship 2
This course is available to qualified candidates that have successfully completed HSC 965 MRI Internship 1.This course is a continuation of accepted students to become proficient in Magnetic Resonance Imaging (MRI) exams. The student will continue in their internship by observing and assisting practicing MRI Technologist or Radiologic Technologists conducting a variety of MRI exams. As the student gains knowledge and experience in the various MRI exams he/she gradually moves into an independent clinical performance stage. A student must independently, with direct supervision, perform the required amount of exams to complete the MRI Internship. A record of practice procedures and competency must be documented for ARRT competency and internship completion. Co-requisites: Registered by ARRT in Radiologic Technology, Nuclear Medicine or Radiation Therapy. Must have an Iowa Permit to Practice.

HSC-967
8.00
Ultrasound Internship I
This course is available to qualified candidates that are accepted into the internship. This course is designed to enable accepted students to become proficient in ultrasound (US) exams. The student will begin their internship by observing and assisting practicing US Technologist conducting a variety of US exams. As the student gains knowledge and experience in the various US exams he/she gradually moves into an independent clinical performance stage. A student must independently, with direct supervision, perform the required amount of exams to complete the US Internship. A record of practice procedures and competency must be documented for ARRT compentency and internship completion. Pre-requisites and/or Co-requisites: Registered by ARRT in Radiologic Technology, Nuclear Medicine or Radiation Therapy. Must have an Iowa Permit to Practice.

HSC-968
8.00
Ultrasound Internship 2
This course is available to qualified candidates that have successfully completed HSC 967 Ultrasound Internship 1. This course is a continuation of accepted students to become proficient in ultrasound (US) exams. The student will continue their internship by observing and assisting practicing US Technologist conducting a variety of US exams. As the student gains knowledge and experience in the various US exams he/she gradually moves into an independent clinical performance stage. A student must independently, with direct supervision, perform the required amount of exams to complete US Internship 2. A record of practice procedures and competency must be documented for ARRT competency and internship completion. Pre-requisite: HSC 967 Ultrasound Internship 1.

HSC-969
8.00
Ultrasound (us) Internship 3 - General
This course is available to qualified candidates that have successfully completed HSC 968 Ultrasound (US) Internship 2. This course is a continuation of the internship by observing and assisting practicing US Technologist conducting a variety of US exams. As the student gains knowledge and experience in the various US exams he/she gradually moves into an independent clinical performance stage. A student must independently, with direct and indirect supervision, perform the required amount of exams to complete US Internship 3. A record of practice procedures and competency must be documented for ARRT competency and internship completion.

HSC-970
10.00
Ultrasound Internship 3 - Vascular
This course is available to qualified candidates that are accepted into the internship. This course is designed to enable accepted students to become proficient in ultrasound (US) exams. The student must successfully complete HSC 967 & 968 Internships 1 and 2. The student will assist practicing US Technologist conducting a variety of US exams. As the student gains knowledge and experience in the various US exams he/she gradually moves into an independent clinical performance stage. A student must independently, with direct and indirect supervision, perform the required amount of exams to complete the US Internship. A record of practice procedures and competency must be documented for ARRT competency and internship completion.

HSV-135
3.00
Women's Issues
This course will examine the issues that women may bring to the counseling or social work settings. A review of the history of women and their roles in society will be utilized as background information. In addition, the life-cycle of women, gender stereotypes, mental health issues and female sexuality will be studied. Using this information, the course will address common reasons women often seek counseling.

HSV-162
3.00
Intro to Human Disabilities and Services
This course introduces careers related to working with people with disabilities. It includes an introduction to special education, residential services, vocational services, and other services for children and adults with disabilities. The student will be introduced to specific disabilities, ways people with disabilities learn, child development, and literacy. It covers professionalism, teamwork, communication skills, and behavior management. The student will complete service learning projects.

HSV-180
1.00
Ethics for Human Services Professionals
The basic knowledge and responsibility of professional ethics and boundaries in relationship to clients, society, and professional peers will be studied. The course will focus on the interaction between the human services provider and those they work with. The course will concentrate on the importance of boundaries, ethics, and confidentiality.

HSV-190
3.00
Youth Care Issues
This course will explore techniques of guidance and discipline with Infants and Toddlers in Group Care. Students will learn keys to understanding behaviors of children and how to support the individual needs of infants and toddlers.

HSV-220
3.00
Introduction to Counseling Theories
This course provides instruction in skills of observing and recording behavior and organizing information into clear and logical reports. The course will also cover interviewing as a method of gathering and evaluating needs. It will introduce the student to the skills of establishing open relations with a client and assisting the client in understanding their needs to incorporate a more satisfying behavior.

HSV-224
1.00
Working wth Youth
Through examining current issues that affect our youth, students will develop an understanding of the characteristics and needs of difficult children. Students will practice communication, conflict resolution and behavioral management skills that promote appropriate behaviors and future successes for difficult children.

HSV-228
3.00
Group Counseling Techniques
This course will examine group interaction and processes. Attention will be given to how groups can be used to promote growth in their members as well as promote social change. The course focuses on developing an ability to identify community leadership and developing skills in mobilizing community resources to meet social needs.

HSV-229
3.00
Group Facilitation Techniques
This course will examine group interaction and processes. Attention will be given to how groups can be used to promote growth in their members as well as promote social change. The course focuses on developing an ability to identify community leadership and developing skills in mobilizing community resources to meet social needs.

HSV-258
1.00
Substance Abuse
This course includes the study of the physiological, psychological and sociological aspects of alcohol/drug use, abuse and dependence. The classifications and basic pharmacology of drugs, basic physiology and the effects of drug use on the systems of the body and alcohol and drug tolerance will be addressed. The course also includes the etiological, behavioral, cultural and demographic aspects and relief systems about alcohol/drug use along with the process of misuse and addiction including signs, symptoms and behavior patterns.

HSV-269
1.00
Victim Advocacy
This course will review the complexities of domestic violence and victim advocacy. The course material will recognize abusive behaviors and demonstrate crisis intervention techniques. The focus will be also directed toward understanding victimization and violence dynamics in the home and the affects on children. Additional instruction will be provided in the use of effective victim empowerment techniques.

HSV-285
3.00
Case Management: Intake to Discharge
This course is a building block for courses which students will take as they continue their education for employment in the Human Services field. Students will learn how to compile relevant information on clients and how to formulate this information into treatment plans and service plans. Students will learn the role of the case manager and the four essential functions of case management. Students will learn the importance of ethics and confidentiality as well as how to effectively communicate with their clients. Students will also become familiar with the various assessment tools and forms used to diagnose, develop plans, and make recommendations for levels of care.

HSV-850
2.00
Human Services Field Experience I
The field experience is a program of supervised practice in which the students placed in various agencies learn through actual participation and observation. The experience provides a chance to apply the classroom learning experience to the field of work. In addition, the student gains many new skills and has an exposure to and gains an appreciation for the basic values of the social services.

HSV-854
1.00
Human Services Field Experience IA
Human Services Field Experience IA is the first course in a two-part series. The course involves supervised practice in which students in various agencies learn through actual observation and participaton. The experience provides an opportunity to apply the classroom knowledge to the field of work. The students develop new skills, while being exposed to and gaining an appreciation for the basic principles of the human services.

HSV-855
1.00
Human Services Field Experience IB
This course is a continuation of HSV-854 Human Services Field Experience IA. The program of supervised practice continues as students in different agencies learn through actual observation and participation. The experience provides an opportunity to apply the classroom knowledge to the field of work. In addition, the students further develop helping skills while being exposed to and gaining an appreciation for the principles of the human services. Prerequisite: HSV-854 Human Services Field Exprience IA

HSV-949
3.00
Special Topics
The department will offer from time to time credit offerings in selected special areas of interest on a topical basis per semester.

HUM-113
3.00
Exploring the Humanities
This course will examine thematically the humanities (art, music, literature, etc.). Students will explore aspects of the humanities to find the interconnectedness between people's cultural views and the art they create. Instructors will make extensive use of technology in the delivery of course material, and students will use technology in required class projects.

HUM-182
3.00
Digital App-Music, Art,Theatre
This course is designed to give students in the humanities (fine arts) a foundation in contemporary technology and methods used in today's studios. The class will cover illustrations, notation, productivity (office), and utility software used by artists, designers, and performers in the daily course of their profession. Hardware, from digital drawing tablets and digital cameras to MIDI and copy machines as tools-of-the-trade will be examined. Students will learn to create digital portfolios. No pre-requisite.

HUM-185
3.00
Technology and Social Change
This course is open to all students but is specifically designed for students in applied sciences and technologies who are interested in the future of technology and its impact on their lives and the society in which they live. The focus is on modes of transportation as catalysts of social change. The integration of readings, films, and experiences with the visual arts and music will provide a basis for comparison and analysis of the relationship between transportation and social change.

IND-106
2.00
Industrial Pumps & Dr Systems
This course teaches students the basic principles of various types of industrial pumps and specialized drive systems required in their operation. Students will identify components, normal operating characteristics, routine maintenance, and common failures.

IND-108
2.00
Advanced Safety Technology
Students gain the ability to acknowledge hazard identification, avoidance, control and prevention, understanding of OSHA compliance and regulations, importance of safety and health training, general understanding of recordkeeping. Receive OSHA 30-hour course completion cards.

IND-110
1.00
CPR, First Aid, and Safety
Students will gain the ability to emphasize hazard identification, avoidance, control and prevention, understanding of OSHA compliance and regulations, importance of Safety and Health Training, general understanding of First Aid and CPR according to the American Heart Association. Upon successful completion of this course, the student will receive their OSHA 10-hour completion card, their First Aid and CPR cards.

IND-116
2.00
Pneumatic & Hydraulic Systems
This course will cover the basic principles and hands-on applications of pneumatic and hydraulic systems. Students will learn how to read, interpret, and construct fluid systems schematic diagrams containing pneumatic and hydraulic component symbols.

IND-126
1.00
Precision Measurements Lab
This course will reinforce mathematical concepts learned in the Technical Math I course. Students will use machinist rules, micrometers, digital micrometers, vernier height gauges, and other precision measuring instruments to directly apply mathematical skills.

IND-127
1.00
Shop Operations
Students will learn the basics of metal shop work. Areas of instruction will include shop safety, proper use of hand tools, maintenance of tools and equipment, and fasteners.

IND-128
1.00
Blueprint Reading
Students will learn the symbolic representation of the machining and welding trades. Students will learn to communicate symbolically using standard industry representations.

IND-183
4.00
Industrial Machine Maintenance
This course will introduce the student to a practical "hands-on" approach to the basic principles of industrial mechanics. The student will develop safety and troubleshooting skills needed to solve problems on real-life equipment used in industry today.

IND-184
2.00
Mechanical Processes
This course will cover the basic operation and maintenance of industrial systems. The student will learn the function and the role of a maintenance technician. Laboratory exercises will emphasize the importance of a positive mental approach to maintenance and the need to develop troubleshooting skills as well as mechanical skills.

IND-185
2.00
Predictive & Preventative Maintenance
This course will involve skill development in advanced mechanical maintenance procedures. The student will design, construct, and maintain industrial energy transfer systems. Techniques in preventative and predictive maintenance operation, utilizing the applications of laser alignment, thermography, vibration and oil analysis, and other functions, will also be covered.

IND-315
2.00
Computerized Maintenance Management Sys
The focus of the course will teach the students the concepts of why CMMS software is needed and is an important part of a maintenance department. The students will learn the terminology and the operations of CMMS software. The students will be taught how to electronically receive, create & complete aspects of work orders.

IND-932
4.00
Internship
The student will be able to apply classroom instruction in a real world environment.

IND-949
3.00
Special Topic
Plumbing Design and Installation courses will provide students with a survey of fundamental plumbing principles, practices, and systems. The course covers the design, installation, and testing of plumbing systems in residential and commercial settings. Topics include the history of plumbing, plumbing codes, tools and materials, and common joining and installation procedures. 1. Plumbing fixtures and appliances 2. Testing and inspecting plumbing systems 3. Safety and personal protective equipment 4. Press fitting for copper pipe 5. Customer service and plumbing system repair

LIT-101
3.00
Introduction to Literature
This course includes training in understanding the forms of imaginative literature: short story, drama, poetry, and novel. Attention is given to personal and social values as they appear in selected readings.

LIT-114
3.00
American Literature
This course emphasizes the vast spectrum of authors writing in different genres by focusing on a particular theme in American literature. An intensive study of a few authors will be used to represent the full spectrum. Students will be expected to read and respond to the literature through both discussion and written work.

LIT-135
3.00
Film As Literature
This course is designed for students to learn the basics of literature interpretation and analysis through the visual medium of film. Students will learn film terminology and will study particular film genres.

LIT-155
3.00
Modern World Fiction
This course centers on reading, analysis, and discussion of contemporary short stories and novels. Emphasis is on the development of critical thinking through exposure to the major schools of modern world literature from 1945 to the present.

LIT-210
3.00
The Graphic Novel
This course emphasizes the genre of comic book writing and creation. This genre is a legitimate form of literature and is subject to similar scrutiny as a traditional literature course would require. The graphic novel will be explored and examined in its various forms, and thematic connections will be made among texts, outside resources, and personal experiences.

MAP-115
6.00
Medical Office Management I
This course presents the basic administrative procedures performed in ambulatory health care settings. The course encourages the student to demonstrate critical thinking based on knowledge of academic subject matter required for competence in the medical assisting profession. Students will learn to incorporate the cognitive knowledge in performance of the psychomotor and affective domains in their practice as medical assistants in providing patient care. This course is the first course of a two-semester sequence. Pre-requisite: Acceptance into the Medical Assistant Program.

MAP-118
4.00
Medical Office Management II
This course expands on basic administrative procedures presented in Medical Office Management I with emphasis on basic practice finances, managed care and insurance, and procedural and diagnostic coding. The course encourages the student to demonstrate critical thinking based on knowledge of academic subject matter required for competence in the medical assisting profession. Students will learn to incorporate the cognitive knowledge in performance of the psychomotor and affective domains in their practice as medical assistants in providing patient care. Prerequisite: Acceptance into the Medical Assistant Program and successful completion of MAP-115 Medical Office Management I with a "C" or better.

MAP-127
1.00
Medical Office Computer Application
This course presents computerized management of an ambulatory health care setting. The course encourages the student to demonstrate critical thinking based on knowledge of academic subject matter required for competence in the medical assisting profession. Students will learn to incorporate the cognitive knowledge in performance of the psychomotor and affective domains in their practice as medical assistants in providing patient care. Pre-requisite: Acceptance into the Medical Assistant Program.

MAP-221
1.50
Medical Laboratory Procedures 1
This course presents basic medical laboratory procedures performed in ambulatory health care settings including the use of basic laboratory equipment, blood collection by capillary and venipuncture, and basic laboratory tests performed. The course encourages the student to demonstrate critical thinking based on knowledge of academic subject matter required for competence in the medical assisting profession. Students will learn to incorporate the cognitive knowledge in performance of the psychomotor and affective domains in their practice as medical assistants in providing patient care. This course is the first course of a two-semester sequence. Pre-requisite: Acceptance into the Medical Assistant Program. Co-requisites: HSC-113 Medical Terminology and MAP-542 The Human Body in Health and Disease I.

MAP-226
1.50
Medical Laboratory Procedures II
This course expands on basic medical laboratory procedures presented in Medical Laboratory Procedures I with emphasis on chemistry, urinalysis, and microbiology. The course encourages the student to demonstrate critical thinking based on knowledge of academic subject matter required for competence in the medical assisting profession. Students will learn to incorporate the cognitive knowledge in performance of the psychomotor and affective domains in their practice as medical assistants in providing patient care. Pre-requisites: Acceptance into the Medical Assistant Program and successful completion of MAP-221 Medical Laboratory Procedures I with a "C" or better.

MAP-322
3.50
Examination Room Techniques I
This course presents an introduction to basic clinical procedures performed in ambulatory health care settings. The course encourages the student to demonstrate critical thinking based on knowledge of academic subject matter required for competence in the medical assisting profession. Students will learn to incorporate the cognitive knowledge in performance of the psychomotor and affective domains in their practice as medical assistants in providing patient care. This course is the first course of a two-semester sequence. Pre-requisite: Acceptance into the Medical Assistant Program. Co-requisite: MAP-542 The Human Body in Health and Disease I.

MAP-324
5.50 (pending)
Examination Room Techniques II
This course expands on basic clinical procedures presented in Examination Room Techniques I with emphasis on minor surgery, pharmacology, and more complex clinical procedures that may be performed in an ambulatory health care setting or specialty practice. The course encourages the student to demonstrate critical thinking based on knowledge of academic subject matter required for competence in the medical assisting profession. Students will learn to incorporate the cognitive knowledge in performance of the psychomotor and affective domains in their practice as medical assistants in providing patient care. Pre-requisite: Acceptance into the Medical Assistant Program and successful completion of MAP-322 Examination Room Techniques I with a "C" or better.

MAP-401
1.00
Medical Law & Ethics
This course presents legal and ethical considerations pertaining to practice in an ambulatory health care setting. The course encourages the student to demonstrate critical thinking based on knowledge of academic subject matter required for competence in the medical assisting profession. Students will learn to incorporate the cognitive knowledge in performance of the psychomotor and affective domains in their practice as medical assistants in providing patient care. Pre-requisite: Acceptance into the Medical Assistant Program.

MAP-435
2.00
Interpersonal Relations in Health Care
This course presents concepts of effective communication necessary for caring for patients in an ambulatory health care setting. The course encourages the student to demonstrate critical thinking based on knowledge of academic subject matter required for competence in the medical assisting profession. Students will learn to incorporate the cognitive knowledge in performance of the psychomotor and affective domains in their practice as medical assistants in providing patient care. Pre-requisite: Acceptance into the Medical Assistant Program.

MAP-542
3.00
Human Body in Health & Disease I
This course includes a study of the anatomy and physiology of each body system and common pathology related to each system. The course begins with a study of the structural organization of the human body and then proceeds with a comprehensive study of the cardiovascular system and lymphatic system. Common pathology related to these systems is studied that includes common signs and symptoms, etiology, methods of diagnosis, and treatment options. The interaction that occurs between systems and changes to the structure and function that occur across the life span within each system are identified. The course encourages the student to demonstrate critical thinking based on knowledge of academic subject matter required for competence in the medical assisting profession. Students will learn to incorporate the cognitive knowledge in performance of the psychomotor and affective domains in their practice as medical assistants in providing patient care. This course is the first course of a two-semester sequence. Other body systems are studied in MAP-555 The Human Body in Health and Disease II. Co-requisite: HSC-113 Medical Terminology.

MAP-555
5.00
Human Body in Health & Disease II
This course includes a study of the anatomy and physiology of each body system and common pathology related to each system. A comprehensive study of the integumentary system, skeletal system, muscular system, nervous system, sensory system, endocrine system, respiratory system, digestive system, urinary system, and reproductive system is included. Common pathology related to these systems is studied that includes common signs and symptoms, etiology, methods of diagnosis, and treatment options. The interaction that occurs between systems and changes to the structure and function that occur across the life span within each system are identified. The course encourages the student to demonstrate critical thinking based on knowledge of academic subject matter required for competence in the medical assisting profession. Students will learn to incorporate the cognitive knowledge in performance of the psychomotor and affective domains in their practice as medical assistants in providing patient care. Pre-requisite: Successful completion of MAP-542 The Human Body in Health and Disease I with a "C" or better.

MAP-614
3.50
Practicum
The course provides the student with a supervised practicum in an ambulatory health care setting, performing psychomotor and affective competencies. The course encourages the student to demonstrate critical thinking based on knowledge of academic subject matter required for competence in the medical assisting profession. Students will learn to incorporate the cognitive knowledge in performance of the psychomotor and affective domains in their practice as medical assistants in providing patient care. Pre-requisite: Successful completion all Medical Assistant curriculum courses (with the exception of ENG-105 Composition I) with a "C" or better. Co-requisite: ENG-105 Composition I.

MAT-036
3.00
Pre-Technical Math
This course has been designed to give students an introduction to Technical Mathematics, including competencies in the areas of whole numbers, decimals, fractions, and mixed numbers, ratios, percentages, measurements, algebra, and solving equations.

MAT-045
4.00
Fundamentals of Math
This course is a developmental mathematics course designed to increase ability in basic mathematics. The course includes the study of arithmetic operations on whole numbers, decimals, fractions, mixed numbers, percents, ratios, proportions, simple algebraic and geometric concepts. This course does not meet graduation credit requirements for certificate, diploma, general studies, or associate degree programs.

MAT-063
4.00
Elementary Algebra
This is a first course in algebra which covers the beginning concepts of algebra through the properties of exponents. This course does not meet graduation credit requirements for certificate, diploma, general studies, or associate degree programs. Prerequisite: MAT-045 with "C" grade or better or the necessary score on the mandatory assessment and placement chart.

MAT-100
4.00
Math Block

MAT-102
4.00
Intermediate Algebra
This is a second course in algebra which is a continuation of the study of the concepts developed in Elementary Algebra and proceeds through quadratic functions. Prerequisite: MAT-063 with "C" grade or better or the necessary score on the mandatory assessment and placement chart.

MAT-111
4.00
Math for Liberal Arts
This course is designed to introduce a student in non-math related majors to some of the basic uses of mathematics in society today including uses of algorithms for problem solving. Topics covered include principles of counting, sets, probability and statistics, geometry, logic, math of finance, and number theory. This course satisfies a general education requirement in the Math/Science area. Prerequisite: MAT-063 with "C" grade or better or the necessary score on the mandatory assessment and placement chart.

MAT-117
3.00
Math for Elementary Teachers
This course covers topics from arithmetic and geometry that are needed by prospective elementary school teachers. Topics included in the course are critical thinking and problem solving, operations on whole numbers, numeration systems, elementary number theory, operations on rational numbers, decimal fractions and an introduction to geometric concepts. Prerequisite: MAT-063 with "C" grade or better or the necessary score on the mandatory assessment and placement chart.

MAT-120
3.00
College Algebra
College Algebra is a study of functions, their inverses and composites, topics of analytic geometry and other topics important to the study of calculus. Prerequisite: MAT-102 or equivalent with "C" grade or better or the necessary score on the mandatory assessment and placement chart.

MAT-127
5.00
College Algebra and Trigonometry
This course is designed to prepare those students who are planning on taking all or part of the calculus sequence. Topics covered include algebraic, logarithmic, and exponential functions, inverse functions, sequences and series, conic sections, and the fundamentals of trigonometry. This course satisfies a general education requirement in the Math/Science area. Prerequisite: MAT-102 with "C" grade or better or the necessary score on the mandatory assessment and placement chart.

MAT-140
3.00
Finite Mathematics
This course is a study of the topics of finite mathematics which have applications in nonphysical science areas such as business, economics, psychology, social science and natural science. Topics included are systems of linear equations and inequalities, linear programming, probability and decision theory. This course satisfies a general education requirement in the Math/Science area. Prerequisite: MAT-063 with "C" grade or better or the necessary score on the mandatory assessment and placement chart.

MAT-150
3.00
Discrete Math
This course is designed to increase the proficiency of the student in the application of technical arithmetic, algebra, and basic trigonometry. Students will be introduced to computer number systems with the associated conversions, logical functions and Boolean logical operations.

MAT-156
3.00
Statistics
This is the first course in basic probability and statistics which includes the study of frequency distributions, measurers of central tendency and dispersion, elements of statistical inference, regression and correlation. This course satisfies a general education requirement in the Math/Science area. Prerequisite: MAT-063 with "C" grade or better or the necessary score on the mandatory assessment and placement chart.

MAT-158
3.00
Statistics II
This is the second course in the statistics sequence. It includes the study of additional topics in probability, correlation, regression and statistical inference. The course also includes the topics of chi-square procedures, analysis of variance, non-parametric methods and statistical quality control. This course satisfies a general education requirement in the Math/Science area. Prerequisite: MAT-156 Statistics I with a "C" grade or better.

MAT-159
1.00
Statistics Laboratory
This course is designed to provide students with hands-on opportunities to enhance their statistical understandings. Extensive use of technology will be employed to assist in student application of materials to real-world examples. This course satisfies a general education requirement in the Math/Science area. Two lab hours. Prerequisite: MAT-156 Statistics or concurrent enrollment

MAT-165
3.00
Business Calculus
This course is a study of the concepts and skills of calculus which have important applications in business, economics, psychology, social science and natural science. Topics included are functions, limits, differentiation and its applications, and integration and its applications. Prerequisite: MAT-102 with "C" grade or better or the necessary score on the mandatory assessment and placement chart.

MAT-180
2.00
Engineering Problems
This course incorporates the use of log scales, electronic calculators and digital computers with emphasis on stored and library programs. It is appropriate for students entering science, mathematics or engineering fields. Prerequisite: MAT-127 or equivalent with "C" grade or better or concurrent enrollment in MAT-127.

MAT-210
4.00
Calculus I
This is a first course in integrated calculus and analytic geometry. The concepts of analytic geometry are studied as they apply to calculus. The calculus concepts covered include the rate of change of a function, limits, derivatives of algebraic, logarithmic, trigonometric and inverse trigonometric functions, applications of the derivative and an introduction to integration. Prerequisite: MAT-127 or equivalent with "C" grade or better.

MAT-216
4.00
Calculus II
This is the second course of the calculus sequence. It includes the study of techniques and applications of integration, infinite series, polar equations and graphs, and vectors in two and three dimensions and vector-valued functions. Prerequisite: MAT-210 or equivalent with "C" grade or better.

MAT-219
4.00
Calculus III
This is the third course of the calculus sequence. It contains the study of vector-valued functions, functions of several variables, multiple integration and vector analysis. Prerequisite: MAT-216 or equivalent with "C" grade or better.

MAT-221
2.00
Calculus III
This is the third course of the calculus sequence. It contains the study of functions of several variables, multiple integration and vector analysis.

MAT-226
3.00
Differential Equations with Laplace
This course is the study of the elementary theory, solutions, and applications of ordinary differential equations. Prerequisite: MAT-216 or equivalent with "C" grade or better.

MAT-743
3.00
Technical Math
This is an applied mathematics course, which will teach or reinforce basic mathematical skills. Fundamental mathematical concepts will be applied to the real life problems of today's world.

MAT-748
3.00
Technical Math II
Students will have instruction and practice in algebraic, geometric, and trigonometric operations essential for technical careers.

MAT-749
4.00
Technical Math III
The student will learn and apply concepts related to technical math as required in fields of design. Topics will include solutions of functions, differential and integral calculus, and their application in industrial settings.

MAT-948
1.00
Special Projects
This course is for students with sufficient preparation in the particular interest area selected. It involves selection of an individual topic, conferences with the supervisor, and preparation of a final report. It is designed to meet the needs of a student wishing to study a selected topic in depth. Permission of the staff member with whom the student wishes to work and the department head is required.

MAT-949
1.00
Special Topics
This course, offered usually on a one-time basis only, provides an in-depth study on a topic of general interest pertaining to mathematics.

MEC-949
2.00
Spec Top: Industrial Mechanics
Plumbing Design and Installation

MFG-238
2.00
Machine Processes I
This course will provide hands-on activities using the drill press, surface grinders, band saws, files, hacksaws and other tools and equipment used in the machine shop.

MFG-256
2.00
Introduction to Lathe Operations
This course will introduce the student to the function and application of the engine lathe. Students will learn to use the engine lathe in turning, drilling, reaming, boring and thread cutting applications.

MFG-257
2.00
Advanced Lathe
This course covers advanced lathe operations. Students will learn to use the engine lathe in turning, drilling, reaming, boring, internal thread cutting applications, knurling, and taper turning.

MFG-266
2.00
Introduction to Mill Operations
This course will introduce the student to the safe use and operation of the vertical-milling machine. Students will learn machine set up, machining of square parts, parallel machining and milling of holes.

MFG-305
2.00
CNC Operations
This course will introduce the student to the fundamentals of computerized numerical control (CNC). Students will learn CNC programming, safety, tooling, set up, and machine operations.

MFG-312
2.00
Advanced Cnc
Students will learn advanced computerized numerical control programming using a computerized numerical controlled mill. The student will learn to use curve programming, subroutines, canned cycles, CNC threading, and tool difference compensation.

MFG-320
3.00
Computer Aided Machining
This course will introduce the student to the process of Computer Aided Machining (CAM). Students will use post-processors to convert computer drawings into machine tool operations.

MFG-326
3.00
Computer Aided Machining II
A continuation of Computer Aided Machining I. Includes instruction in writing and editing CNC programs, machine setup and operation, and use of Computer Aided Machining (CAM) equipment and software to program and operate CNC machines.

MFG-400
3.00
Introduction to Die Making
This course will introduce the student to fundamentals and design of tool and die, with an orientation of metallurgy related to the fabrication of die components.

MFG-422
3.00
Jigs and Fixtures
Students will learn specialized skills associated with the design and fabrication of work holding devices including jigs, fixtures, and other tools.

MFG-453
2.00
Introduction to Mold Making
This course will introduce the student to the design and operation of molds for thermoplastics. Topic areas will include cavities, cores, ejectors, pullers and shrinkage application.

MFG-505
1.00
Lean Manufacturing
This course will give students the basic concepts of a lean system. Students will learn the emphasis of waste prevention. The lean system's unique tools, techniques, and methods will be applied by students as it would happen in an industrial environment.

MFG-506
1.00
Quality Assurance
This course is designed to gain knowledge about quality control and applications of quality tools used in industry. The student will learn the applications or statistical process control and its applications. Also covered are Dr. Edward Deming & his 14 points for process improvement.

MFG-932
4.00
Internship
The student will be able to apply classroom instruction in a real world industrial environment.

MFG-949
1.00
Spec Top: Fabrication Processes
This course, usually offered on a limited basis only, provides an in-depth study on a topic of general interest pertaining to this department.

MGT-101
3.00
Principles of Management
This course presents the theory and major functions of management and describes the role of the manager. Major concepts in organization are developed along with an understanding of the decision-making process and consideration of the human factor in management. Students may receive credit through a CLEP examination.

MGT-260
3.00
Introduction to Business Logistics
Introduction to Business Logistics with a focus on logistics systems, intra/inter firm relations, customer service, material management, inventory, information systems, and organization of the logistics function.

MGT-261
3.00
Principles of Transportation Management
A study of the Transportation Industry, including transportation history, regulation/deregulation, transportation modes, specialty carriers, pricing, and strategies.

MGT-262
3.00
Principles of Purchasing and Logistics
Introduction to purchasing, including strategies and concepts within the supply chain system. Supplier selection/evaluation, make/buy decisions, contracts and legal issues, purchasing ethics, negotiation tactics, and price/cost analysis.

MGT-263
3.00
Principles Distribution/Warehouse Mgt
Discussion of distribution systems and channels along with discussions of warehouse operations, layouts, and design.

MGT-264
3.00
Demand Planning and Inventory Management
The demand planning process linking the business plans and demand forecasts within the organization with supply chain partners, involving forecasting, material planning, customer relationships, and distribution channels concepts.

MGT-265
3.00
International Transport and Logistics
This course will provide a discussion of organized movement of goods and services across national borders. It will cover but not be limited to differences in cultures, business standards, infrastructure & transportation systems. This course will provide hands-on experience in global logistics.

MGT-266
3.00
Strategic Supply Chain Management
This course will provide the overall concept and application of strategic management from the supply chain perspective with application of theories, concepts, and methods. The students will understand the business plan components and gain a knowledge of commodity study components.

MGT-270
3.00
Operations Production Management
This course introduces students to Operations Production Management, the science and art of ensuring that goods and services are created and delivered to the customer in the most effecient and effective cost while incorporating valued added activites, total-cost analysis, customer service, quality, profitability and multiple other factors into the practices and procedures. Today?s supply chain and manufacturing sectors must have an solid understanding of people, processes, technology and the creation of value into today?s goods and services.

MGT-280
3.00
Capstone
This course will give students the opportunity to apply the knowledge that they have gained in their program in a comprehensive way to business logistics and transportation management case studies. This course is recommended to be the last course taken. At least five courses with the MGT prefix are required prior to enrolling in the capstone course.

MKT-110
3.00
Principles of Marketing
This survey course of the marketing field examines the movement of goods and services from the producer to the consumer. The areas of retailing, wholesaling, channels of distribution, marketing research, and pricing are approached from the total marketing concept.

MKT-153
3.00
Advertising and Promotion
This course provides the student with an understanding of the advertising strategy principles and training for entry-level job positions in the fields of advertising and sales promotion.

MLT-111
4.00
Fundamentals of Lab Science
This course is designed to acquaint the student with the field of laboratory science. The organization and role of the clinical laboratory are explored. Basic concepts in clinical laboratory testing and math are presented. Medical ethics, employment opportunities and professional organizations are included. Pre- Co-requisites: BIO-168 Human Anatomy & Physiology I with lab and HSC-113 Medical Terminology.

MLT-120
3.00
Urinalysis
This course is the study of the properties and constituents of urine and other body fluids. Emphasis is placed on theory and methodology of qualitative and quantitative analysis of urine. Constituent values are related to the physiology of the urinary system in health and disease. Pre- or Co-requisite: MLT-111 Fundamentals of Laboratory Science.

MLT-133
3.00
Erythrocyte Hematology
An introduction to clinical hematology and fundamentals of hemostasis is presented. This course focuses on red cell metabolism, hematopoiesis, evaluation of red cell morphology, and the pathogenesis of anemia. Prerequisite: MLT-111 Fundamentals of Laboratory Science. Pre- or Co-requisite: BIO-173 Human Anatomy & Physiology II with lab.

MLT-171
3.00
Immunology & Serology
The basic concepts of immunology and its application to in human disease are studied. The principles of routine techniques for serological testing and the use of lab tests for diagnosis are presented. Prerequisites: MLT-111 for MLT majors; for Biotechnology majors: CHM 130. Pre- or Co-requisite: BIO-173 Human Anatomy & Physiology II with lab.

MLT-234
4.00
Leukocyte Hematology/Coagulation
This course presents the disease processes leading to abnormal red cell morphology, and white blood cell disorders, including both benign and malignant states. An overview of hemostasis, thrombosis and anticoagulant therapy, including procedures routinely performed in the clinical hematology and hemostasis laboratory. Pre- or Co-requisite: MLT-111 Fundamentals of Laboratory Science.

MLT-241
4.50
Clinical Chemistry I
Analytical techniques are studied for precise measurement of chemical constituents of the blood and body fluids including electrolytes, protein, lipids, and enzymes. Clinical correlation of test results with states of health and disease will also be covered. Prerequisite: CHM-165 General Chemistry I. Pre- or Co-requisites: MLT-111 Fundamentals of Laboratory Science and BIO-173 Human Anatomy & Physiology II with lab.

MLT-243
2.00
Clinical Chemistry II
The course includes the study of the endocrine system, tumor markers, therapeutic drugs, toxicology and vitamins, correlating test results with state of health and disease. Prerequisites: CHM-165 General Chemistry I and MLT-241 Clinical Chemistry I.

MLT-250
4.00
Clinical Microbiology
Microorganisms with emphasis on bacteria causing disease in man is studied. Theory and principles of identification, biochemical reactions, growth requirements and susceptibility testing will be discussed. This course also includes new technologies in the laboratory diagnosis of infectious disease. Prerequisites: BIO-186 Microbiology, and MLT-111 Fundamentals of Laboratory Science.

MLT-253
2.00
Parasitology & Mycology
Common human parasites, their morphology, life cycles, symptomology and techniques of identification are covered. Competencies in mycology include studying the changing etiologic role of fungi, proper specimen collection, processing and culture methods. Prerequisite: BIO-186 Microbiology.

MLT-260
4.00
Immunohematology
Blood transfusion science is presented including the inheritance of blood groups, donor procedures, quality control, antibody testing and crossmatching of blood. Transfusion safety and Federal regulations are also included. Prerequisites: BIO-173 Human Anatomy and Physiology II w/lab and MLT-171 Immunology & Serology.

MLT-280
8.00
Clinical Practicum I
Students rotate through the laboratory departments of hematology, chemistry, microbiology, blood bank, and urinalysis. Application of the knowledge and skills learned in the classroom are applied in the clinical practicum. Prerequisites: MLT-250 Clinical Microbiology, MLT-120 Urinalysis, MLT-133 Erythrocyte Hematology, MLT-171 Immunology & Serology, MLT-234 Leukocyte Hematology/ Coagulation, MLT-241 Clinical Chemistry I, MLT-260 Immunohematology; ENG-105 Composition I; PSY-111 Introduction to Psychology; BIO-168 Human Anatomy & Physiology I with lab; BIO-173 Human Anatomy & Physiology II with lab and BIO-186 Microbiology. Pre- or Co-requisites: MLT-253 Parasitology and Mycology and MLT-243 Clinical Chemistry II.

MLT-281
4.50
Clinical Practicum II
This course is a continuation of Clinical Practicum 1. Additional rotations may take place in clinics and other industries. Prerequisites: MLT-280 Clinical Practicum I, MLT-243 Clinical Chemistry II and MLT-253 Parasitology & Mycology. Co-requisite: MLT-290 Clinical Seminar & Review.

MLT-290
2.00
Clinical Seminar & Review
Students share their experience in the clinical area through discussion of topics of interest. Case studies are presented. Medical laboratory subjects are reviewed in preparation for registry examination. Prerequisite: MLT-280 Clinical Practicum I. Co-requisite: MLT-281 Clinical Practicum II.

MMS-101
3.00
Mass Media
This is an introductory course on the role and functions of mass media. It includes a survey of newspapers, magazines, books, radio/television, cable TV, public relations, advertising and government regulations. Professional opportunities will be explored.

MMS-105
3.00
Audio Production
This course is designed to provide the student with the knowledge necessary to operate radio broadcasting equipment. Emphasis is placed on the fundamentals of planning and producing radio programs, commercials and promotions using "on air" and production studio equipment.

MMS-106
1.00
Audio Production Lab
This course is designed to give students proficiency in using radio broadcasting equipment. Emphasis is on the production of radio programs, commercials and promotions using "on air" and production studio equipment.

MMS-111
3.00
Video Production I
This course provides the student with information needed for single-camera and video control room production. Students will learn the creative process of turning an idea into content, the language of audio and video, and the techniques of directing and editing.

MMS-112
1.00
Video Production I Lab
This course provides the student with skills needed for single-camera and video control room production. Students will apply the creative process of turning an idea into content, the language of audio and video, and the techniques of directing and editing.

MMS-115
3.00
TV Studio Production
This course is designed for students to gain expertise in advanced video production. Emphasis is on the production of video programs, commercials, and promotions.

MMS-116
1.00
TV Production Lab
This course is designed for students to gain expertise in advanced video production. Emphasis is on the production of video programs, commercials, and promotions.

MMS-118
3.00
Announcing
This course will focus on presentation techniques and methodology for on-air performance in radio. Emphasis is on voice and articulation, acting, persuasion, pronunciation, and the role of format in adapting an announcing style. Techniques for improving breathing, relaxation, and vocal dynamics will also be explored.

MMS-119
1.00
Announcing Lab
Students in this course will practice vocal relaxation and breathing techniques through performance-based activities. Emphasis is on improving voice and articulation, pronunciation, and presentation for broadcast news, sports, weather, commercials, and on-air announcing.

MMS-120
3.00
Media Practices 1
This course is designed for students to gain experience in the operation of a radio station. Emphasis is on the daily operation of campus radio station KICB-FM. Students perform weekly "on-air" boardshifts in addition to duties in the departments of programming, traffic, news, production, music, sports and public relations.

MMS-121
3.00
Media Practices II
This course is designed for students to gain additional experience in the operation of a radio station. Emphasis is on the daily operation of campus radio station KICB-FM. Students perform weekly "on-air" boardshifts in addition to duties in the departments of programming, traffic, news, production, music, sports and public relations.

MMS-131
3.00
News Reporting
Basic aspects of news writing are covered in this course. Topics include covering crime, disasters (accidents and/or/ natural disasters), campus news, human interest features, professional speeches and/or press conferences, and public meetings. Students also study laws and ethics as they apply to journalism.

MMS-145
3.00
Broadcast Writing
This course is designed for students to gain knowledge of the principles and challenges of broadcast station management and sales teams. Emphasis is on the duties of the general manager and sales manager as they relate to personnel, the audience, programming, broadcast sales, profit, broadcast engineering and federal regulations.

MMS-190
3.00
Broadcast Promotions
This course is designed to introduce students to the basics of radio advertising sales and ad copywriting. Topics to be discussed include sales strategy, schedules, and effective ad copywriting and production techniques. Students will participate in planning sales strategy from the sales proposal to the actual production of ads for clients.

MMS-201
3.00
Media Practices III
This course is designed for students to gain additional experience in the operation of a radio station. Emphasis is on the daily operation of campus radio station KICB-FM. Students perform weekly "on-air" boardshifts in addition to duties in the departments of programming, traffic, news, production, music, sports and public relations.

MMS-203
3.00
Media Practices IV
This course is designed to help students make the transition from college to professional radio. Students will continue to perform weekly airshifts and programming duties for KICB-FM. Emphasis is on station management. preparing resumes and aircheck tapes, interviewing techniques and job search strategies

MMS-205
3.00
Advanced Audio Production
This course takes students beyond the fundamentals of planning and producing radio programs live, on-air. Emphasis is on creative strategy, mixing multiple audio sources, and using digital audio editing software to perform more advanced audio production.

MMS-206
1.00
Advanced Audio Production Lab
This course provides the student with practical application in mixing and editing long and short form audio programming elements for radio.

MMS-211
3.00
Advanced Video Editing
This course is designed to give students an understanding of the basic principles of videotape editing including the equipment used, major editing systems, and the process involved in post production.

MMS-212
1.00
Advanced Video Editing Lab
This course is designed to give students an understanding of the basic principles of videotape editing including the equipment used, major editing systems, and the process involved in post production.

MMS-259
3.00
Management and Operations
In this course, students will explore the marketing strategies program directors and general managers use to draw listeners to their stations. Topics to be discussed include target audience, research, format, image, promotions, and contest strategies.

MMS-262
3.00
Advertising and Sales
Students will learn the fundamentals of broadcast writing and editing. Students will demonstrate practical application of writing and production skills in preparing and presenting broadcast scripts to air on KICB-FM. This is a writing-intensive course.

MMS-265
3.00
Mass Communications Law
Students will receive an in-depth study of legal rights, privleges and regulations of the broadcast industry. Course includes an overview of the Federal Communications Commission, Supreme Court and self-regulatory agencies.

MMS-938
4.00
On the Job Training
Students will participate in a professional, eight-week summer internship. The internship will provide students with job seeking and interview skills, as well as exposure to promotions, production, on-air announcing, sports, news, sales, and other areas of interest in the radio industry.

MTR-120
3.00
Medical Transcription I
This course covers skill development in medical transcription that includes authentic physician dictation by medical specialty, coordinated readings and exercises by medical specialty and supplementary information vital to every medical transcription profession. Students must complete a 5-minute timed writing at a minimum speed of 45 wpm with 5 or fewer errors without the use of the backspace key before enrolling into course.

MTR-121
4.00
Medical Transcription II
Students will continue to refine their medical transcription skills. The use of reference manuals and style/usage references will be reinforced. An advanced level of transcription in pharmacology, laboratory medicine and radiology will be completed by students. Prerequisite MTR 120 Medical Transcription I.

MTR-941
2.00
Practicum
This course provides an opportunity to gain practical experience through on-site training in an approved medical office setting. The actual training on the job site will be under the supervision of a designated person within the employer. A total of 2 credit hours must be earned to fulfill the Practicum requirement. A letter grade of "C" or higher must be earned in this course to satisfy the program graduation requirements.

MUA-101
1.00
Applied Voice
This course offers one half-hour lesson of private instruction per week, with a minimum of 30 minutes of practice per day. The goal is the development of both fundamental and advanced vocal techniques. The presentation of the standard repertoire for the specific voice is required. Music majors may earn a maximum credit of 8 semester hours.

MUA-119
1.00
Class Piano
Instruction on piano keyboard in a classroom setting. No previous study is required for enrollment in this entry-level course. Pianos are provided for practice and performance. Permission of the instructor.

MUA-120
1.00
Applied Piano
This course offers one half-hour lesson of private instruction per week, with a minimum of 30 minutes of practice per day. The goal is the development of both fundamental and advanced piano techniques. The presentation of the standard repertoire for piano is required. Music majors may earn a maximum credit of 8 semester hours.

MUA-122
1.00
Applied Organ
This course offers one half-hour lesson of private instruction per week, with a minimum of 30 minutes of practice per day. The goal is the development of both fundamental and advanced instrumental techniques. The presentation of the standard repertoire for organ is required. Music majors may earn a maximum credit of 8 semester hours.

MUA-124
1.00
Applied Guitar
This course offers one half-hour lesson of private instruction on guitar per week, with a minimum of 30 minutes of practice per day. The goal is the development of both fundamental and advanced instrumental techniques. Music majors may earn a maximum credit of 8 semester hours. Permission of the instructor.

MUA-126
1.00
Applied Strings
This course offers a one half-hour lesson of private instruction per week, with a minimum of 30 minutes of practice per day. The goal is the development of both fundamental and advanced instrumental techniques. The presentation of the standard repertoire for the specific instrument is required. Music majors may earn a maximum credit of 8 semester hours.

MUA-143
1.00
Applied Brass
This course offers a one half-hour lesson of private instruction per week, with a minimum of 30 minutes of practice per day. The goal is the development of both fundamental and advanced instrumental techniques. The presentation of the standard repertoire for the specific instrument is required. Music majors may earn a maximum credit of 8 semester hours.

MUA-170
1.00
Applied Woodwinds
This course offers a one half-hour lesson of private instruction per week, with a minimum of 30 minutes of practice per day. The goal is the development of both fundamental and advanced instrumental techniques. The presentation of the standard repertoire for the specific instrument is required. Music majors may earn a maximum credit of 8 semester hours.

MUA-180
1.00
Applied Percussion
This course offers a one half-hour lesson of private instruction per week, with a minimum of 30 minutes of practice per day. The goal is the development of both fundamental and advanced instrumental techniques. The presentation of the standard repertoire for the specific instrument is required. Music majors may earn a maximum credit of 8 semester hours.

MUS-102
3.00
Music Fundamentals
This course is an introduction to music theory and the fundamental principles of traditional music, including melody, rhythm, harmony, basic skills and vocabulary. Emphasis is on music reading, application, notation, keytime signatures and aural training. This course is for majors and non majors with limited background in music fundamentals or as preparation for music major theory courses. Pre-requisites and/or Co-requisites: Permission of the instructor. Enrolled in Class Piano MUA-119 or Applied Piano MUA-120.

MUS-104
3.00
Exploring Music
The course is designed for students with no formal background in music. Through listening and class participation, the students will become acquainted with the various elements of music: melody, rhythm, harmony, and form. No formal music training/ background is necessary to be successful in this course. Fulfills general ed requirement in Humanities.

MUS-118
2.00
Sightsinging and Ear Training I
This course introduces a progressive study of aural training and sight-singing designed to familiarize the student with the various skills needed to advance in the study of music. With emphasis placed on critical listening, the course is intended to challenge the student to achieve a maximum mastery of its content which includes, but is not limited to; aural recognition of major/minor scales, modes, triads, seventh chords and their inversions as well as basic conducting skills, melodic and rhythmic dictation and facility of sight singing. This class will meet twice per week, along with 2 hours of arranged lab. Pre-requisites and/or Co-requisites: Permission of the instructor Must be enrolled in Music Theory I

MUS-119
2.00
Sightsinging and Ear Training II
This course introduces a progressive study of aural training and sight-singing designed to familiarize the student with the various skills needed to advance in the study of music. With emphasis placed on critical listening, the course is intended to challenge the student to achieve a maximum mastery of its content which includes, but is not limited to; aural recognition of major/minor scales, modes, triads, seventh chords and their inversions as well as basic conducting skills, melodic and rhythmic dictation and facility of sight singing. This class will meet twice per week, along with 2 hours of arranged lab. Pre-requisites and/ or Co-requisites: Permission of the instructor Successful Completion of Music Theory I and Sight Singing and Ear Training I. Must be enrolled in Music Theory II

MUS-120
3.00
Music Theory I
This course introduces elementary harmony designed to familiarize the student with the study of scales, intervals, triads, seventh chords and their inversions. The course includes harmonizing melodies and figured bass lines using primary chords. This class meets three times weekly. Pre-requisites and/or Co-requisites: Permission of the instructor Enrolled in Sight Singing and Ear Training I

MUS-121
3.00
Music Theory II
This is a continuation of the traditional music theory sequence. The course is designed to familiarize the student with the construction and progression of primary and secondary chords and elementary modulation. This class meets three times weekly. Pre-requisites and/or Co-requisites: Permission of the instructor Successful Completion of Music Theory I and Sight Singing and Ear Training I Enrolled in Sight Singing and Ear Training II

MUS-140
1.00
Concert Choir
Concert Choir is the highest quality choral offering available, and is open to all students. This course involves the study and performance of quality choral literature with emphasis on choral and vocal techniques. Participation in all rehearsals and public performances is required. Maximum credit of 4 semester hours.

MUS-145
1.00
Concert Band
This course is open to all students. This course involves the study and performance of quality band literature with emphasis on musicianship and interpretation. Participation in all rehearsals and public performances is required. Maximum credit of 4 semester hours.

MUS-146
1.00
Civic Symphony
Participation in the Fort Dodge Symphony Orchestra is possible. Acceptance into the Fort Dodge Symphony is through an individual audition procedure. Regular participation in the Symphony's scheduled rehearsals and concerts is required. Maximum credit of 4 semester hours. A minimum of two rehearsal hours per week.

MUS-149
1.00
Pep Band
This course involves the rehearsal and performance of pep band music. Rehearsals will focus on individual preparation of assigned music, group cohesiveness and interpretation. The rehearsals will culminate in performaces at home basketball games during January and February, as well as other college athletic and music functions during the semester. Performance dates will be set in advance and should be noted by the student. The pep band supports Iowa Central Community College events through traditional marching routines and performance of longstanding Iowa Cental compositions in addition to contemporary music selections. All members are required to attend weekly rehearsals and performances. Maximum credit of four (4) semester hours.

MUS-157
1.00
Vocal Jazz Ensemble
This course involves the study and performance of vocal literature, with emphasis placed on but not limited to Jazz literature. The design of the course and ensemble will be subject to voicing and performance abilities of available personnel. A minimum of two rehearsals per week. Maximum credit of 4 semester hours.

MUS-158
1.00
Civic Chorale
Participation in the Fort Dodge Choral Society is possible. Acceptance into the Fort Dodge Choral Society is through an individual audition procedure. Regular participation in the choral Society's scheduled rehearsals and concerts is required. Maximum credit of four (4) semester hours. A minimum of (2) rehearsal hours per week.

MUS-160
1.00
Harmony Brigade
Acceptance into the Harmony Brigade is through an individual audition procedure. Regular participation in the Harmony Brigade's scheduled rehearsals and concerts is required. Maximum credit of 4 semester hours. A minimum of two rehearsal hours per week.

MUS-164
2.00
Pop Singers
This course is open by audition to all students who are members of Concert Choir. The Pop Singers perform a wide variety of styles and literature with some stage movement. Public performances are given throughout the area. Participation in all rehearsals and public performances is required. Class will meet twice weekly and will meet at night periodically. Maximum credit of 8 semester hours.

MUS-167
1.00
Marching Band/Pep Band
This course involves the rehearsal and performance of marching band music and drill routines. Rehearsals will focus on individual preparation of assigned music and drill repetoire, group cohesiveness and interpretation. The rehearsals will culminate in performances at college athletic and music functions during the semester. Performance dates will be set in advance and should be noted by the student. The marching band supports Iowa Central Community College events through traditional marching routines and performance of longstanding Iowa Central compositions in addition to contemporary marching drills and music selections. All members are required to attend weekly rehearsals and performances. Maximum credit of four (4) semester hours.

MUS-173
2.00
Jazz Band
This course is open by audition to all students who are members of the Concert Band. This is a full jazz ensemble designed to explore the various styles of jazz with emphasis on musicianship and solo performances by means of improvisation. Public performances are given throughout the area. Maximum credit of 8 semester hours.

MUS-176
1.00
Brass Ensemble
This course involves the study and performance of brass literature, with emphasis placed on but not limited to jazz literature. The design of the course and ensemble will be subject to performance abilities of available personnel. A minimum of two rehearsals per week. Maximum credit of four (4) semester hours. Pre-requisite - Permission from the instructor.

MUS-177
1.00
Percussion Ensemble
This course involves the study and performance of percussion literature for a variable ensemble (from duos, trios, and quartets to the large ensemble). The percussion ensemble experience is vital to a percussionist's training, as it allows students to experience literature from contemporary marching battery and pit, to jazz and world music. The design of the course and ensemble will be subject to performance abilities of available personnel. This course is required of all percussion majors. All members are required to attend weekly rehearsals and performances. Maximum credit of four (4) semester hours.

MUS-218
2.00
Sightsinging and Ear Training III
This course introduces a progressive study of aural training and sight-singing designed to familiarize the student with the various skills needed to advance in the study of music. With emphasis placed on critical listening, the course is intended to challenge the student to achieve a maximum mastery of its content which includes, but is not limited to; aural recognition of major/minor scales, modes, triads, seventh chords and their inversions as well as basic conducting skills, melodic and rhythmic dictation and facility of sight singing. This class will meet twice per week, along with 2 hours of arranged lab. Pre-requisites and/or Co-requisites: Permission of the instructor Successful Completion of Music Theory I and II, and Sight Singing and Ear Training I and II. Must be enrolled in Music Theory III

MUS-219
2.00
Signtsinging and Ear Training IV
This course introduces a progressive study of aural training and sight-singing designed to familiarize the student with the various skills needed to advance in the study of music. With emphasis placed on critical listening, the course is intended to challenge the student to achieve a maximum mastery of its content which includes, but is not limited to; aural recognition of major/minor scales, modes, triads, seventh chords and their inversions as well as basic conducting skills, melodic and rhythmic dictation and facility of sight singing. This class will meet twice per week. Along with 2 arranged hours of lab. Pre-requisites and/or Co-requisites: Permission of the instructor Successful Completion of Music Theory I, II, and III and Sight Singing and Ear Training I, II, and III. Must be enrolled in Music Theory IV

MUS-220
3.00
Music Theory III
This a continuation of the traditional music theory sequence. Attention is given to the various seventh chords, chromatic harmony, chromatic modulations, complex rhythms and non-chord tones. This class meets three times weekly. Pre-requisites and/or Co-requisites: Permission of instructor Successful completion of Music Theory I, and II, and Sight Singing and Ear Training I and II Enrolled in Sight Singing and Ear Training III

MUS-221
3.00
Music Theory IV
This course stresses 19th century and 20th century compositional practices, combined with an emphasis upon writing and analysis. The introduction of fundamental contrapuntal techniques is included. This class meets three times weekly. Pre-requisites and/or Co-requisites: Permission of Instructor Successful completion of Music Theory I, II, and III, and Sight Singing and Ear Training I, II, and III Enrolled in Sight Singing and Ear Training

MUS-948
1.00
Special Projects
1,2,3,or4 credit hours. Highly motivated students may wish to work intensively on a creative or research project not covered in the course offerings of the department. The student should possess the necessary background for such work, and initiate an application for such study. A maximum of four hours credit may be earned. Permission of the staff member with whom the student wishes to work is required

MUS-949
1.00
Special Topics: Music
1,2,3, or 4 credit hours. This course, offered usually on a one-time only basis provides an in-depth study on a topic of general interest pertaining to this department.

NET-110
3.00
Microcomputer Fundamentals
Students will learn the fundamentals of MS DOS, Windows operating systems, and file management and fundamental productivity software.

NET-152
3.00
Advanced Networking Technology
This course will cover the advanced topics of networking topologies, advanced management utilities, plan performance management, configure network communications packets, configure the environment for different network protocols, construct network security, implement and evaluate a maintenance and prevention plan, determine appropriate action for common problems. While in the course and covering the topics the student will also be studying for a series of tests that are required for the Engineers License in networking. Prerequisites: NET 211 CISCO Networking, NET 191 Network Cabling, NET 413 Linus System Administration, NET 750 Telecommunications Serv. Exceptions subject to program coordinators' discretion.

NET-160
3.00
Network Design & Documentation
Students will learn to design and document networks from the ground up using industry standards. Starting with the network in our own lab, the students will learn to design a simple network and create the necessary documentation to manage a small network. The students will then develop skills to design and document a more complicated network, such as the Iowa Central campus network. They will also learn to document established networks. This will be accomplished by inspecting the campus network, using necessary tools and software to analyze the network and prepare the proper documentation. Prerequisites: NET 191 Network Cabling, NET 211 CISCO Networking, NET 222 CISCO Routers. Exceptions subject to program coordinators' discretion.

NET-161
2.00
Network Design Documentation
Students will learn to design and document networks from the ground up using industry standards. Starting with the network in our own lab, the students will learn to design a simple network and create the necessary documentation to manage a small network. The students will then develop skills to design and document a more complicated network, such as the Iowa Central campus network. They will also learn to document established networks. This will be accomplished by inspecting the campus network, using necessary tools and software to analyze the network and prepare the proper documentation. Prerequisites: NET 191 Network Cabling, NET 211 CISCO Networking, NET 222 CISCO Routers. Exceptions subject to program coordinators' discretion.

NET-191
2.00
Network Cabling
This course focuses on networking terminology, technologies, components, and how data is moved in the real-world network environment. Beginning with basics of data communication, the student will learn about data packet structure, frames, communication architectures, transmission methods, DCE/DTE interfaces, modulation, and multiplexing.

NET-211
2.00
CISCO Networking
This course focuses on networking terminology, scientific notation, metric prefixes, technologies, components, and how data is moved in the real-world network environment. This course will include the use of Ohm's Law to solve series circuits and parallel circuits. Students will learn Alternating Current (A-C) fundamentals, basic circuit troubleshooting, inductance, series and parallel circuits, as AC/DC pertains to networks. Using a network instrument student will look at data communication and how the packet travels though a network. The student will learn about data packet structure, frames, communication architectures, transmission methods, signal modulation, and signal multiplexing.

NET-222
3.00
CISCO Routers
Protocols and router knowledge is crucial for today's networking professional. This course gives you an opportunity to compare and contrast the performance, overhead, routability, security and integrity issues surrounding today's major LAN/WAN protocols. The student will understand how to install, configure and manage Cisco routers. This course also gives you the hands-on experience you need for configuring your routers in multi-protocol network. Students will configure routing tables, subnetted IP networks, addressing schemes and access lists on the classroom network. Students will learn how to configure routers for IP, IPX and AppleTalk, DCE/DTE interfaces, modulation, and multiplexing.Prerequisites: NET 191 Network Cabling and NET 211. Exceptions subject to program coordinators' discretion.

NET-232
3.00
CISCO Switched
Students will learn routed data communications using TCP/IP based Ethernet Internet works. Students will build, configure, and troubleshoot an Ethernet, TCP/IP LAN, which includes hosts, hubs, routers, switches, and all necessary cabling. Prerequisites: NET 191 Networking Cabling, NET 211 CISCO Networking and NET 222 CISCO Routers. Exceptions subject to program coordinators' discretion.

NET-242
3.00
CISCO Wide Area Networks (WAN)
The Advanced Wide Area Networking course provides students with a comprehensive study of the differences between the following WAN services: LAPB, Frame Relay, ISDN/LAPD, HDLC, PPP, and DDR. Students will learn to configure the routers to implement Frame Relay LMIs, maps, and sub-interfaces. Identify PPP operations to encapsulate WAN data on Cisco routers. Students will identify ISDN protocols, function groups, reference points, and channels. Prerequisites: NET 191 Network Cabling, NET 222 CISCO Routers and NET 232 CISCO Switches. Exceptions subject to program coordinators' discretion.

NET-314
4.00
Windows Server
Students will install and configure the Microsoft Windows Network Operating System, investigate network configurations, manage users and groups, security and permissions, policies and profiles, remote server management, install applications and establish network printing. (Windows, Microsoft Windows Server)Prerequisites: NET 191 Network Cabling, NET 211 CISCO Networking, NET 110 Microcomputer Fundamentals, NET 790 PC Support I, NET 483 Network Certification+, NET CISCO Routers, and NET 791 PC Support II. Exceptions subject to program coordinators' dsicretion.

NET-343
3.00
Windows Directory Services
This course is designed to provide the student the necessary information to pass the implementing and supporting Microsoft NT Server exam. The Microsoft Certified Systems Engineer (MCSE) exams are performance-based exams that prove you can apply your knowledge in a variety of situations. The students will apply that information through extensive hands-on lab situations and comprehensive CD ROM based study material. Prerequisite: NET 314 Windows Server. Exceptions subject to program coordinators' discretion.

NET-345
3.00
Windows Scripting
Students will learn to develop and use VBScript, and WMI, scripting techniques to administer Windows operating systems. Concepts, terminology, components and the design of scripts will be addressed throughout this course. Prerequisites: NET 110 Microcomputer Fundamentals. Exceptions subject to program coordinators' discretion

NET-347
2.00
Windows Directory Scripting
Students will learn to develop and use VBScript, and WMI, scripting techniques to administer Windows operating systems. Concepts, terminology, components and the design of scripts will be addressed throughout this course. Prerequisites: NET 345 Windows Scripting, NET 314 Windows Server and NET 413 Linux System Administration. Exceptions subject to program coordinators' discretion.

NET-412
3.00
Linux System Administration
UNIX Operating system will teach you how to use UNIX operating system and introduce you to the Common Desktop Environment (CDE). The class is for new users of the UNIX environment and CDE. You will learn fundamental command-line features of the UNIX environment including file system navigation, file permissions, the vi text editor, command shells, and basic network use. CDE features include Applications Manager, Text Editor, printing, and mail. Prerequisites: NET 191 Network Cabling, NET 211 CISCO Networking, NET 110 Microcomputer Fundamentals, NET 790 PC Support 1, NET 483 Network Certification+, NET 222 CISCO Routers, NET 791 PC Support II. Exceptions subject to program coordinators' discretion.

NET-413
4.00
Linux System Administration
UNIX Operating system will teach you how to use UNIX operating system and introduce you to the Common Desktop Environment (CDE). The class is for new users of the UNIX environment and CDE. You will learn fundamental command-line features of the UNIX environment including file system navigation, file permissions, the vi text editor, command shells, and basic network use. CDE features include Applications Manager, Text Editor, printing, and mail. Prerequisites: NET 191 Network Cabling, NET 211 CISCO Networking, NET 110 Microcomputer Fundamentals, NET 790 PC Support 1, NET 483 Network Certification+, NET 222 CISCO Routers, NET 791 PC Support II. Exceptions subject to program coordinators' discretion.

NET-455
3.00
Advanced Linux System Administration
This Linux/UNIX174 Advanced Operating system course will teach you how to use the advanced features in both the Linux /UNIX operating system. The course is for advanced users of the Linux/UNIX environment. You will learn how to do low-level configuration of the OS and configure different modules for hardware/software components. This course will also configure Network Server services and how to secure the Network System against Network attacks. Prerequisite: NET 413 Linux System Administration. Exceptions subject to program coordinators' discretion.

NET-483
3.00
Network + Certification
Students will learn the fundamentals of todays network operating systems including Windows and Linux based systems. Time will also be spent on networking including standards, protocols, and LAN architecture. Students will be exposed to the physical components that make up a network. Additional topics covered will include installation procedures, network services, network administration and security.Prerequisite: NET 790 PC Support I, NET 191 Network Cabling, and NET 211 CISCO Networking. Exceptions subject to program coordinators' discretion.

NET-486
2.00
Novell Network Certification
This course will prepare the student for the Novell Certified Network Engineer (CNE) certification process - whether you are seeking your first certification or updating your certification for Intranet ware. This course covers all seven of the Novell CNE exams. It provides a clear path to mastery of every aspect of the material a successful Novell CNE candidate needs to know.

NET-513
4.00
Novell Network Administration
Students will install and configure the Novell Network Operating System, investigate network configurations, create users and groups, and configure shared resources across the network, using login scripts, management software to mange data, install applications and establish network printing. (DOS, Windows 2000, Windows/98, Novell)

NET-611
2.00
Network Security
This course will portrait things that can go wrong with a computer network and provide a discussion of the tools available to counteract them. This course will walk through a security audit and the process of developing an effective security policy. Students will learn how to implement security measures--including logging, encryption, and packet filtering--on your existing network infrastructure. Course will look at specifics for Unix, Windows NT, Cisco IOS, and NetWare. Prerequisites: NET 314 Windows Server, NET 191 Network Cabling, NET 211 CISCO Networking, NET 110 Microcomputer Fundamentals, NET 790 PC Support I, NET 483 Network Certification+, NET 222 CISCO Routers, NET 791 PC Support II, NET 413 Linux System Administration, NET 232 CISCO Switches and NET 161 Network Design and Doc. Exceptions subject to program coordinators' discretion

NET-612
3.00
Fundamentals of Network Security
This course will portrait things that can go wrong with a computer network and provide a discussion of the tools available to counteract them. This course will walk through a security audit and the process of developing an effective security policy. Students will learn how to implement security measures--including logging, encryption, and packet filtering--on your existing network infrastructure. Course will look at specifics for Unix, Windows NT, Cisco IOS, and NetWare.

NET-683
3.00
Internetworking Services
This course will cover the various Web topics that exist in today's Information Technology Environment and how to configure and manage those resources in your network environment. Students will examine topics that are important to organizations connected to the internet such as: Web access, maintaining and ensuring security, integrating e-mail to the web, FTP and media services, basic IP configuration and troubleshooting. This course will cover the two most popular operating systems in regards to Web server for the OS. This course will place the emphasis on skill building and concepts for Web administration of a network system.

NET-750
3.00
Telecommunications Services
This course is a study of the telephone system including facilities, key systems, and PBXs. Two-wire and four-wire circuits will be discussed along with E&M and SF signaling. Students will install, maintain, and troubleshoot several varieties of key systems and PBXs. Use of manufacture manuals to set up working systems is emphasized. Interfacing key systems to PBXs and PBXs to PBXs is included in the lab. This class also covers the theory of fiber optic transmission of communication signals. Subjects covered include light wave theory types and placement of cables, connectors, splicing, transmitters, and receive power budgets, etc. Students in lab will get experience in working with several types of glass fiber cable and associated electronics. Prerequisites: NET 191 Network Cabling and NET 211 CISCO Networking.

NET-774
1.00
Help Desk I
Students will learn to identify systems lockups, network errors and operating systems hang-ups and conflicts, and apply a combination of hardware and software skills to interface, configure and troubleshoot computer controlled systems. System components that will be diagnosed and repaired are: motherboards, power supplies, memory devices, floppy disk drives, hard drives, communication interfaces, and printers.

NET-775
1.00
Help Desk II
Students will learn to meet the demands of the user support industry. They will become familiar with the tools and technologies that are available in a support environment. They will also learn the processes associated with a help desk or customer service position. Time will be spent investigating the process of asset management, problem resolution tools and the office space in a support environment.Prerequisite: NET 774 Help Desk I. Exceptions subject to program coordinators' discretion.

NET-776
1.00
Help Desk III
This course uniquely prepares the student to keep the customer productive by focusing on the business needs of the customer, establishing credibility and trust, by using real world scenarios. This is the 3rd course in a series of 4 in the 2 year program. Emphasis is given to problem solving and troubleshooting, team dynamics, and interpersonal communication skills in a college campus. This course exposes the student to common industry tools and technologies used in providing exceptional customer support. Prerequisites: NET 774 Help Desk I, NET 775 Help Desk II. Exceptions subject to program coordinators' discretion.

NET-777
1.00
Help Desk IV
This course uniquely prepares the student to keep the customer productive by focusing on the business needs of the customer, establishing credibility and trust, by handling real world scenarios. This is the 4th course in a series of 4 in the 2 year program. Emphasis is given to problem solving and troubleshooting, team dynamics, and interpersonal communication skills in a college campus. This course exposes the student to common industry tools and technologies used in providing exceptional customer support. Prerequisites: NET 774 Help Desk I, NEt 775 Help Desk II and NEt 776 Help Desk III. Exceptions subject to program coordinators' discretion.

NET-784
2.00
Help Desk Lab
Students will learn to meet the demands of the user support industry through hands-on experiences. They will become familiar with the tools and technologies that are available in a support environment. They will also learn the processes associated with a help desk or customer service position. Time will be spent in different real-life support environments and working through situational experiences.

NET-790
3.00
PC Support I
Students will learn to identify systems lockups, network errors and operating systems hang-ups and conflicts and apply a combination of hardware and software skills to interface, configure and troubleshoot computer controlled systems. System components that will be diagnosed and repaired are: motherboards, power supplies, memory devices, floppy disk drives, hard drives, communication interfaces, and printers.

NET-791
3.00
PC Support II
Students will spend time working to hone their computer repair and troubleshooting skills through the use of "real life" situations. Time will be spent troubleshooting problems that are encountered in both work and home environments. The students will work to resolve these issues, while documenting their procedures, and practicing customer relation skills. Prerequisites: NET 790 PC Support I. Exceptions subject to program coordinators' discretion.

NET-949
4.00
Special Topics - Tech Support
This course, usually offered on a limited basis only, provides an in-depth study on a topic of general interest pertaining to this department. This course uniquely prepares the student to keep the customer productive by focusing on the business needs of the customer, establishing credibility and trust, and by handling real world scenarios. Emphasis is given to problem solving and troubleshooting, team dynamics, and interpersonal communication skills in a college campus. This course exposes the student to common industry tools and technologies used in providing exceptional customer support.

PEA-195
3.00
Essentials Athletic Strength/Cond
This course will explore the most current research of the scientific principles, concepts and Theories of strength training and conditioning as well as their practical applications to athletic performance. This course is designed to assist students who are interested in coaching or a possible career in strength training and conditioning.

PEC-107
2.00
Sports and Society
This course will explore the relationship between sports and our society in which it exists. This course will give students an opportunity to discuss and critically think about the ethics of sports and how sports affects society. This course will also examine the document of Code of Ethics, Rights and Responsibilities, and Standards for Professional Practice and Competent Performance. This component satisfies the 5-hour ethics requirement as mandated by the Iowa Board of Educational Examiners.

PEC-110
1.00
Coaching Ethics, Techniques, & Theory
Techniques and Ethics of Coaching is a one credit course that will provide coaches, and future coaches, the knowledge and understanding of the techniques of coaching interscholastic athletics. In addition, this course is designed to give coaches, and future coaches, the opportunity to prepare and reflect on the many coaching concepts and responsibilities. The course format allows coaches, and future coaches, the ability to direct their effort toward a particular sport of choice.

PEC-111
2.00
Techniques and Theory of Coaching
This course will provide a knowledge and understanding of the techniques and theory of coaching interscholastic athletics. This is one of four courses that meets the requirements for the coaching authorization issued by the Iowa Department of Education.

PEC-115
1.00
Athletic Development and Human Growth
This course will provide a knowledge and understanding of human growth and development of children and youth in relation to physical activity. This is one of four courses that meets the requirements for the coaching authorization issued by the Iowa Department of Education.

PEC-121
2.00
Body Structure and Function
This course will provide a knowledge and understanding of the structure and function of the human body in relation to physical activity. This is one of four courses that meets the requirements for the coaching authorization issued by the Iowa Department of Education.

PEC-123
1.00
Anatomy for Coaching
This one (1) credit hour course will provide a basic knowledge of the structure and function of the human body in relation to physical activity. This one (1) hour credit course meets the requirement for the Structure and Function component for coaching authorization as required by the Iowa Department of Education. This one (1) hour credit course focuses on the four (4) main body systems that are appropriate to physical activity: (1) skeletal system, (2) muscular system, (3) circulatory system, and (4) respiratory system.

PEC-127
2.00
Care and Prevention of Athletic Injuries
This course will provide a knowledge and understanding of the prevention and care of athletic injuries and medical safety problems relating to physical activity. This is one of four courses that meets the requirements for the coaching authorization issued by the Iowa Department of Education.

PEC-170
1.00
Sports Officiating: Basketball
This course emphasizes guiding principles and standards, rules, mechanics and procedures for officiating basketball.

PEC-171
1.00
Sports Officiating: Softball
This course emphasizes guiding principles and standards, rules, mechanics and procedures for officiating softball.

PEC-172
1.00
Sports Officiating: Baseball
This course emphasizes guiding principles and standards, rules, mechanics and procedures for officiating baseball.

PEC-177
1.00
Sports Officiating: Football
This course emphasizes guiding principles and standards, rules, mechanics and procedures for officiating football.

PEH-141
2.00
First Aid
The course is a study of the fundamentals of first aid with emphasis on the prevention and emergency care of injuries of all kinds. Units using multimedia instruction and cardiopulmonary resuscitation will be given with American Red Cross certification.

PEH-175
2.00
Sports Psychology
This course will offer students the opportunity to learn correct concepts and applications of sport psychology. Students will learn about mental preparation for sport competition. Sport psychology will assist in enhancing both athletic performance and the social-psychological aspect of human development

PEH-185
3.00
Contemporary Health Issues
This course presents a basic understanding of the relationship between the human body and the environment in which it exists. This course addresses principles and practices of personal health and disease prevention. The course also develops an appreciation for the social, economic and medical aspects of man and disease as it relates to personal and community living. Topics include dimensions of health; making consumer and health care choices; emotional maturity and stress management; physical activity; diet, nutrition, and weight management; consequences of drug, alcohol, and tobacco use; sexuality; responsible sexual behavior.

PEH-948
1.00
Special Projects
1, 2, 3, or 4 credit hours. Highly motivated students may wish to work intensively on a creative or research project. The student should possess the necessary background for such works and should initiate an application for such study. A student must obtain written permission from supervising staff member to enroll in this course.

PEH-949
2.00
Special Topics
The department will offer from time to time credit offerings in selected special areas of interest on a topical basis per semester.

PET-105
3.00
Basic Athletic Training
This course will provide a knowledge and understanding of the prevention and care of athletic injuries and medical safety problems relating to physical activity. Topical discussions survey athletic training and sports medicine specifically in the areas of pathology, epidemiology, evaluation, and management of exercise and sport induced injuries. This is one of four courses that meet the requirements for the coaching authorization issued by the Iowa Department of Education.

PET-119
3.00
Intro to Biomechanics
This course deals with the study of muscles as they are involved in the science of human movement. Since muscles attach to bones through tendons, both skeletal and muscular structures are involved. At the completion of this course the student should be able to (1) identify on a human skeleton and/or a living subject the most important bones and bony features for the major joints of the body, (2) label the important bones and bony features on a skeletal chart, (3) draw and label major muscles on a skeletal chart, (4) identify and palpate these muscles on a human subject, (5) list and organize the muscles that produce the primary movements for all the major joints of the body, and (6) analyze basic movements in terms of muscle actions. Information will also be presented on how to strengthen and stretch most of these muscles.

PET-141
3.00
Athletic Training Field Experience
This class is designed to give students whom are interested in the field of Athletic Training the hands on experiences in the training room, as well as on the practice and playing fields. The students will assist Certified Athletic Trainers in the daily operations of the training room, practice and game preparation, as well as game coverage. Students will assist in evaluations, as well as observe treatments and partaking in the evaluation, as rehabilitation process of the student athletes. Students will also receive a brief history of Sports Medicine.

PEV-101
1.00
Varsity Sports Conditioning
This course includes the conditioning and sport-specific activities and drills performed by student athletes in preparation for varsity sports participation. A variety of conditioning activities are emphasized, such as strength training, stretching, endurance, agility, and balance exercises. Related topics include methods of weight training, flexibility, aerobic exercises, safety, rehabilitation, and nutrition plans in preparation for varsity sports participation. A maximum of two semester hours may be earned, and no more than one semester hour of credit may be earned per academic year.

PEV-105
1.00
Varsity Sports Participation
This course includes the knowledge and skills gained through participation in an intercollegiate sport at Iowa Central Community College. Participants must meet NJCAA eligibility requirements and must complete the season as a squad member. A maximum of 4 semester hours may be earned, and no more than 1 semester hour of credit may be earned in a sport per academic year.

PEV-156
1.00
Drill Team
This course includes the knowledge and skills gained through participation in a collegiate activity at Iowa Central Community College. A maximum of 4 semester hours may be earned; however, no more than 1 semester hour of credit may be earned per semester.

PEV-190
1.00
Varsity Spirit Squad
This course includes the knowledge and skills gained through participation in a collegiate activity at Iowa Central Community College. A maximum of 4 semester hours may be earned; however, no more than 1 semester hour of credit may be earned per semester.

PEV-949
1.00
Dance Technique and Fundamentals
This course is designed to explore the techniques and advanced skills of dance and body movement. The purpose is to provide instruction of technical elements necessary for competitive level dancers. This class will implement and combine all areas of preparation for the well rounded athletic dancer to aid in preparation of routines for performance and continued dance education and experience

PHI-101
3.00
Introduction to Philosophy
In this course we will read and discuss selections from historical and contemporary philosophers addressing the following questions: What is knowledge and can we have any? How is the mind related to the body? Do we have freewill? What makes right actions right and wrong actions wrong? What is it for a society to be just? What is beauty? What is the truth? This course surveys central positions held by philosophers on several central issues in philosophy such as skepticism, the mind/body problem, the existence of God, and the justification of moral norms. Arguments for and against these positions are presented and discussed, and students are encouraged to participate in the discussion.

PHI-145
3.00
Introduction to Ethical Conflicts
This course explores contemporary ethical conflicts as a way to develop students critical thinking skills. Students will examine various moral theories and their application to ethical problem solving by the use of case studies. Students will determine principles upon which to base their decision making. Areas for discussion may include personal decision making, job and workplace ethics, the social aspects of medicine, and the morals of politics and war.

PHS-120
4.00
Exploring Physical Science
This course is a hands-on inquiry based course for prospective elementary teachers and non-science majors. Emphasis is on the search for and use of evidence as the basis for drawing conclusions. The aim of this course is to provide a well-grounded understanding of selected fundamental physical science concepts within electricity, light, heat, and the nature of matter. This course satisfies a general education requirement in the Math/Science area.

PHS-125
4.00
Physical Science
This course is an introduction to fundamental concepts of physical science through topics in physics, chemistry, astronomy, geology, meteorology and energy to give non-science majors a better understanding of their physical environment. This course satisfies a general education requirement in the Math/Science area. Three hours lecture, two hours lab. Prerequisite: MAT-102 Intermediate Algebra or equivalent

PHS-172
4.00
Physical Geology
This is a first course in geology. Students will learn about rocks and minerals, processes that shape the Earth's surface, and the time scale on which these processes occur. This course satisfies a general education requirement in the Math/Science area. Three hours lecture, two hours lab.

PHT-183
3.00
Photography I
This course is an introduction to camera selection and handling, the proper choice of lenses, ISO speed selection, shutter speed and aperture selection, photographic filter usage, and important elements of photographic composition. It will include theories of photography and photographic history. Students will be able to check out digital SLR cameras provided by the college, or may bring their own approved photographic equipment. Students will complete specific technique-based assignments and participate in class demonstrations, discussion and critiques. Materials fee. Pre-requisite: None

PHT-185
3.00
Photography II
This course is a continuation of Art-184 Photography/ PHT-183 Photography I and will permit students to explore camera and lighting techniques for creating texture, simple indoor and outdoor portraiture, commercial studio photography, journalistic photography, close-ups and more. Students will be able to check out digital SLR cameras provided by the college, or may bring their own approved photographic equipment. Students will complete specific technique-based assignments and participate in class discussion, demonstrations, and critiques. Materials fee. Pre-requisite: ART-184 or PHT-183

PHT-189
3.00
Photography III
This course takes the contents of Photography II and elaborates on each concept, from portrait photography to other client-based photographic assignments. Students will begin narrowing their area(s) of specialty in the class. Students will be required to provide their own approved digital single lens reflex (DSLR) camera and approved multi-focal length (zoom) lens. Materials fee. Pre-requisite: PHT-185

PHT-192
3.00
Photography IV
Photography IV is a continuation of Photography III. This is the point in the program where students will concentrate their energy into one or two specialties (for example: portraiture, journalism (including sports), commercial photography, or wedding photography). Students will be required to provide their own approved digital single lens reflex (DSLR) camera and approved multi-focal length (zoom) lens. Materials fee. Pre-requisite PHT189

PHT-195
3.00
Basic Set Prop Design-Const-Painting I
Students will explore the tools and techniques necessary to create an environment supportive of the photographic subject. No text. Materials fee. Pre-requisites: Acceptance in Professional Photography Program and PHT-185

PHT-196
3.00
Basic Set Prop Design-Const-Painting II
Students will continue to explore the tools and techniques necessary to create an environment supportive of the photographic subject. No text. Materials fee. Pre-requisites: Acceptance in Professional Photography Program and PHT-195

PHT-230
3.00
Advanced Portraiture
This course will develop the student?s understanding of the various forms of portraiture, the use of specific tools and materials, and the interpersonal skills necessary for taking effective and compelling photographs. Students will be required to provide their own approved digital single lens reflex (DSLR) camera and approved multi-focal length (zoom) lens. No text. Materials fee. Pre-requisite: PHT-189

PHT-233
3.00
Commercial Photography
This course will cover the vast field of commercial photography, from taking fashion photos to product photography, to photographing architecture. Students will be required to provide their own approved digital single lens reflex (DSLR) camera and approved multi-focal length (zoom) lens. No text. Materials fee. Pre-requisite: PHT-185

PHT-250
2.00
Marketing in Photography
Students will learn to identify, target and reach potential markets with the appropriate advertising materials. Students will understand how to budget for marketing campaigns, spend wisely, and to use various media formats to reach specific groups. The course will also cover when to advertise, how to use promotions, and, in general, how to motivate clients to choose specific packages or photographic formats. No text. Pre-requisite: PHT-185

PHT-258
2.00
The Business of Photography
This course will cover an understanding of the tools and techniques of operating a successful photography business and to organize, administer, and market photographic services and products as they pertain to the needs of a targeted audience. No text. Pre-requisites: Acceptance in Professional Photography Program, BUS-102 and PHT-250

PHT-288
3.00
Photography in Journalism
This course will cover how to photograph newsworthy people, places, and sporting, political, and community events for newspapers, journals, magazines, and television. Students will be able to check out digital SLR cameras provided by the college, or may bring their own approved photographic equipment. No text. Material fees. Pre-requisite: PHT-183 or equivalent.

PHT-299
1.00
Photography Portfolio Development
Students will identify different types of photographs that represent the spectrum of the photographic subjects and disciplines that they have been educated in. This is the type of collection that graduates of the program will present to potential clients or employers as evidence of the student?s range of skills and expertise. No text. Materials fee. Pre-requisite: PHT-189

PHY-162
4.00
College Physics I
This course provides a general background for those who do not plan advanced study in physics or engineering. Topics covered include elementary mechanics, including kinematics and dynamics of particles; work and energy; linear and angular momentum; rotational motion; oscillations; waves and gravitation. This course satisfies a general education requirement in the Math/Science area. Prerequisite: MAT 102 or equivalent with "C" grade or better or the necessary score on the mandatory assessment and placement chart.

PHY-172
4.00
College Physics II
This course is a continuation of PHY-162 College Physics I. Topics covered include heat, thermodynamics, kinetic theory of gases; electric forces and fields; direct and alternating currents; magnetic forces and fields; ray optics and image formation; and atomic structure. Prerequisite: PHY-162 with a "C" grade or better

PHY-184
4.00
Applied Physics
The Applied Physics course blends basic technical principals with laboratory practice that involves realistic devices used by technicians in their everyday work. Students will gain hands-on experience using applied laboratory experiments to better understand mechanical, fluid, electrical and thermal systems.

PHY-212
5.00
Classical Physics I
This course is designed to meet the needs of students planning to major in engineering and various fields of science. Topics covered include elementary mechanics, including kinematics and dynamics of particles; work and energy; linear and angular momentum; rotational motion; oscillations; waves and gravitation. Prerequisite: MAT-210 Calculus I or equivalent

PHY-222
5.00
Classical Physics II
This course is a continuation of PHY-212 Classical Physics I. Topics covered include heat, thermodynamics, kinetic theory of gases; electric forces and fields; direct and alternating currents; magnetic forces and fields; ray optics and image formation; and atomic structure. Prerequisite: PHY-212 with a "C" grade or better

PHY-948
1.00
Special Projects
This course is open to students showing satisfactory preparation in a particular area of interest. Involves individual topic, conferences and preparation of reports. Designed to meet the needs of students wishing to study a selected topic in depth. Permission of the department chair and the staff member with whom the student wishes to work is required.

PHY-949
1.00
Special Topics
This course, offered usually on a one-time basis only, provides an in-depth study on a topic of general interest pertaining to this department.

PNN-121
1.50
Clinical Practicum 1
This course provides an opportunity for students to apply Fundamentals of Nursing in Health Care in the clinical setting with adult clients through the use of assessment, nursing diagnosis, planning, interventions and evaluation. A pass/fail grade is earned for this clinical course. Prerequisites: Cardiopulmonary Resuscitation (CPR), Mandatory Reporter for child and adult abuse, completion of a 75-hour Nurse Aide class, on state of Iowa Nurse Aide Registry and BIO-168 Human Anatomy & Physiology I with lab. Co-requisites: HSC-112 or HSC-113 Medical Terminology, BIO 173 Human Anatomy & Physiology II with lab, BIO-151 Nutrition, PSY-121 Developmental Psychology, PNN-127 Fundamentals of Nursing in Health Care and PNN-206 Medication Administration for Nurses.

PNN-127
5.00
Fundamentals of Nursing in Health Care
This course introduces the art and science of nursing practice. Professionalism, nursing roles, critical thinking, ethical and legal concepts are emphasized. The concepts of the nursing process, communication, safety, pharmacology, the health-illness continuum and cultural diversity are introduced. Skills and technology utilized in the routine care of adult clients in traditional health care settings are presented. Prerequisites: Cardiopulmonary Resuscitation(CPR), Mandatory Reporter for child and adult abuse, completion of a 75-hour Nurse Aide class, on state of Iowa Nurse Aide Registry and BIO-168 Human Anatomy & Physiology I with lab. Co-requisites: HSC-112 or HSC-113 Medical Terminology; PSY-121 Developmental Psychology; BIO-151 Nutrition; BIO-173 Human Anatomy & Physiology II with lab; PNN-121 Clinical Practicum 1; PNN-206 Medication Administration for Nurses.

PNN-206
1.00
Medication Administration for Nurses
This course provides a basic foundation of pharmacology concepts and math calculations for the adult and pediatric patient in the clinical setting. Syringe usage, injections and nonparenteral routes, reconstitution, and safe medication administration are emphasized. Drug classifications, nursing implications, and side effects of medications are introduced. Prerequisites: Cardiopulmonary Resuscitation(CPR), Mandatory Reporter for child and adult abuse, completion of a 75-hour Nurse Aide class, on state of Iowa Nurse Aide Registry and BIO-168 Human Anatomy & Physiology I with lab. Co-requisites: HSC-112 or HSC-113 Medical Terminology; PSY-121 Developmental Psychology; BIO-151 Nutrition; BIO-173 Human Anatomy & Physiology II with lab; PNN-121 Clinical Practicum I, PNN-127 Fundamentals of Nursing in Health Care.

PNN-311
1.00
PN Issues & Trends
This course is designed to help the practical nursing student develop an awareness and understanding of responsibilities to self and career. The course content includes historical perspectives, ethical and legal considerations, professional organizations, leadership skills, career opportunity review, health resources and career responsibilities. Prerequisites: PNN-621 Life Span Health Care, PNN-622 Clinical Practicum 2, PSY-121 Developmental Psychology, HSC-112 or HSC-113 Medical Terminology, BIO-151 Nutrition, BIO-168 Human Anatomy & Physiology I with lab, BIO-173 Human Anatomy & Physiology II with lab. Co-requisites: PNN-811 Selected Clinical Nursing, PNN-731 Clinical Practicum.

PNN-621
8.50
Life Span Health Care
This course is designed for the beginning nursing student and introduces the health care needs of individuals and families. It presents content on the nurse's role in health promotion, maintenance and disease prevention while looking at the effects of the environment on the health of children, pregnancy, adults and the elderly. The focus is on common health problems associated with each body system and an introduction of pharmacology in the therapeutic management of disease. Prerequisites: PNN-127 Fundamentals of Nursing in Health Care, PNN-121 Clinical Practicum 1,PNN-206 Medication Administration for Nurses, HSC-112 or HSC-113 Medical Terminology, BIO-151 Nutrition, PSY-121 Developmental Psychology, BIO-173 Human Anatomy & Physiology II with lab. Co-requisite: PNN-622 Clinical Practicum 2.

PNN-622
4.00
Clinical Practicum 2
This course provides an opportunity for students to apply Life Span Health Care theory in the clinical setting with different age groups through the use of assessment, nursing diagnosis, planning, intervention and evaluation. Prerequisites: PNN-127 Fundamentals of Nursing in Health Care, PNN-121 Clinical Practicum 1,PNN-206 Medication Administration for Nurses,HSC-112 or HSC-113 Medical Terminology, BIO-151 Nutrition, PSY-121 Developmental Psychology, BIO-173 Human Anatomy & Physiology II with lab. Co-requisite: PNN-621 Life Span Health Care.

PNN-731
2.50
Clinical Practicum
This course provides the practical nursing student with the clinical opportunity to demonstrate further proficiency in the care of adult medical/surgical patients and a limited experience with a leadership role. A pass/fail grade is earned for this clinical course. Prerequisites: PNN-621 Life Span Health Care, PNN-622 Clinical Practicum 2, PSY-121 Developmental Psychology, HSC-112 or HSC-113 Medical Terminology, BIO-151 Nutrition, BIO-168 Human Anatomy & Physiology I with lab, BIO-173 Human Anatomy & Physiology II with lab. Co-requisite: PNN-811 Selected Clinical Nursing, PNN-311 PN Issues and Trends.

PNN-811
1.00
Selected Clinical Nursing
This course is designed to assist the practical nursing student to understand common adult health problems with emphasis on the nursing process and pharmacology. Prerequisites: PNN-621 Life Span Health Care, PNN-622 Clinical Practicum 2, PSY-121 Developmental Psychology, HSC-112 or HSC-113 Medical Terminology, BIO-151 Nutrition, BIO-168 Human Anatomy & Physiology I with lab, BIO-173 Human Anatomy & Physiology II with lab. Co-requisites: PNN-311 PN Issues and Trends, PNN-731 Clinical Practicum.

POL-111
3.00
American National Government
This survey course introduces the general principles, policies, and problems of the national government in the United States. Fundamentals of American democracy; constitutionalism; the nature of federalism; the rights and duties of citizens; the institutions and processes of the executive, legislative, and judicial branches of government; the role of public opinion and the media; and the participation of interest groups, social movements, and political parties in the U.S. political system are emphasized.

POL-112
3.00
American State and Local Government
This survey course introduces the general principles and problems of representative government at the state and local levels in the United States. A discussion of current political issues and alternative public policies impacting on states and localities will be included in the course.

POL-121
3.00
International Relations
This course involves the study of international affairs, including major theories and concepts relating to comparative political systems, international organizations, foreign policy, international economics, global politics, diplomacy, and international conflict. The course is designed to give the student a better understanding of international relations in the world today, with an emphasis on issues relating to global awareness and intercultural diversity.

PSY-111
3.00
Introduction to Psychology
This course includes the tools for the study of psychology, basic psychological processes, personality and social behavior, contemporary knowledge of motives, intelligence, learning and emphasis on the language of modern psychology.

PSY-112
3.00
Psychology of Human Relations
The basic psychological principles of human behavior and the operation of these principles in helping students to understand themselves and their relationships with others socially, in the family and the world of work, are examined in this course.

PSY-121
3.00
Developmental Psychology
This course traces the fundamental patterns of normal health development from conception to death. Each developmental period is examined in light of the characteristics of the period and the demands of the American culture. Recent research in the studies relating to different ages is reviewed.

PSY-222
3.00
Child Psychology
This course focuses on the normative and non-normative influences of the physical, cognitive and socioemotional procsses of children from conception to age 12. The course will also examine how the dynamics of family, school, and society affect development.

PSY-224
3.00
Adolescent Psychology
This course concentrates on the bidirectional view of how physical changes affect socioemotional and cognitive processes for adolescents age 10-19. It also includes the tools for the study of learning theories, community resources, and familial support needed to help adolescents successfully transition into adulthood.

PSY-241
3.00
Abnormal Psychology
This course involves the study of abnormal behavior, including major theories, concepts of psychopathology, and methods of classification. The course is designed to give the student a better understanding of the causes of severe personality and behavior disorders and suggested methods of treatment and control.

PSY-251
3.00
Social Psychology
This course explores the fundamental social influence on human beliefs and human behavior. Social psychology will help students understand their own behavior and the behavior of others with whom they interact in the social environment.

PSY-281
3.00
Educational Psychology
This course examines classroom behavior with emphasis on motivation and promotion of learning and introduces the nature and theories of learning, measurement of learning, personal characteristics of pupils and educational procedures.

PSY-949
2.00
Special Topics
The department will offer from time to time credit offerings in selected special areas of interest on a topical basis per semester.

RAD-122
4.00
Radiographic Procedures I
The student will study patient positioning and common procedures performed in the Radiology Department. Procedures include: upper and lower extremities, chest and abdomen. A vital part of this course will be theory of exposure, film development and dark room techniques. Prerequisite: Cardiopulmonary Resuscitation (CPR) and BIO 163 Essentials of Anatomy & Physiology Co-requisite: RAD-210 Clinical Education I; RAD-320 Imaging I.

RAD-142
4.00
Radiographic Procedures II
This course is a continuation of Radiographic Procedures I in which the student will be given an in depth integrated coverage of the thoracic viscera, abdomen, digestive system, and urinary system. Prerequisite: RAD-122 Radiographic Procedure I Co-requisite: RAD-230 Clinical Education II; RAD-430 Radiographic Physics; RAD-360 Imaging II.

RAD-162
3.00
Radiographic Procedures III
This course is a continuation of Radiographic Procedures 2. The student will study radiographic anatomy and procedures of the skull and it's contents. Emphasis will be given to those procedures commonly performed in the radiology department. Prerequisite: RAD-142 Radiographic Procedures II Co-requisite: RAD-270 Clinical Education III; RAD-182 Special Procedures

RAD-182
2.00
Special Procedures
Students will study detailed anatomy, physiology, and radiographic procedures of the central nervous and circulatory systems. Contrast medias, procedures used, and reactions are discussed. Also presented are new technologies and modalities within Radiology. Prerequisite: RAD-142 Radiographic Procedures II Co-requisite: RAD-162 Radiographic Procedures III; RAD-270 Clinical Education III.

RAD-210
4.00
Clinical Education I
This course enables the student to become oriented to the health facility and the department of radiology. Time is allotted the student to observe procedures, under direct supervision and gain beginning skills in Radiography. Prerequisite: Cardiopulmonary Resuscitation (CPR) and BIO-163 Essentials of Anatomy & Physiology. Corequisite: RAD-122 Radiographic Procedures I; RAD-320 Imaging I.

RAD-230
4.00
Clinical Education II
This clinical practicum is a continuation of Clinical Education I. In addition to doing the procedures learned in the first semester, the student observes more complex examinations and gradually assumes an increasing amount of responsibility for the performance of those procedures. Prerequisite: RAD-210 Clinical Education I; BIO-163 Essentials of Anatomy & Physiology; HSC-113 Medical Terminology; HSC-104 Introduction to Health Care; RAD-320 Imaging I; RAD-122 Radiographic Procedures I Co-requisite: RAD-142 Radiographic Procedures II; RAD-430 Radiographic Physics; RAD-360 Imaging II.

RAD-270
3.50
Clinical Education III
This clinical practicum builds on Clinical Education I and II. It focuses on special procedures, computerized tomography, angiography, magnetic resonance, ultrasonography and nuclear medicine. Prerequisite: RAD-230 Clinical Education II Co-requisite: RAD-162 Radiographic Procedures III; RAD-182 Special Procedures.

RAD-320
2.00
Imaging I
The principles of radiographic imaging are investigated in this course. The history and methods of recording radiographic images are explored. Special emphasis will be placed on the factors that determine image quality. Prerequisite: Cardiopulmonary Resuscitation (CPR) and BIO-263 Essentials of Anatomy & Physiology Co-requisite: RAD-122 Radiographic Procedures I; RAD-210 Clinical Education I

RAD-365
2.00
Imaging II
This course is a continuation of RAD-320 Imaging I in which the student will continue to explore the principles of radiographic imaging. Imaging principles will involve such items as automatic processing, film characteristics, and geometrical factors. Prerequisite: RAD-320 Imaging I Co-requisite: RAD-230 Clinical Education II; RAD-430 Radiographic Physics; RAD-142 Radiographic Procedures II.

RAD-430
3.00
Radiographic Physics
Explores the physical concepts of energy, the structure of matter, electrostatics, electrodynamics, magnetism, electromagnetism, electric generators and motors. The principles of electricity are studied as it relates to x-ray circuits, rectification, and x-ray production. X-ray tubes, rating charts, and interaction of x-rays with matter are included. Prerequisite: RAD-210 Clinical Education I Co-requisite: RAD-230 Clinical Education II; RAD-360 Imaging II; RAD-142 Radiographic Procedures II.

RAD-510
6.00
Clinical Education IV
Clinical experience in the fourth semester is primarily spent in continuous practice in improving the techniques and procedures previously experienced, with on going film critique. Prerequisite: RAD-162 Radiographic Procedures III; RAD-270 Clinical Education III Co-requisite: RAD-770 Film Critique and Evaluation; RAD-895 Quality Assurance.

RAD-570
8.00
Clinical Education V
The student gains experience in the art of pediatric radiography. The clinical practicum also serves as a continuation of clinical experience providing opportunity to demonstrate competency in all phases of radiologic technology. Prerequisite: RAD-510 Clinical Education IV Co-requisite: RAD-740 Radiologic Pathology; RAD-850 Radiation Protection and Biology.

RAD-620
4.50
Clinical Education VI
Students will continue to perform radiographic procedures with minimal supervision, exercising independent judgement, perfecting the techniques and procedures previously experienced. Prerequisite: RAD-570 Clinical Education V Co-requisite: RAD-690 Cross Sectional Anatomy; RAD-946 Seminar.

RAD-690
1.00
Cross Sectional Anatomy
This course includes the principles and applications of cross sectional anatomy. The student will explore regions of the body in a transverse, sagittal, or coronal section and will be able to identify the anatomy of that area. Prerequisite: RAD-570 Clinical Education V Co-requisite: RAD-946 Seminar; RAD-620 Clinical Education VI.

RAD-738
2.00
Radiologic Pathology
This course is designed to acquaint the student with certain changes which occur in disease and injury and their application to radiologic technology. Prerequisite: RAD-510 Clinical Education IV Co-requisite: RAD-570 Clinical Education V; RAD-850 Radiation Protection and Biology.

RAD-770
2.50
Film Critique and Evaluation
Criteria for diagnostic quality radiographs are studied. The principles of film evaluation is emphasized as it relates to technique, collimation and shielding, position and radiographic quality. Prerequisite: RAD-270 Clinical Education III Co-requisite: RAD-895 Quality Assurance; RAD-540 Clinical Education IV.

RAD-850
3.00
Radiation Protection & Biology
This course explores the history and biological effects of ionizing radiation. Methods of radiation measurement detection and protection are discussed. Prerequisite: RAD-430 Radiographic Physics; RAD-510 Clinical Education IV Co-requisite: RAD-740 Radiologic Pathology; RAD-570 Clinical Education V.

RAD-896
2.00
Quality Assurance
Explores the theory and practice of quality assurance in the diagnostic radiology department. The use of quality assurance test tools, interpretation of results and management of a quality assurance program through record keeping is investigated in the laboratory. Prerequisite: RAD-270 Clinical Education III Co-requisite: RAD-770 Film Critique and Evaluation; RAD-510 Clinical Education IV.

RAD-946
2.00
Seminar
The student will re-examine previously learned material. Special topics will be selected for group discussion. Prerequisite: RAD-570 Clinical Education V Co-requisite: RAD-690 Cross Sectional Anatomy; RAD-620 Clinical Educational VI.

RDG-010
1.00
Reading I
This course provides opportunities for students to implement a variety of study strategies to improve comprehension of college textbooks. The major focus is on application of study strategies to specific college texts. This course does not meet graduation credit requirements for certificate, diploma, general studies, or associate degree programs.

RDG-048
4.00
Basic Reading
This course introduces the student to strategies that, when applied properly, will increase reading skills. The major focus is on application exercises that reinforce reading and study skills. This course does not meet graduation credit requirements for certificate, diploma, general studies, or associate degree programs.

REL-105
3.00
Introduction to Religion
This course examines various ways in which religion has been a social force in world cultures. A study is made of various religious answers to the ultimate questions posed by human life, including ideas about what is good or bad.

SDV-035
1.00
Classroom Assistance
This course emphasizes the need for students to develop skills relating to classroom subject matter. Topics include course study techniques, vocabulary building, problem-solving, and organizational skills.

SDV-107
1.00
Health Science College Experience
This course will introduce Pre-Health Science students to the college's expectations, environment, and resources so that they may become competent learners.

SDV-108
1.00
The College Experience
This course will introduce students to the college's expectations, environment, and resources so that they may become more competent learners.

SDV-116
1.00
Strategies for Online Academic Success
This course is specifically designed for the online learner and will introduce students to the college's expectations, environment, and resources so that they become more competent learners.

SDV-118
3.00
The Online Experience
This course will provide online students the understanding and expectation of learning in an online environment. Students will learn skills such as time management and study habits. They will also learn about academic integrity and how to become a successful online student. Prerequisites: Enrolled in an eight-week online program

SDV-166
1.00
Employee Relations I
This course will develop the student's awareness of factors affecting job success. Classroom learning activities will model respect for others, cooperative attitudes, and the benefits of diversity.

SDV-167
1.00
Employee Relations II
This course focuses on the human relations' aspects essential for new employees to fit into an existing organization. Teamwork and industry field trips will support the job getting and keeping functions of this course. Time management and interviewing questions will be presented. Prerequisite:Employee Relations I or instructor permission.

SDV-168
1.00
Employee Relations III
This course involves the student in the job application process. This course focuses on learning specific job seeking skills including networking, locating Internet job leads, writing an effective resume and cover letter, applying for a job, and interviewing for a job. Prerequisite: Employee Relations II

SDV-195
1.00
Student Government
Iowa Central's Student Government consists of a governing body known as the Student Senate. The purpose of the course is to grant college elective credit in social sciences to students participating in student government. Active involvement in the planning and implementation of student activities and community service projects sponsored by the Student Senate are the main focus of the course. Enrollment in the course is optional for members of the Student Senate. A maximum of 4 semester hours may be earned.

SDV-196
1.00
Getting Involved
Iowa Central Community College's Student Ambassador program is designed to foster and develop student leaders. Ambassadors will promote the College by assisting in student recruitment, community relations, and other internal and external public relations functions for the President's Office and Student Services. Enrollment in the course is mandatory for students serving as Student Ambassadors. A maximum of 4 semester hours of elective credit may be earned.

SOC-110
3.00
Introduction to Sociology
This course is a concise study of human behavior from the perspective of Sociologists. It will examine the ways in which social interaction, social processes, and social institutions comprise our sociological imagination. The course will also explore the ways that personality, status, role, class, gender, age, race, and ethnicity affect human interaction and institutions.

SOC-115
3.00
Social Problems
This course is an examination of social phenomena that have been defined as social problems in contemporary society. The course provides an understanding of some of the causes, effects and proposed solutions to these defined problems based upon the latest research.

SOC-120
3.00
Marriage & Family
This course is a study of personal relationships and how they are developed and maintained from courtship through family living.

SOC-130
3.00
Introduction to Gerontology
This course will identify and trace the history and development of major social policies and programs that affect older persons, especially in the area of health care. The course will take a broad view and examine the physical aging process, particularly as it relates to psychological and sociological age changes. Attitudes toward aging and the impact that the increasing number of elderly have on society will be examined. In addition, the course will focus on individuals and organizations that play a role in developing and implementing policies involving senior citizens. The course will provide a broad background for those working with older adults.

SOC-140
3.00
Human Behavior in the Soc Environment
The basic knowledge and conceptual perspectives for understanding individuals, families, groups, communities, organizations, and cultures will be studied. The course will focus on the interactions between and among human biological, social, psychological, and cultural systems as they affect and are affected by human behavior.

SOC-150
3.00
Introduction to Human Services
A survey is made of the historical development and philosophy of the social service in today's society. Emphasis is placed on the programs and agencies available in Iowa with their services, resources and methods of delivery.

SOC-200
3.00
Minority Group Relations
This course examines majority-minority group relations from a sociological perspective focusing primarily on race and ethnic relations, but also the intersecting identities of gender, social class, and other oppressed groups in American society. Students will learn historical perspectives of these selected majority-minority groups and the cultural consequences of privilege, oppression, and social inequality. Prerequisities: SOC 110 is recommended, but not required.

SOC-949
3.00
Special Topics
This offering provides an in-depth study of a special topic of general interest.

SPC-101
3.00
Fundamentals of Oral Communication
This course is designed to develop the basic skills of oral communication by studying the process and theory of communication. Emphasis is placed on the preparation and delivery of individual and group presentations in various speaking situations. Prerequisite: ENG-105 Must receive a C or better.

SPC-112
3.00
Public Speaking
This course is designed to develop the basic skills of speech communication by studying the process from invention through delivery. Emphasis is placed on the preparation and delivery of presentations. Prerequisite: ENG 105 Must receive a C or better.

SPC-122
3.00
Interpersonal Communication
Interpersonal communication is the study of one-on-one communication in a variety of settings. The study of this primarily dyadic form of communication will focus on the workplace, family, friends and romantic partners. Verbal, nonverbal, listening and conflict management will also be addressed.

SPC-132
3.00
Group Communication
This course analyzes the problem-solving techniques utilized in small-group decision making. The selection, investigation and analysis of several current questions provide practical experience in the discussion roles of both participant and leader.

SPC-140
3.00
Oral Interpretation
This course provides experience in the oral presentation of three major literary genres -- prose, poety, and drama -- for the purpose of making such forms come alive for the listening audience. The class begins with group exercises that culminate in a performance of Children's Literature.

WEL-110
2.00
Blueprint Reading for Welders
Students will learn the symbol representation of the welding trades. They will learn to communicate symbolically using standard industry representations.

WEL-122
2.00
Beginning Welding
The Beginning Welding course offers students instruction in flat and horizontal position welding. The welding process covers Shielded Metal Arc Welding (AC-DC), Gas Metal Arc Welding (MIG), Oxy-Acetylene Cutting and welding, braze welding, plasma arc cutting, and Gas Tungsten Arc Welding.

WEL-170
2.00
Shielded Metal Arc Welding
This course is designed to give students proficiency in the theory and operation of shielded metal arc welding equipment. Emphasis is on safety and welding in the flat and horizontal positions.

WEL-171
2.00
Advanced Shielded Metal Arc Welding
This course is designed to give students advanced theory and skills in shielded metal arc welding. Emphasis is on safety, welding in the vertical and overhead positions. Prerequisite: WEL 170 SMAW

WEL-178
2.00
Advanced Gas Metal Arc Welding
This course is designed to give students advanced theory and skills in gas metal arc welding. Emphasis is on safety, tubular and pipe welding and welding in the vertical and overhead positions. Materials used for welding are carbon steel, aluminum, stainless steel, and Flex Cored Arc Welding. Prerequisite: WEL 181 GMAW

WEL-181
2.00
Gas Metal Arc Welding
This course is designed to give students proficiency in theory and operations of gas metal arc welding equipment. Emphasis is on safety and welding in the flat and horizontal positions.

WEL-190
2.00
Gas Tungsten Arc Welding
This course is designed to give students proficiency in theory and operation of GTAW equipment. Emphasis is on safety, and welding in the flat and horizontal position.

WEL-196
2.00
Advanced Gas Tungsten Arc Welding
This course is designed to give students advanced theory and skills in gas tungsten arc welding. Emphasis is on safety, and welding in the vertical and overhead positions. Materials used for welding are aluminum, stainless steel, carbon steel, and titanium. Prerequisite: WEL 190 GTAW

WEL-213
2.00
Fabrication, Layout, Estimating & Repair
This course will cover aspects of measurement and geometry of circles, squares and triangles. It also covers calculation of bends by braking, rolling, and welding 90 degree angles and 360 degree circles. The students will do the calculations for the fabrication of sliding joints, transitions, and guard for pulley systems by operating sheet metal equipment, layout tools, and welding. Co-Requisite: WEL 122 Beginning Welding

WEL-214
2.00
Advanced Fabrication
This course will cover the billing of materials, blueprint layout techniques, layout tools, operating sheet metal equipment, and welding. The students will use these skills to do the fabrication of a sand shovel, trailer, and more complex projects. Making jigs template development and job estimating are also addressed. Co-Requisite: WEL 122 Beginning Welding. Prerequisite: WEL 213 Fabrication, Layout Estimating & Repair

WEL-301
2.00
Pipe Welding
This is an advanced welding course designed to give students theory and application of pipe welding. Welding processes used will be oxy-fuel welding, shielded metal arc welding and gas tungsten arc welding. Students will weld various pipe diameter and thickness of ferrous and non-ferrous pipe in all positions. Prerequisite: WEL 170 Shielded Metal Arc Welding

WEL-340
2.00
Maintenance Welding
Students will apply welding skills to the repair and modifications of machines and fixtures, as required by factory maintenance personnel. Prerequisite: WEL 122 Beginning Welding

WEL-710
3.00
Robotic Welding
This course will give students experience utilizing the same robots and software that are used in industry. Integration of robotic automation will teach design and manufacturing concepts. This course covers basic operations of FANUC Robots, using the teach pendant as the main interface point.

WEL-949
1.00
Spec Top: Gma Sma Oxy Welding
This course, usually offered on a limited basis only, provides an in-depth study on a topic of general interest pertaining to this department.

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