IOWA WESTERN COMMUNITY COLLEGE
General Catalog
2014-2015

Council Bluffs Campus
2700 College Road
Council Bluffs, Iowa 51503
(712) 325-3200
1-800-432-5852

Clarinda Center
923 E. Washington Street
Clarinda, Iowa
(712) 542-5117
1-800-521-2073

Cass County Center
705 Walnut Street
Atlantic, Iowa 50022
(712) 243-5527

Shelby County Center
1901 Hawkeye Ave., Ste. 102
Harlan, Iowa 51537
(712) 755-3568

Page/Fremont County Center
1001 W. Sheridan Ave.
Shenandoah, Iowa 51601
(712) 246-1499

IOWA WESTERN
The world is waiting®

www.iwcc.edu

DISCLAIMER STATEMENT

The information contained in this catalog is subject to cancellation or change without notice. This catalog cannot be considered as an agreement or contract between individual students and Iowa Western Community College, its faculty, staff, administrators or directors.

Iowa Western Community College is committed to a policy of equal educational opportunity. Therefore the College prohibits discrimination on the basis of unlawful criteria such as race, color, creed, religion, national or ethnic origin, ancestry, genetic information, physical or mental disability, age, sex, sexual orientation, gender identity or expression, pregnancy, marital status, veteran status, AIDS/HIV status, citizenship, or medical condition, as those terms are defined under applicable laws, in admitting students to its programs and facilities and in administering its admissions policies, educational policies, scholarship and loan programs, athletic programs, and other institutionally administered programs or programs made available to students. In keeping with this policy of equal educational opportunity, the College is committed to creating and maintaining an atmosphere free from all forms of harassment.

Iowa Western Community College is accredited as an Academic Quality Improvement Program (AQIP) institution by the Higher Learning Commission of the North Central Association of Colleges and Universities. Individuals should direct their questions, comments or concerns to the Higher Learning Commission, 30 North LaSalle Street, Suite 2400, Chicago, IL 60602, 800-621-7440 or (312) 263-0456, fax (312) 263-7462.

Iowa Western Community College Employment and Educational Equity Coordinators

Equal Employment Opportunity/
Non-Harrassment
Director of Human Resources
2700 College Road
Council Bluffs, IA 51503
(712) 325-3413

Title IX Coordinator
Dean of Student Life and Student Success
2700 College Road
Council Bluffs, IA 51503
(712) 325-3207

ADA Coordinator
Disability Services Coordinator
 2700 College Road
Council Bluffs, IA 51503
(712) 325-3299

Equal Education Opportunity/
Non-Harrassment
Dean of Student Life and Student Success
2700 College Road
Council Bluffs, Iowa 51503
(712) 325-3207

ACADEMIC CALENDAR

The Iowa Western Community College Board of Trustees approves the Academic Calendar, which is available online at **www.iwcc.edu** and in Reiver Online Campus (ROC), the college's online student portal. Dates on the Academic Calendar are subject to change.

From the President of the College

I am pleased that you have selected Iowa Western, or are considering Iowa Western, as the post-secondary institution to help you achieve your goals.   This catalog represents the services and programs that we believe can help you. You will find that all of us here are interested in helping you as you pursue your goals.

The people of Iowa Western Community College can best be described as caring and committed. We take an interest in each student and we are committed to providing learning opportunities that challenge you to your best level of achievement.

Our values and beliefs focus Iowa Western on the goal of being the finest institution of our kind and size in America, an institution whose faculty and staff truly care about students and their dreams, an institution committed enough to act with passion, an institution known for its quality education which challenges students to outstanding accomplishment and which values excellence and excellent accomplishment.

We believe that you will find your learning experience here at Iowa Western to be the best educational experience of your life.

Dr. Dan Kinney
President

IOWA WESTERN COMMUNITY COLLEGE

Mission Statement

Iowa Western Community College is a learning community committed to excellence in meeting the educational needs and improving the quality of life through programs, partnerships, and community involvement.

Vision Statement

Iowa Western Community College will be recognized as a premier educational leader and partner, with student learning and success being our highest priority.

Beliefs

These statements of Beliefs support and clarify the Mission Statement of Iowa Western Community College:

•   Faculty, students, staff and community partners are equal stakeholders in the culture of our learning community.

•   Each and every individual has dignity and worth.

•   Community support depends upon identifying and meeting the diverse and changing needs of the people in Southwest Iowa.

•   Each person deserves opportunities for lifelong learning and growth.

•   Open, honest communication through word and action builds credibility and trust.

•   Striving for excellence is worth the effort of all college employees.

•   Cooperative partnerships foster college and community growth.

History

On June 7, 1965, area school legislation was approved by the 61st General Assembly of Iowa, creating the community college system. A proposal to establish Iowa Western Community College was authorized by the county Boards of Education of Cass, Fremont, Harrison, Mills, Page, Pottawattamie and Shelby counties and was submitted to the State Board of Public Instruction. In February of 1966 approval of Merged Area XIII, Iowa Western Community College was granted by the State Board of Public Instruction with campus sites at Council Bluffs and Clarinda.

Accreditation

The College is accredited as an Academic Quality Improvement Program (AQIP) institution by the Higher Learning Commission of the North Central Association of Colleges and Universities. Individuals should direct their questions, comments or concerns to The Higher Learning Commission, 30 North LaSalle Street, Suite 2400, Chicago, IL 60602, (800) 621-7440 or (312) 263-0456.

COMPLIANCES

Americans with Disabilities Act and the Rehabilitation Act

The Americans with Disabilities Act (ADA), Public Law 101-336, was enacted on July 26, 1990, to provide a clear and comprehensive mandate for the elimination of discrimination against individuals with disabilities. This federal legislation requires equal treatment of people with disabilities in employment, public services and transportation, public accommodations, and telecommunication services. Section 504 of the Rehabilitation Act of 1973, with virtually identical purposes, applies to any college or university that receives federal funds in any program.

Iowa Western Community College, a public entity as set forth in Title II of the ADA, is subject to the requirements of the Americans with Disabilities Act. Title II of the ADA prohibits discrimination against qualified individuals with disabilities with regard to the services, programs, and activities at Iowa Western Community College. Iowa Western Community College is also prohibited from discrimination against individuals with disabilities in its employment practices pursuant to Title I of the Americans with Disabilities. Individuals with disabilities have a right to request accommodation. For more information, contact the Disability Services Specialist.

Civil Rights Act

The Iowa Western Community College (Merged Area XIII) filed assurance of compliance with Title VI of the Civil Rights Act of 1964 on September 9, 1966, and accepts all requirements imposed by or pursuant to the regulation. No person in the United States shall, on the ground of race, sex, color, creed or national origin, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity offered by the College. Iowa Western Community College adheres to the principle of equal education and employment opportunity without regard to race, color, creed, religion, national or ethnic origin, ancestry, genetic information, physical or mental disability, age, sex, sexual orientation, gender identity or expression, pregnancy, marital status, veteran status, AIDS/HIV status, citizenship, or medical condition, as those terms are defined under applicable laws.

Equal Educational Opportunity and Non-Harassment

Iowa Western Community College is committed to a policy of equal educational opportunity. Therefore the College prohibits discrimination on the basis of unlawful criteria such as race, color, creed, religion, national or ethnic origin, ancestry, genetic information, physical or mental disability, age, sex, sexual orientation, gender identity or expression, pregnancy, marital status, veteran status, AIDS/HIV status, citizenship, or medical condition, as those terms are defined under applicable laws, in admitting students to its programs and facilities and in administering its admissions policies, educational policies, scholarship and loan programs, athletic programs, and other institutionally administered programs or programs made available to students. In keeping with this policy of equal educational opportunity, the College is committed to creating

and maintaining an atmosphere free from all forms of harassment.

For information, or to register a grievance, contact the Dean of Student Life & Student Success, 2700 College Road, Council Bluffs, IA 51503, 712-325-3207.

Drug-Free Schools and Communities

Amendments to the Drug-Free Schools and Communities Act of 1989 require documentation of services and awareness for drug-free schools and communities. The College has filed a Drug Prevention Program Certification document with the U.S. Department of Education as required by Public Law 101-226. The College will comply with all requirements of this act. For more information, contact the Dean of Student Life and Student Success.

Title IX — Sex Discrimination

Iowa Western Community College will not discriminate on the basis of the sex of a person in its education programs or the activities it operates; further, the College will not discriminate on the basis of a person's sex in regard to its admissions policies or in the employment of personnel. For more information or to file a complaint, contact the Title IX Coordinator.

Sexual Misconduct/Harassment Policy

Iowa Western Community College does not discriminate on the basis of sex, as required by Title IX of the Educational Amendments of 1972. Iowa Western Community College is committed to having a positive learning and working environment for its students and employees and will not tolerate sexual discrimination, which includes sexual harassment and sexual violence. It is the policy of Iowa Western Community College to comply with Iowa Code Chapters 708 and 709 of the Title XVI Criminal Laws and Procedures. Inquiries regarding sexual harassment can be directed to Iowa Western's Title IX Coordinator or to the U.S. Office of Civil Rights. Please refer to the Student Handbook for the complete policies and procedures regarding Sexual Misconduct reporting.

Clery Act Compliance Statement

In compliance with the Jeanne Clery Disclosure of Campus Security Policy and Campus Crime Statistics Act, Iowa Western Community College publishes its Annual Security Report on October 1st of each year. This report includes statistics for the previous three years concerning reported crimes that occurred on campus; in certain off-campus buildings or on property owned or controlled by Iowa Western Community College; and on public property within or immediately adjacent to and accessible from the campus. The report also includes institutional policies concerning campus security, such as policies concerning sexual harassment/sexual misconduct and other matters. A copy of this report can be obtained by contacting the Dean of Student Life and Student Services or by accessing it through ROC and the College's website at www.iwcc.edu.

CAMPUS AND CENTERS

Council Bluffs Campus

Instructional services at the Council Bluffs Campus include a comprehensive Arts and Sciences program with classes offered days, evenings, and weekends, as well as online. Also available are a multitude of Career and Technical programs. In addition, support services are provided in the areas of academic support, tutoring, learning resources, and disability services.

Council Bluffs Campus

Iowa Western Community College
Box 4-C, 2700 College Road
Council Bluffs, IA 51502
(712) 325-3200 or (800) 432-5852 (toll-free nationwide)

Centers

The College offers Arts and Sciences courses at the Clarinda Center as well as the Cass County (Atlantic), Page/Fremont County (Shenandoah), and Shelby County (Harlan) Centers. In addition, the Clarinda Center and the Shelby County Center offer a nursing program. Each center also offers a wide range of continuing education classes in such areas as cosmetology, secretarial and office occupations training, real estate and insurance, business management, consumer education, recreation, and many others.

Clarinda Center
Iowa Western Community College
923 East Washington Street
Clarinda, IA 51632
(712) 542-5117 or (800) 521-2073 (Iowa toll-free)

Cass County Center
Iowa Western Community College
705 Walnut Street
Atlantic, IA 50022
(712) 243-5527

Page/Fremont County Center
Iowa Western Community College
1001 W. Sheridan Ave.
Shenandoah, IA 51601
(712) 246-1499

Shelby County Center
Iowa Western Community College
1901 Hawkeye Ave., Suite 102
Harlan, IA 51537
(712) 755-3568

ADDITIONAL SERVICES

KIWR

KIWR, 89.7 The River, is a 100,000 watt public radio station that broadcasts to communities in southwest Iowa and eastern Nebraska. The station, owned and operated by Iowa Western Community College, offers an alternative rock format. Students enrolled in the college's media studies programs get on-air experience at The River, and they learn all aspects of the radio industry, including production, news, sales, promotions, and programming.

Economic Development Services

Iowa Western Community College Economic Development Services provides area businesses and industries the opportunity to improve productivity through customized training. The staff works with local agencies to enhance the economic development of the region by identifying training monies and providing training services that will attract business and industry into the merged area and encourage expansion of existing business. Through these services, local providers, government, and education are brought together in a commitment to productivity, profitability, and quality work force. Economic Development Services also include Entrepreneurial Ser-

vices and coordination with local chambers, industrial boards, professional developers, and local elected officers of the area.

Iowa Western Foundation

The Iowa Western Foundation is a nonprofit corporation established to raise funds to support Iowa Western Community College in ways that are not supported by taxes, tuition, or grants. The major thrust of the Foundation supports student scholarships and other institutional needs. The Foundation receives all tax deductible gifts, bequests, trusts, and memorials made to the College. The Iowa Western Foundation is under the auspices of the President of the College. The Corporation is governed by a Board of community leaders nominated by the Iowa Western Community College Board of Trustees and elected for a minimum term of three years.

CONTINUING EDUCATION

The function of the Continuing Education Department is to provide the citizens of southwest Iowa with the opportunity to meet their educational needs in areas not provided through credit programs by the College. The department provides customized training for business and industry and cooperates with a variety of government agencies and community groups to provide educational programs. It is our desire, whenever possible, to make these programs available in the local community.

Adult Learning Center

The Adult Learning Center is located at The Omni Center at 300 West Broadway, Suite 12, in Council Bluffs. Class instruction in Adult Basic Education, English as a Second Language, and High School Completion/GED is available at the Adult Learning Center as well as General Education Development (GED) testing. Similar centers are located in Atlantic, Harlan, Shenandoah, and Clarinda.

Educational Opportunities

The Continuing Education Department provides customized training, consulting services, and educational programs for business and industry located in southwest Iowa. Programs are available in a variety of areas, including apprenticeship, technical skills, plant maintenance, electrical code, personal computer, welding, management, supervision and many more. In addition, the Continuing Education Department offers career supplemental education, re-licensure courses as approved by the Iowa license boards for almost 30 professions or occupations, and court mandated courses such as Children in the Middle, the State of Iowa mandated course for divorcing parents of minor children, and Driver Improvement Program (DIP) classes as well as Driving Unimpaired (DUI) classes. Other driver training includes MOPED and motorcycle training, and school bus driver certification and recertification. Class instruction is also available in a number of other areas, including, but not limited to, family and consumer sciences, and hobbies and recreation.

Continuing Education Units (CEU)

The CEU is a method of recording and accounting for an individual's participation in continuing education courses, seminars, and programs. Its purpose is to provide a mechanism by which most continuing education activities can be recorded. One CEU is earned through ten contact hours of participation in an organized continuing education activity. Through the use of CEUs, a person will be able to accumulate, update, and transfer a record throughout life as he/she increases proficiency in a career or moves toward personal educational goals. CEUs are accumulated automatically with course registration. Contact the Continuing Education Office to request a CEU transcript.

ADMISSIONS

Iowa Western Community College will admit all individuals who are graduates of an accredited high school, or the equivalent, or who have completed a high school equivalency diploma (HSED).

Specific Requirements and Procedures for Admission to the College

In order to be admitted to the College, students must submit or complete the following:

1. **Application for Admission** — Students must submit a completed Application for Admission to the Office of Admissions or apply online at www.iwcc.edu. There is no application fee.

2. **High School Transcript** — Unless students have completed more than 30 semester hours at a regionally accredited college or university, they must submit official high school or high school equivalency transcripts. They should contact the high school from which they graduated, or the institution from which they earned their high school equivalency diploma, to request that transcripts be sent.

3. **College Transcripts** — Students must submit an official transcript from each college or university they attended, even if they do not wish to have credit evaluated or transferred. In order to be official, transcripts must be sent directly from the institution where credit was earned to the Iowa Western Community College Records and Registration Office.

4. **Placement Test Scores** — All new students need to complete a skills assessment test called the COMPASS. If a student has taken the ASSET or ACT recently, he or she can submit those scores in lieu of taking the COMPASS. Please note that scores cannot be more than two years old at the start of the term for which a student is accepted. The placement test score requirement may be waived for admission purposes if a student has completed more than 30 semester hours at a regionally accredited college or university, unless the intended program requires minimum scores for admission. Portions of the placement test requirement (writing, reading and/or math) may be waived, unless the intended program requires minimum placement test scores for admission, if a student has completed college coursework that either 1) fulfills the writing and/or math required for the degree, or 2) fulfills a prerequisite for the writing and/or math required for the degree.

5. **Additional Program Requirements** — Program-specific requirements or prerequisites may need to be met prior to admittance to a program. In addition, program-specific requirements or prerequisites may need to be met prior to enrollment in a program, including, but not limited to, a health history/physician's certificate. Programs may require drug screening and a criminal records check to comply with clinical site mandates. Conviction of certain criminal activities may prohibit students from being eligible to sit for licensure/certification exams.

6. **Additional Requirements for Applicants for Whom English is Not the First Language** — College applicants for whom English is not the first or native language may need to complete a skills assessment test called the COMPASS ESL or provide proof of English language proficiency.

7. **Additional Requirements for International Applicants** — International students must be 17 years of age or older and submit official secondary school and college transcripts with English translation. Also, international students must satisfy all requirements to receive the I-20 form, including proof of adequate financial resources.

Readmission
If you previously attended Iowa Western Community College and you have been absent for at least one semester (excluding the summer session), you may be required to apply for readmission. Students who wish to be readmitted will be expected to meet all applicable requirements, including submitting transcripts for other colleges attended since the last attendance at Iowa Western Community College. Readmission to Career and Technical programs will be subject to the availability of space and an evaluation of previous progress.

Location of the Office of Admission
Although the Office of Admission is located at the Council Bluffs campus, you may obtain information about the College and submit applications at the main campus or at any of the four centers.

Office of Admission
Iowa Western Community College
Box 4-C, 2700 College Road
Council Bluffs, IA 51502
(712) 325-3277 or (800) 432-5852 (toll-free nationwide)

Visiting Student
If you are a college student regularly enrolled at another college or university and want to take a course or courses to immediately transfer back to that institution, you may be accepted to Iowa Western Community College as a visiting student. Please note that transcripts and/or test scores may be required for registration. Visiting students are not eligible for financial aid.

Non-Degree/Adjunct Student
If you are a student seeking personal or professional development with no intention of earning a degree, you may be accepted to Iowa Western Community College as an adjunct student. Adjunct students may not be full-time. Please note that transcripts and/or test scores may be required for registration. Non-Degree/Adjunct students are not eligible for financial aid.

High School Student
If you are a currently enrolled high school student in grades 9-12 and are deemed proficient by your high school, you may be admitted to take a college course or courses as a special student. You are required to submit a copy of your high school transcript to date and a high school application/enrollment form signed by your high school principal or guidance counselor. Although test scores are not required for admission, please note that test scores are needed for registration in all courses that require minimum placement scores as a pre-requisite, including, but not limited to, English and math.

Resident/Non-Resident Classification
A student enrolling at Iowa Western Community College shall be classified as resident or non-resident of the State of Iowa for purposes of tuition assessment. This classification is determined by the Director of Admissions at the time of application and admission to the College. This classification shall be based upon information furnished by the student and all other relevant information available about the student.

Non-Resident Exemptions
A veteran of military service or the National Guard, or his or her spouse or dependent child, shall be classified as a resident if one of the following conditions is met: 1.) the veteran has separated from a U.S. military force with an honorable discharge or a general discharge, is eligible for benefits, or has exhausted benefits, under the federal Post-9/11 Veterans Educational Assistance Act of 2008 or any other federal authorizing veteran educational benefits program, or 2.) the individual is an active duty military person, or activated or temporarily mobilized National Guard member. To be eligible for the exemption, a dependent child must be claimed as a dependent on an eligible veteran's internal revenue service tax filing for the previous year. Additionally, a person, or his or her spouse or dependent child, who has moved into the state of Iowa as the result of military or civil orders from the federal government, and the minor children of such persons, are entitled to immediate Iowa residency status.

Change of Residency Status
The student shall remain a non-resident for tuition purposes unless the student changes his or her permanent residence to the state of Iowa and submits a Request to Change Residency Status to the Registrar. In order for the Request to Change Residency Status to be considered, an address change must be on file with the Records and Registration Office. The Request to Change Residency Status must be submitted within the first week of the term for which the change is sought. In order for the request to be granted, the student must also submit a brief statement explaining his or her main purpose in moving to the state of Iowa, as well as three supporting documents that include a date 90 days prior to the start of the term for which the change is sought. A student who is in the state of Iowa primarily for educational purposes cannot be granted residency status.

Testing
The Iowa Western Community College Testing Center proctors tests for prospective, new, and current Iowa Western Community College students, including the COMPASS skills assessment and admissions tests for specific programs. In addition, the Testing Center proctors a variety of other examinations, including, but not limited to, tests for online courses, College-Level Examination Program (CLEP) tests, and Iowa Dental Board accreditation tests. These tests are administered to both Iowa Western Community College and non-Iowa Western Community College students. Students may be charged a fee for proctoring services.

Re-Test Policy
COMPASS scores are used for placement into English and math courses, and minimum scores are required for admission to some programs. Students may retake the COMPASS one time after waiting 30 days and paying a $15 retest fee. We recommend that you: (1) are within ten points of the cutoff for your desired course or program requirement, or (2) have completed recent and relevant coursework in high school or college that does not correlate with your COMPASS placement scores. Recent coursework is defined as high school or college coursework completed in the last 12 months. We also recommend that you brush-up before testing by reviewing sample test questions and other resources.

After taking COMPASS twice, students must complete relevant coursework in order to be eligible for subsequent retests. Students must pay the $15 retest fee for all additional retests and must wait 30 days from the last COMPASS test date.

RECORDS & REGISTRATION

For the purposes of this catalog, regular-term classes are defined as sixteen-week classes that follow the semester dates on the Academic Calendar as approved by the Board of Trustees.

Registration Process

New students and returning students (students who have experienced a break in enrollment) are required to register for classes with the assistance of an Admissions Advisor. Most new, returning, and continuing students (students who have not experienced a break in enrollment) can register for classes online through Student Self Services in Iowa Western Community College's online student portal, Reiver Online Campus (ROC). Assistance is available, and encouraged, through an assigned academic advisor. Class attendance is not permitted until the registration process has been completed. Registration dates and instructions are available in ROC and at the Records and Registration Office.

Late Registration

Students have until the day before the start of a term or session to complete their initial registration. To provide students with the best chance to succeed, students are not allowed to register once the term or session has begun regardless of whether or not the course has met. This policy applies to, but is not limited to, the fall and spring terms, as well as all accelerated sessions, including summer and winterim.

Changes in Registration

Changes in registration include adding and dropping classes. Students can make changes to their registration online through Student Self Services in ROC through the first week of a semester. Students who wish to make changes to their schedule after the first week of the semester must complete a Change of Registration form, secure a signature from their assigned advisor, and then take the completed form to the Records and Registration Office before the correlating deadline. A change in registration is not official until it is received by the Records and Registration Office. It is the responsibility of the student to see that all forms, with appropriate signatures, reach that office.

Adding a Class

After initial registration, students may add a regular-term day class to their schedule through the first week of the term, and they may add a regular-term night or weekend class prior to the second meeting of the class. Deadlines for adding all classes are posted online at www.iwcc.edu and in ROC, and they are also available at the Records and Registration Office. Regular tuition and fees will be charged for all added classes.

Dropping a Class

Students may drop a class from their schedule any time up to the posted last day to drop for the term in which the class is scheduled. Specific drop dates are posted online at www.iwcc.edu and in ROC, and they are also available at the Records and Registration Office. Students who drop a class before the term begins will display no activity for that class on their transcript. Students who drop a class after the term begins will display a grade of "W" for that class on their transcript. Please refer to the Refund of Tuition and Fees section of this catalog for information regarding the financial impact of dropping a class.

Sixteen-week term: A student may drop a class through the twelfth week of a sixteen-week term.

Eight-week term: A student may drop a class through the sixth week of an eight-week term.

Interim classes: A student may drop an interim class through three-fourths of the length of the class.

Students who fail to drop by the aforementioned deadlines must remain enrolled in scheduled classes. Failure to attend class once registered does not cancel registration or tuition and fees. Failure to drop a class will potentially result in a failing grade being recorded on the student's transcript.

Official Withdrawal from College

Withdrawing from college means dropping all classes for which a student is registered in any given semester. Students who find it necessary to withdraw from college may do so through Student Self Services in ROC through the last day to drop. Students who need to withdraw from college can also complete a Withdrawal Form, secure a signature from their assigned advisor, and then take the completed form to the Records and Registration Office before the last day to drop, as outlined above. Specific drop dates are posted online at www.iwcc.edu and in ROC, and they are also available at the Records and Registration Office. Students who withdraw from college before the semester begins will display no activity for those classes on their transcript. Students who withdraw from college after the semester begins will display a grade of "W" for those classes on their transcript. A withdrawal is not official until it is received by the Records and Registration Office. It is the responsibility of the student to see that all forms, with appropriate signatures, reach that office.

Students who register for classes but do not plan to attend must do one of three things prior to the first day of the semester in order to avoid being subject to Administrative Withdrawal or potentially receiving failing grades: withdraw online through Student Self Services in ROC, complete a Withdrawal Form, or notify the Records and Registration Office in writing. Failure to attend class once registered does not cancel registration. Students who fail to withdraw by the last day to drop must remain enrolled in scheduled classes. Failure to officially withdraw from college will potentially result in failing grades being recorded on the student's transcript.

Please refer to the Refund of Tuition and Fees section of this catalog for information regarding the financial impact of withdrawing from college. Information is also available in ROC.

Medical Withdrawal from College

A student who documents medical reasons for withdrawing from classes will be permitted to withdraw from classes, with a "W" recorded on the transcript, beyond the official drop date. The student must present a document from an appropriate medical professional citing the reason for the required withdrawal. The document must list the date of the first medical visit and the date the student will be permitted to return to regular classes. The request for withdrawal must be presented prior to the last day of the semester for which the withdrawal is desired. The student must withdraw from all classes scheduled in the semester of the request. No refund will be given in the case of a medical withdrawal.

Administrative Withdrawal

The college may administratively withdraw a student at any point in a semester or term, from a single class or multiple classes, for reasons that include but are not limited to the following: non-attendance, non-payment, and violations of the student code of conduct.

Administrative Withdrawal for Non-Attendance

Students who are administratively withdrawn for non-attendance will be subject to an Administrative Withdrawal Fee of $10.00 per registered credit hour at the time of the withdrawal, and will not be charged tuition and college service fees. Students who are administratively withdrawn for non-attendance will not receive a grade and, therefore, will display no activity for those classes on their transcript. Students who are administratively withdrawn for non-attendance are eligible to register for classes in the current term or any subsequent term after paying their balance in full. However, they will not be eligible to re-enroll in the classes from which they were administratively withdrawn.

Administrative Withdrawal for Non-Payment

Students who are administratively withdrawn for non-payment will be subject to an Administrative Withdrawal Fee of $10.00 per registered credit hour at the time of the withdrawal, and will not be charged tuition and college service fees. Students who are administratively withdrawn for non-payment will receive a grade of "W" for those classes, which will display on their transcript. Students who wish to continue in classes from which they were withdrawn may re-enroll in those classes prior to the end of the semester or term after making payment for full tuition and college service fees. Students who re-enroll in classes will receive a Re-enrollment Refund equal to one half of the assessed Administrative Withdrawal Fee.

Administrative Withdrawal for Violations of the Student Code of Conduct

Students who violate the student code of conduct are subject to disciplinary sanctions, including but not limited to administrative withdrawal from a single class or multiple classes, as well as the imposition of registration restrictions at the course, discipline, or program level. Registration restrictions may also limit students' access to register for classes based on the course delivery method. Students who are administratively withdrawn for violations of the student code of conduct will be charged full tuition and fees for the classes from which they were administratively withdrawn. Students who are administratively withdrawn for violations of the student code of conduct will receive a grade of "W" for that class or for those classes, which will display on their transcript. Eligibility to register for classes in subsequent terms and sessions will depend on the violation. Students who have been sanctioned with a registration restriction will have a registration hold placed on their account, and they will be required to register for classes through the Records and Registration Office after meeting with their assigned advisor or designated college official. Students who are eligible to register for classes in subsequent terms or sessions may do so after paying their balance in full. Some students will not be eligible to register for classes in subsequent terms and sessions.

Repeating a Course

Students may repeat a course as many times as they wish for an improved grade. However, students may not repeat a course and then choose the better of the grades. The most recent grade will be used to determine the cumulative grade point average, and only credits from the repeated course will be counted toward graduation requirements.

Academic Transcripts

Official transcripts are provided at no charge and may be ordered through the Records and Registration Office by submitting a Transcript Request Form in one of four ways: online through ROC, in person, by mail, or by fax. No transcript of credit will be issued until all financial and other obligations to the College have been met. Official transcripts are sent only to other institutions and employers. Transcripts given or mailed to the student are unofficial and are stamped "Student Copy."

Retention of Student Records

Iowa Western Community College retains the official academic record of enrollment and credit earned in the college's credit programs (transcript) in perpetuity. All other student enrollment documents are destroyed three years after the student's last semester of enrollment at the college.

Students who believe there is an inaccuracy in their official academic record (transcript) must notify the Records and Registration Office immediately. After student enrollment documents are destroyed, the official academic transcript cannot be changed. The transcript is the final, accurate record of academic accomplishment.

Access to Student Information

Student rights concerning access to educational records are spelled out in Federal Public Law 98-380 as amended by Public Law 93-568 and in regulations published by the Department of Education. The law and regulations require educational institutions to:

•   Provide students the opportunity to inspect their educational records.

•   Provide students the opportunity to challenge through a hearing the content of their educational records if it is believed that they contain information that is inaccurate, misleading or in violation of the right of privacy. Grades are not subject to challenge.

•   Limit disclosure of information from the student's record to those who have the student's written consent or to officials specifically permitted within the law, such as college officials and – under certain conditions – local, state, and federal officials.

•   Students who wish to grant access to their educational records may do so by submitting an Access to Student Information Consent Form to the Records and Registration Office. Access is limited to the following elements of the student's educational record: class schedule, transcript of final grades, and progress reports. Access is given only at the Records and Registration Office and only when the person presents photo identification. Under no circumstances will information be disclosed over the phone. The consent to release information is valid for one year and may be revoked at any time by written request from the student.

Iowa Western Community College does not publish a student directory, and the College does not honor third-party requests for lists of student directory information except as required under the Federal Education Rights and Privacy Act. The College may, upon request, provide the following information:

•   student's name
•   address (including e-mail)
•   telephone number

- date of birth
- program of study
- credit hour status
- participation in officially recognized activities
- athletic team member's weight and height
- dates of attendance
- degrees
- awards received
- most recent previous educational institution attended

Students who object to the disclosure of any of the above information may notify the Records and Registration Office in writing. Students must specify which items should not be released without their consent. Students may file a complaint with the Department of Education if they believe that their rights under the law have been violated and if efforts to resolve the situation through Iowa Western Community College appeal channels have proven unsatisfactory.

Student Self Services

Student Self Services is an interactive web-based tool that allows students to access their academic information. All students can search for available courses each semester, and register for classes online. In addition, students can view official grades, print an unofficial transcript, view financial aid and billing information, print a class schedule, run a program evaluation, and much more. Students have secure access to Student Self Services through Iowa Western Community College's online portal, Reiver Online Campus (ROC).

TUITION AND FEES

Tuition and fees are assessed to a student's account upon registration. For the purposes of this catalog, regular-term classes are defined as sixteen-week classes that follow the semester dates on the Academic Calendar as approved by the Board of Trustees.

Tuition Schedule

Iowa Resident…………............….……$138.00 per credit hour
Non-Iowa Resident……...........….…….$143.00 per credit hour
International Student..…....…....….……$143.00 per credit hour

Fee Schedule

College Services Fee........................$14.00 per credit hour
International Student Fee………....$100.00 per credit hour
Administrative Withdrawal Fee..........$10.00 per credit hour
First Time Enrollment Fee..$25.00
Payment Plan Fee...$25.00
Late/Missed Payment Fee..$25.00

Additional fees may be assessed for other services, as well as for specific programs and courses. The Board of Trustees reserves the right to change the tuition and fee schedule at any time without prior notification to either applicants or students.

Payment Arrangements

Payment arrangements that cover the entire balance of a student's account, including tuition, fees, campus housing, and meal plans, must be made each semester by the payment deadline. The payment deadline is posted online and is available at the Business Office. Payment arrangements can be made by completing the Financial Aid application and award acceptance process, by setting up the e-Cashier automatic payment plan, or through a combination of these two options. In addition, payment in full can be made through one of the following options: online through eCashier, over the phone with a debit card or credit card, through the mail with a check, or by going to the Cashier's window and paying with cash, check, debit card, or credit card. The College reserves the right to administratively withdraw students who fail to make payment arrangements by the payment deadline. Students who fail to make payment arrangements by the Payment Deadline may be assessed a monthly Late/Missed Payment Fee until payment arrangements have been made.

e-Cashier Automatic Payment Plan

Iowa Western Community College partners with a company called Nelnet to offer students the e-Cashier Automatic Payment Plan to help them finance their education. The payment plan must be set up every semester by the payment deadline, and it is available under the following terms and conditions: the student must have a balance of $200 or more; the payment plan must be used only for tuition, fees, books and supplies, campus housing, and meal plans; the student must enroll in the plan online and pay a $25 fee; and the student must make all payment installments as scheduled. Specific dates for payment are posted online and are available at the Cashier's Window. The College reserves the right to administratively withdraw students who fail to meet the terms and conditions of the payment plan.

Reiver Card

Iowa Western Community College partners with a company called Higher One to offer students a college refund card with two choices for financial aid and tuition refund delivery: an Easy Refund to a OneAccount or a direct deposit to any bank account. All Iowa Western Community College students, except high school students, who are enrolled in 6 or more credits, will receive a Reiver Card in their first semester of enrollment. The Reiver Card is not a credit card; it is the key for choosing a refund preference. The card isn't active when students receive it. They must visit www.ReiverCard.com to activate the Reiver Card and select a refund preference. If the student chooses to open a OneAccount, the Reiver Card will serve as his or her debit card. If the student chooses not to open a OneAccount, the Reiver Card will not serve as his or debit card; however, it is important that the student retain the card for the duration of his or her enrollment at the College.

Refund of Tuition and Fees

Students who officially withdraw from college or drop classes before the first calendar week of a regular term will be refunded all tuition and fees, including first-time enrollment, college services, program, and course fees. Students who withdraw from college or drop classes during the first week of a regular term will be refunded all tuition and fees except the first-time enrollment fee. Students who withdraw from college or drop classes during the second week of a regular term will be refunded fifty percent of tuition as well as fifty percent of program and course fees; neither college services fees nor the first-time enrollment fee will be refunded. Even if a student adds a class in place of the one that is dropped, no fees will be refunded on the dropped class. Students who withdraw from or drop classes after the second week of a regular term will not be refunded any tuition or fees. Deadlines for refund of tuition and fees for all terms and sessions are posted online at www.iwcc.edu and in ROC, and they are also available at the Records and Registration Office.

FINANCIAL AID

Iowa Western Community College provides financial aid to students needing help in financing their college education. Most financial aid is awarded to students who demonstrate financial need. Through coordination with federal and state agencies, assistance is available in the form of grants, loans, and college work study.

Application Procedures

The student must first complete an Application for Admission to Iowa Western Community College. Financial aid cannot be awarded until the student is accepted to a program of study leading to a degree, certificate, or diploma. The student must then complete a Free Application for Federal Student Aid (FAFSA). The FAFSA is available online at www.fafsa.ed.gov and must be completed in order for the college to determine eligibility for grants, loans, and college work study. Within a week of submitting the FAFSA, the student, as well as any colleges listed on the FAFSA, will receive a Student Aid Report (SAR). The SAR summarizes the financial information the student entered on the FAFSA, and it is used by the college to determine how much federal and state aid to offer the student. The Financial Aid Office may be required to request forms and documentation from the student, such as federal tax transcripts, in order to determine eligibility. Finally, the student will receive a Financial Aid Award Notification, which is prepared and sent by the Iowa Western Community College Financial Aid Office. The Award Notification indicates all types of financial aid for which the student is eligible. If the student wishes to borrow from the loan program, the student will need to complete and return a Direct Loan Authorization form in addition to completing Loan Entrance Counseling and a Master Promissory Note.

Application Dates

The Free Application for Federal Student Aid (FAFSA) may be submitted anytime during the year. However, priority consideration will be given to application information received by the dates below. Application information received after these dates is processed only as funding allows. Students who want maximum consideration for financial aid should apply early so the required information is received in the Financial Aid Office by the following dates:

> Fall Semester..................May 1
> Spring Semester.............November 1
> Summer Term…..............March 1

The Financial Aid Office will make every effort to meet the financial needs of each qualified student. The amount of assistance will depend on enrollment and eligibility criteria, as well as the availability of federal, state, and other agency funds.

Types of Financial Aid

There are three major types of financial aid available: Grants, which are awarded on the basis of need and do not need to be repaid; Loans, which are awarded on the basis of need and/or eligibility and must be repaid once the student leaves college or does not continue in college on at least a half-time basis; and Employment (College Work Study), which is awarded on the basis of need and requires work for paid wages. Sources of Financial Aid include the State of Iowa and the United States Federal Government.

Awarding Process

Each applicant will receive an Award Notification that indicates his or her financial aid eligibility. This Award Notification will be sent only after requested forms and verification documents have been received and reviewed, and eligibility has been determined. Forms and documents required for verification, as determined by the Federal Government or the Iowa Western Community College Financial Aid Office, often include, but are not limited to, federal tax transcripts, proof of citizenship status, and proof of selective service registration.

Financial aid funds will be used to pay tuition, fees, campus housing, meal plans, and books, in that order. Any balance of remaining funds will not be released directly to the students before the fourth week of class. Balances will be released only after all institutional bills have been paid in full. The e-Cashier Automatic Payment Plan is available through the College Business Office for students unable to pay their account balance at the beginning of the term. The e-Cashier Automatic Payment Plan is also available for students whose financial aid award does not cover their account balance.

Eligibility

In order to be eligible to receive Federal Student Aid, the student must meet eligibility requirements. The student must be a "declared student," which is defined as a student who has applied for admission to a program of study offered by the College, has met the requirements for admission to the program, and been accepted into the program. The student must also be enrolled in an eligible program, which is defined as a program of study that admits declared students who are either high school graduates or have received a high school equivalency diploma. The eligible program must also offer a degree, diploma, or certificate. In addition, the student must be enrolled in eligible courses. Only courses required for graduation from an eligible program will qualify for financial aid eligibility. The student may receive aid for repeated classes if a failing grade was received or if a higher grade is needed to continue in the program of study. Non-credit classes do not qualify for aid eligibility, and credits received by transfer or credit by exam, including CLEP, do not count as eligible courses for financial aid.

Satisfactory Academic Progress (SAP Policy)

Iowa Western has established a Satisfactory Academic Progress (SAP) Policy in accordance with federal financial aid regulations. These regulations require a student to move toward the completion of a degree, diploma or eligible certificate within an eligible program when receiving financial aid. Federal financial aid regulations state that all periods of enrollment count when assessing progress, regardless of whether or not aid was received. Satisfactory Academic Progress for financial aid recipients will be calculated after each term of attendance.

Standards

As required by federal financial aid regulations, IWCC's SAP policy has three standards by which a student's cumulative academic record must be compared. To be considered in compliance, students must meet all three standards outlined in the Financial Aid Standards of Academic Progress policy.

Standard 1: Pace of Completion (Percentage of attempted credit hours completed)

Students must achieve a minimum pace. Pace is the percentage of total attempted credit hours that are completed. Pace is calculated by dividing the cumulative number of completed credits by the cumulative number of attempted credits. Students must complete at least 67% of total credits attempted. Grades of A, B, C, D and P are considered earned for purposes of financial aid. Grades of F, I, W, and Q are considered unsuccessful.

Standard 2: Cumulative Grade Point Average (GPA)
Students must earn a minimum cumulative GPA of 2.00.

Standard 3: Maximum Time Frame
Students must complete a degree within 150% timeframe (i.e. Associate degree of 64 credits must be completed with 96 credit hours). Hours attempted are the sum of all credit hours recorded at IWCC, all transfer hours accepted for credit toward the applicable program of study, all developmental education credits, all ESL credits, and all courses passed by examination. All periods of the student's enrollment count, even periods in which the student did not receive financial aid.

A student will be assigned one of four statuses each semester which determines a student's eligibility for financial aid

Good Standing – The status given to a student who meets all three SAP standards or who applies for financial aid for their first semester of attendance at IWCC. To remain in Good Standing, a student must meet all three SAP standards each term. Good Standing is a status which is eligible for financial aid.
Warning – The status assigned to a student after their first term of not meeting the minimum Pace and or minimum cumulative GPA. Warning is a status which is eligible for financial aid.
Termination – The status assigned when a student has two consecutive terms of not meeting the Satisfactory Academic Progress standards. Students in Termination are not eligible for further financial aid.
Probation – The status assigned when a financial aid appeal has been approved. Probation is a status which is eligible for financial aid.

Treatment of the Following Types of Courses for Satisfactory Academic Progress

Audit courses
Audit courses are ineligible for financial aid and do not count toward the number of attempted credits or the number of earned credits. They do count toward the degree completion time frame.
Repeated courses
Students may use financial aid to repeat courses that were not successfully completed (defined as a passing grade of a D or higher). Students may also use financial aid to repeat a successfully completed course one time.
College Level Examination Program (CLEP)
CLEP courses are ineligible for financial aid funding. The credits count as attempted and earned credits as well as toward the maximum credit limit but do not affect the Satisfactory Academic Progress cumulative GPA.
Transfer courses
Credits transferred to IWCC from another institution count as attempted and earned credits as well as toward the maximum time frame but do not affect the SAP cumulative GPA.
English-as-a-Second Language (ESL) courses
Students enrolled in ESL coursework are placed in the "Deciding ESL" program which is not eligible for financial aid. Once a student has completed ESL coursework and has changed to a program of study that is eligible for financial aid they will be subject to the Satisfactory Academic Progress policy. ESL courses may be counted in the calculation of Pace and Cumulative GPA.
Developmental courses
Students admitted into financial aid eligible programs are eligible to receive federal aid for up to 30 developmental credits. Developmental credits count as attempted and earned credits as well as

toward the maximum credit limit. They also affect the Satisfactory Academic Progress cumulative GPA.
Dual Enrollment courses
High school students enrolled in IWCC courses that will apply toward their high school graduation requirements and earn them credits at IWCC are not eligible for federal aid. When dual enrollment students graduate from high school, enroll in financial aid eligible programs at IWCC, and apply for financial aid, credits for IWCC courses taken under a dual enrollment program count as attempted and completed credits as well as toward the maximum credit limit. These credits also affect the SAP cumulative GPA.

Changing Majors or Earning an Additional Degree

Change of Major
IWCC does not limit the number of times a student may change their major.
Additional Degrees
Once a student has earned an academic credential (certificate, diploma, or associate degree) at the college he or she may pursue additional academic credentials. The maximum timeframe standard still applies. Once a student reaches the maximum timeframe for their declared program of study they will be Terminated and an approved appeal is required to receive further financial aid.

Student Notification
Financial aid recipients will be notified of their status once SAP is calculated after the end of each term by a notice sent to their official IWCC email.

Reinstatement of Good Standing
A student can return to Good Standing by raising their cumulative GPA to 2.00 or higher and their cumulative credit completion rate to 67% or higher as long as they have not reached or exceeded the maximum time frame for their program of study.

Appeal Process
To regain eligibility for financial aid after Termination, a student be required to regain a cumulative 2.00 GPA and/or raise his/her cumulative completion rate to 67% at his/her own expense or complete a **Financial Aid Satisfactory Academic Progress Appeal form and Academic Improvement Plan (AIP).**
Circumstances for Appeal
A student may submit a written appeal documenting extenuating/mitigating circumstances that prevented him/her from meeting minimum standards. Extenuating circumstances that may be considered include: personal illness or accident, serious illness or death within immediate family, or other circumstances beyond the reasonable control of the student.
Filing an Appeal
An appeal form is available on-line at www.iwcc.edu. In addition, appeal forms are available at the Welcome Center. Financial Aid recipients will be allowed to appeal only once. An Academic Improvement Plan is required for all students as part of the appeal process. The student will be directed to meet with an Enrollment Advisor to develop an Academic Improvement Plan that must be submitted with the appeal.

After review by the SAP Committee, a written response of the Committee's decision will be communicated to the student by a notice sent to their official IWCC email. If approved, the student will have his or her financial aid reinstated, though they will remain on **Probation** for the next term. Students on **Probation** must pass all

of their classes each semester and achieve a 2.00 semester GPA or they will go on **Termination**. Students must follow the Academic Improvement Plan until their record meets the minimum SAP standards. If a student fails to follow the Academic Improvement Plan, he/she will be placed on **Termination** after the next SAP review.

Appeal of the SAP Committee's Decision

Students who were denied an appeal may appeal the decision of the SAP Committee to the Director of Financial Aid. The Director will review with an SAP Committee member and respond to the appeal within 72 hours from the date of receiving the appeal. The re-appeal must have documentation that was not part of the original appeal to the SAP Committee. The Director's decision of this appeal is the final step of the Financial Aid Appeal Process.

Return of Federal Financial Aid Funds

Students who receive Title IV financial aid (Federal Pell Grant, Federal Supplemental Educational Opportunity Grant, and Federal Direct loans) are subject to federal return of Title IV funds statutes. These regulations apply to recipients of Title IV financial aid who completely withdraw from college or who stop attending all classes during the enrollment period. The College must determine the amount of Title IV financial aid the student earned and return the unearned aid to the respective federal financial aid programs. Unearned aid will be returned to the federal programs in the following order: Loans (Federal Unsubsidized Loans, Federal Subsidized Loans, and Federal PLUS Loans), Grants (Federal Pell Grant and Federal Supplemental Educational Opportunity Grant), and then other Title IV funds. The College must return the funds as soon as possible but must do so no later than 45 days after the College determines the withdrawal date or last date of attendance.

If a student officially withdraws from the college prior to completing 60% of the semester, financial aid awards will be adjusted accordingly and unearned aid will be returned to the appropriate federal financial aid program. If a student officially withdraws from the college after completing 60% or more of the semester, no financial aid adjustment or return of funds is necessary. The percent of the semester completed is based on calendar days from the first day of the semester through the last scheduled day of finals. This includes weekends and mid-semester breaks of less than five days. Students who do not go through the official withdrawal process will be treated as having attended through the midpoint of the semester, unless the last day of attendance can be documented.

FINANCIAL ASSISTANCE

Scholarships

Both institutional and privately funded scholarships are administered by Iowa Western Community College. Iowa Western Community College scholarships are awarded on the basis of academic achievement, involvement and/or financial need, as well as the availability of funds. Iowa Western scholarship opportunities are available for new and continuing students, and students can apply for most of them through a single application that is available online and in the Welcome Center at the Council Bluffs campus. Upon completion of the application, students will be considered for all available scholarships. The priority deadline for consideration for the fall semester is March 15, and priority deadline for consideration for spring semester is November 15. Applications remain on file for one academic year. All scholarship recipients must be a high school graduate, or the equivalent, or have received a high

school equivalency diploma. More information regarding the availability of and application procedures for the various scholarships is available online.

Veterans Services

Iowa Western Community College is committed to assisting all students who are eligible to receive Veterans Administration educational entitlements. Staff members are available to assist in the application process as well as any activity that is unique to Veterans Administration requirements. Inquiries concerning eligibility and pay should be made directly to the Regional Veterans Administration Office (1-888-442-4551) by the student. Additional information is also available at www.gibill.va.gov.

Vocational Rehabilitation

Vocational Rehabilitation provides assistance through the area vocational rehabilitation office. The student must contact the office for application information. Eligibility for the Federal Pell Grant program must be determined to receive Vocational Rehabilitation assistance.

Workforce Investment Act

Workforce Investment Act funds, which can help pay for tuition as well as housing, transportation, and childcare costs, may be available for students who meet the eligibility requirements of the Act. For more information and application materials, please call (712) 325-3210.

ACADEMIC INFORMATION

Student Responsibility for Catalog Information

Each student is responsible for the information contained within this catalog. Failure to read the regulations will not be considered sufficient reason for noncompliance with such regulations.

The Board of Trustees of Iowa Western Community College reserves the right to revise and modify any curriculum, instructional program, and/or course of study without prior notification of applicants or students. Such revisions and modifications will apply to prospective students and may be applicable to students currently enrolled.

General Education Philosophy

General education courses are an important component of the community college learning experience. General education imparts common knowledge, promotes intellectual inquiry, and stimulates the examination of different perspectives, thus enabling people to function effectively in a complex and changing world.

General education is not exclusively related to a student's technical or professional field but is the part of a degree or diploma program that prepares students to meet personal, social, and lifelong learning needs. At Iowa Western Community College, the goal of general education is to enhance the development of the individual into a responsible, understanding, and productive citizen. The integration of career goals, with a knowledge of culture, society, global issues, and challenges, will prepare the student for his or her place in the future.

General education requirements will vary depending on whether the student is enrolled in an Associate of Arts, Associate of Science, Associate of General Studies, or Associate of Applied Science de-

gree program, or a diploma or certificate program. Students should refer to the degree requirements section of the catalog for specific requirements.

Arts and Sciences/College Transfer Programs

All Arts and Sciences college transfer students must select a program of study, and they are encouraged to seek an Associate Degree. Each program of study is designed to provide the opportunity to explore in depth a specific area of academic interest. The Associate of Arts and Associate of Science degrees are transferable to four-year institutions. Each of the Arts and Sciences programs have been developed by the faculty in that specific field and are to be used as guidelines for student planning and academic advising.

Career and Technical Programs

A career and technical program is a professionally developed sequence of learning experiences designed to prepare students for immediate entry into the workforce. Graduates of these programs receive certificates, diplomas, or Associate of Applied Science degrees. Students enrolling in Career and Technical programs are required to consult with the program chair to develop their individual program plans. In many instances, a carefully developed program plan provides for transferability of courses leading to a Bachelor's degree.

Academic Load

Twelve or more credit hours is considered full-time status for the fall and spring semesters. Six credit hours or more is full-time for the summer session. The normal course load for a student expecting to graduate with an Associate in Arts, Associate in Science, or Associate in General Studies degree is 16 credit hours per semester. Students in Career and Technical programs must follow the approved curriculum.

Students are limited in the number of hours they may carry. In the fall and spring semesters, students in Arts and Science programs may take up to 20 hours, and students in Career and Technical programs may take up to 21 hours. In the summer term, all students are limited to 12 hours. This limitation is intended to help the student, and, if good scholarship is demonstrated, a petition for increased load may be granted in subsequent terms. Students who wish to petition for an academic overload should meet with an Enrollment Advisor in the Advising and Academic Success department.

Academic Classification

A student's academic classification is determined by the number of semester credit hours of academic credit he or she has earned. A student who has earned 1 through 32 credits is classified as a freshman, and a student who has earned 33 or more credit hours is classified as a sophomore.

Attendance Policy

Attendance will be taken and recorded for every class meeting. Instructors are responsible for developing and implementing their own system and forms for recording class attendance that can be checked and verified by sources from both on and off campus. These include, but are not limited to, Iowa Western Community College Student Services Personnel, the Veterans Administration, federal, state, county, private human services agencies, and scholarship granting organizations. This policy is subject to the limitations as outlines in The Family Educational Rights and Privacy Act.

Academic Standards

It is the policy of Iowa Western Community College to promote academic progress for each individual student. To encourage each student to strive for the highest academic achievement of which he or she is capable, the following policy has been adopted:

A student who has attempted six or more semester hours of academic credit is required to maintain a cumulative minimum grade point average of 2.0. A student who fails to maintain this average will not be in "Good Academic Standing" at the College for the following semester. If the grade point is not at least 2.0 at the conclusion of the following semester, the student may be placed on academic suspension. A student who earns at least 2.0 GPA for an academic semester may avoid suspension even though he or she is not in "Good Academic Standing" until the cumulative GPA reaches 2.0.

A student who is academically suspended from the College may not reenroll in Iowa Western Community College unless he or she has written permission from the Vice President of Academic Affairs.

This policy is independent of Financial Aid Satisfactory Academic Progress Criteria.

Arranged Course Study

Students may enroll in a course on an individual basis with special permission of the appropriate Division Dean and the Vice President of Academic Affairs. Normally, this will only be permitted when a specific course has not been scheduled during the semester or when a serious schedule conflict has occurred.

Independent Study

Students may enroll in an independent study course for no more than three credits after completing six credit hours in the subject area. A maximum of six credits of independent study may be used to meet degree requirements. An interested student must meet with the instructor and submit a detailed description of the approved project at least one week prior to registering for the course. This type of course involves a specific educational project in a special interest area. The student works under the direction of a faculty member in the appropriate department. Final approval is required of the appropriate Division Dean and the Vice President of Academic Affairs.

Audit Course Study

Audit enrollment in courses provides students the opportunity to attend class as a noncredit participant.

A student may enroll in any course on an audit basis. Audit enrollments require that the student and instructor agree about what portions of the course the student plans to audit and the requirements the instructor has about the student's class attendance and participation in class work. If the student fulfills the agreement for the audit, he or she will receive the symbol of "N" (Audit) for the course and it will be entered on the student's academic transcript. If the student does not fulfill the audit agreement, the Records and Registration Office, upon request of the instructor, will delete the course from entry on the student's academic transcript.

The audit enrollment symbol carries no credit or grade point value and is not eligible for student financial aid. With the permission of the instructor and the Records and Registration Office, a student

may change from credit enrollment status to audit status through the twelfth week of the semester or comparable summer semester period. Registration procedures and fees are the same as for regular class enrollment.

Cooperative Education/Internship Programs
Students may earn and apply up to eight semester hours of cooperative education and/or internship credit toward a degree or diploma.

Cooperative Education
This program enables students to participate in periods of off-campus work experience closely related to classroom theory and educational goals. Cooperative Education students may or may not be paid for their services, depending on an agreement between employer and student. Cooperative Education stems from the principle that the vast world of experience has a lot to offer students and can enhance classroom learning. Work experience contributes to the development of positive work habits such as honesty, punctuality, courtesy, cooperative attitudes, and willingness to learn. Some work experience may modify ideas and plans concerning career choices.

All Cooperative Education courses require approval of the program chair. In addition, the student must have successfully completed a minimum of twenty semester hours toward their degree and have achieved a grade point average of 2.0 or greater.

Internships
This program enables students to participate in periods of off-campus work experience closely related to classroom theory and educational goals. Students participating in the internship may or may not be paid for their experience, depending on the agreement between employer and student. The internship provides the opportunity for the student to enhance his or her education by gaining actual work experience in his or her program of study. The experience contributes to the development of positive work habits such as honesty, punctuality, courtesy, cooperative attitudes, and willingness to learn. Technical skills are enhanced.

All internship courses require approval of the program chair. Students must have successfully completed a minimum of twenty semester hours in their program and have achieved a grade point average of 2.0 or greater.

College-Level Examination Program (CLEP)
Students may earn credit and apply up to twenty semester hours toward an Associate of Arts, Associate of Science, or Associate of General Studies degree by successfully passing specified subject-matter tests of the College-Level Examination Program (CLEP). Results of CLEP tests are sent directly to the student after being scored but are not recorded on an Iowa Western Community College transcript until such time that the student registers and creates a permanent record. Information and details regarding the CLEP program may be obtained online or in the Admissions and Records department.

Credit by Examination
An Iowa Western Community College student may, by requesting and receiving approval of the appropriate Division Dean, apply to challenge an Iowa Western Community College course for which there is no College-Level Examination Program (CLEP) test. Credit

received by examination shall be used to fulfill Iowa Western Community College degree requirements. A course may be challenged by examination one time only. A course may not be challenged if the student has already received a grade in the course at Iowa Western Community College. A satisfactorily challenged course will receive a grade symbol of "T" on the student's permanent record. There will be a fee for examination and recording services that is indexed to the number of credit hours in the challenged class. Students challenging courses are hereby given notice that credit awarded by examination may not be honored for transfer by subsequent institutions.

Military Service School Credit
If you have attended military service schools, you may be eligible for credit that will apply to your degree or certificate. The Joint Services Transcript, published by the American Council of Education, is used as the guide for such credit evaluation and is awarded, where appropriate, by the Registrar.

Military Science
Iowa Western Community College offers Air Force Reserve Officer Training Corps courses through the University of Nebraska at Omaha and Army Reserve Officers Training Corps courses through Creighton University.

Iowa Communications Network (ICN)
Iowa Western Community College offers courses over the ICN, an interactive technology that allows college credit classes to be televised across our district. The fiber optics sites include the Council Bluffs campus, Clarinda Center, Cass County Center (Atlantic), Shelby County Center (Harlan), and high schools throughout Southwest Iowa. The ICN provides opportunities to enroll in college credit classes without having to travel great distances.

Online Courses
Iowa Western Community College offers a variety of courses and degrees delivered entirely online. Online courses allow Iowa Western Community College to deliver convenient education to citizens locally, regionally and around the world. Iowa Western Community College delivers online classes through Reiver Online Campus (ROC), Iowa Western Community College's student portal. Online courses give students the utmost in flexibility and convenience. More information regarding online courses offered at Iowa Western Community College is available online.

Hybrid Courses
Iowa Western Community College offers hybrid courses in recognition of ongoing changes in education and technology. Students in hybrid courses still spend time in the classroom; however, a portion of the required classroom time is supplanted with self-guided learning activities, usually through the use of technology, including, but not limited to, online instruction. These courses provide the flexibility of self-guided learning without losing the personal connection of face-to-face instruction.

Interim Session Courses
Iowa Western Community College offers at least one interim session, lasting approximately two weeks, each academic year. Since the number of days that constitutes an interim session varies from year to year, so too will the number of actual hours spent in class. Course content will be delivered in a manner conducive to learning for the length of the session.

Service-Learning and Community Service

Service-learning, community service activities, and civic engagement are essential components of the comprehensive education Iowa Western Community College provides its students. Iowa Western Community College offers a variety of ways for students to learn how to become active citizens in both the local community and in our larger diverse global society. Iowa Western Community College students participate in service-learning projects connected to courses, provide valuable community service for local nonprofit organizations, and are encouraged to become active in civic issues.

Faculty and staff, in partnership with representatives of nonprofit community organizations, design service-learning projects based on two main objectives:

1. Meeting community needs, which helps strengthen the community.

2. Advancing the students' understanding of specific course content and related civic learning objectives.

Strong reflective components are built into the course not only to help students consider relationships between their service and the course curriculum but also to help students consider the impact their service has on their personal values and professional goals. There are more than one hundred nonprofit agencies in Council Bluffs and the surrounding areas that utilize volunteers on a regular basis. There are a number of courses in a variety of disciplines at Iowa Western Community College that include a service-learning component within their curriculum.

Course Numbering System

Beginning with the 2006 Fall semester, Iowa Western Community College converted to a statewide common course numbering system. The Iowa community colleges developed a systematic numbering system for all credit courses offered by Iowa community colleges. The goal of the numbering system is to facilitate transfer and articulation processes for community college students in Iowa.

Other colleges differ in their curriculum requirements. Students anticipating transfer to another institution are encouraged to plan a program of study in accordance with the degree requirements of the institution to which they plan to transfer. The evaluation of credits for transfer is always made by the accepting institution. Students receiving less than a grade of "C" in any course may experience difficulty in transferring such credit to another institution.

All courses in Arts and Science programs are considered to be transferable to other institutions. Career and Technical courses are designed to prepare students for a specific occupation and are not necessarily designed to be transferable. However, Iowa Western Community College has transfer agreements for Career and Technical courses with several institutions.

Unit of Credit

The semester hour is the basic unit of credit of Iowa Western Community College. A semester hour of credit usually represents one hour of class work or two to four hours of laboratory work each week for a semester, although variation from this standard is possible in some courses.

Grading System

The grading system used at Iowa Western Community College is stated below.

A   Indicates superior work and excellent progress.
B   Indicates work and progress above the average standard.
C   Indicates work and progress that meets the average standard.
D   Indicates work and progress below the average standard.
F   Indicates work and progress below the minimum standard.
I   Indicates that course requirements have not been completed. (This grade must be completed by the following semester or the "I" will revert to an "F," unless the instructor and student request that the Records and Registration Office extend the time limit.)
W   Indicates withdrawal from the course. Grade is not calculated in grade point average.
T   Indicates credit by exam.
N   Indicates audit of a course — no credit granted.
X   Repeated course. (Used prior to Fall 2003.)
P   Pass.
Q   No credit — no pass.
R   Required — no credit.
L   Laboratory.
OG   On-going course.

Pass/No Pass Course Grading Policy

Iowa Western Community College offers a limited number of courses that can be taken on a pass/no pass basis. In order for a course to be considered specifically for pass/no pass grading, it must be designated as a pass/no pass through curriculum action and noted in the course description in the college catalog.

The grade award for pass/no pass courses shall be:
      P - Pass
      Q - No pass/no credit

Credits earned through course work as P-Pass shall count toward the total number of credits earned by the student while enrolled at Iowa Western Community College. However, no numerical value is assigned to a P-Pass grade. P-Pass course grades are not used in calculating the student's term or cumulative grade point average.

Grade Point System

A grade system is used to compute a student's grade point average. The numerical value assigned to each grade is as follows:

Each semester hour of A	=	4 points
Each semester hour of B	=	3 points
Each semester hour of C	=	2 points
Each semester hour of D	=	1 point
Each semester hour of F	=	0 points

A student's grade point average is computed as follows:

1. For each course, multiply the credits earned by the numerical value of the grade received in that course.

2. Compute the sum of all grade points received for all courses.

3. Divide the total grade points by the number of credits attempted. Disregard the credits attempted for any course in which an I, T, W, P, Q, or N mark was received.

High School Articulation

Students may earn college credit for an Iowa Western Community College program by demonstrating knowledge and skills while in a high school Career and Technical program. Local high school

instructors and Iowa Western Community College instructors have mutually agreed upon the competencies (knowledge and skills) and levels of performance transferable between select high school programs and Iowa Western Community College programs. Advantages to students include the elimination of duplication of instruction, increased educational opportunities, and reduction of college costs and time of completion. Interested students should contact high school counselors or high school Career and Technical instructors to determine eligibility.

Transfer of Credit from Other Institutions

Iowa Western Community College will accept the credits awarded to a student who has done successful work, defined as a "C" or higher, at a regionally accredited college or university. A grade of "C" or higher is required for the credit to transfer, however, only the credit will be transferred. Grades for transfer credit will not affect the student's cumulative grade average and will not appear on the student's Iowa Western Community College transcript. Courses taken for pass/fail or satisfactory/unsatisfactory grades may only be transferred if the pass or satisfactory grade is equivalent to at least a "C" or higher. All acceptable college credit will be evaluated by the Registrar and then transfer credit applicable to the student's program of study will be awarded. This transfer credit information will be available upon request during the initial term of enrollment.

The College will accept a maximum of sixteen semester hours of Career and Technical credits from another regionally accredited institution as elective credit only towards the Associate in Arts or the Associate in Science degree. The College will accept a maximum of thirty semester hours of Career and Technical credits as elective credit only toward the Associate of General Studies degree.

Official transcripts must be sent directly from the institution where credit was earned to the Iowa Western Community College Records and Registration Office. It is the responsibility of the student to have international transcripts translated into English and evaluated by World Education Services (WES) or Educational Credential Evaluators (ECE). Records submitted to the College as part of the admissions procedure become part of the official file and cannot be returned to the student or forwarded to another institution.

Iowa Western Community College cannot guarantee how other colleges may treat the acceptance of transfer credits.

Honor Roll

All full-time students who earn a semester grade point average of 3.5 or above will be listed on the college honor roll.

Honor Society – Phi Theta Kappa

Students who have successfully completed a minimum of twelve credit hours towards an Associate's degree and who have a cumulative grade point average of 3.5 or above will be invited to join Phi Theta Kappa. This national honor society initiates students during the fall and spring semesters of each year. PTK graduates are eligible to wear the PTK gold stole and tassel at graduation.

GRADUATION REQUIREMENTS

Meeting Graduation Requirements

It is the responsibility of the student to know and to observe the requirements of his or her curriculum and the rules governing academic work. Although the advisor will attempt to help the student make wise decisions, the final responsibility for meeting these requirements for graduation rests with the student.

In those instances where a student receives information from an advisor that might have an impact upon graduation requirements or application of credits toward graduation, the student is advised to secure such commitment in writing. It is further advised that such commitment be retained by the student until the sequence of events is such that it would be no longer necessary to demonstrate the establishment of such a commitment.

It is recommended that students have their credits evaluated for graduation by the Registrar two semesters before actual graduation. This is to ensure all graduation requirements will have been met by the time the student plans to graduate.

Continuous Enrollment Policy

Graduation requirements in effect at the time of a student's initial enrollment will remain in effect as long as the student is continuously enrolled at Iowa Western Community College. Continuous enrollment is defined as consecutive fall and spring terms, and is subject to a five-year limitation. If changes occur in graduation requirements subsequent to initial enrollment, the student may elect to graduate under the most recent requirements. A student must satisfy the most recent requirements if a break in enrollment in the College for two or more consecutive semesters occurs. Students who elect to change their major must satisfy requirements in effect at the time of the change.

Dual Degrees/Multiple Degrees

A student who has met the requirements for an Associate's degree at Iowa Western Community College must complete a minimum of eighteen additional semester hours at Iowa Western Community College for a second Associate's degree and an additional eighteen semester hours for each successive Associate's degree. The student must meet all degree requirements as specified by each program. The student must submit a new Application for Graduation for each degree, even when the student wishes to have them conferred at the same time.

Honorary Degree

The purpose of the Honorary Associate's degree is to recognize individuals in the community who have distinguished themselves through their professional careers or who have made an outstanding contribution to the college or the community. Honorary degrees are awarded to individuals in the following categories:

- Alumni who have achieved significant success in their personal and public lives;
- Individuals from within the college's service area who have contributed significantly to the progress and development of the college; and
- Citizens who have contributed significantly to the progress and development of Iowa Western Community College.

Individuals are not eligible for this award if they are currently employed by the college or serving on the Board of Trustees. A separation from such employment or service of at least two years is a prerequisite for eligibility. Recommendations for such honorary degrees shall be made to the President and approval granted by the President and his Cabinet prior to the award being made.

Graduation Application and Automatic Graduation

Students who plan to earn a degree, diploma, or certificate should submit a graduation application at the beginning of the term in which they plan to complete all requirements. At the conclusion of the fall, spring and summer terms, as well as the winter interim session, the Records and Registration Office will verify final grades, and then students who have completed graduation requirements for their program of study will be marked as graduates on their official transcript. Students who do not meet all requirements for graduation will be promptly notified by the Records and Registration Office, at which time a new course of action for degree attainment will be recommended.

In addition, at the conclusion of the fall, spring and summer terms, as well as the winter interim session, the Records and Registration Office will identify students who have met graduation requirements for a degree, diploma and/or certificate, and will automatically graduate such students, even though no application for graduation was submitted and regardless of the major on file. These students will be marked as graduates on their official transcript, and they will be notified of their respective award.

Commencement

Iowa Western Community College conducts three commencement ceremonies each year. At the Council Bluffs campus, fall commencement is held in December, spring commencement is held in May, and summer commencement is held in late July or early August. A spring commencement ceremony is also held at the Clarinda Center in May.

Although voluntary, participation in commencement is strongly encouraged. In order to participate, students must submit an application for graduation and indicate on that application their intention to participate, or otherwise notify the Records and Registration Office of their intention to participate. Participation does not guarantee that students will officially graduate, as final grades are not verified and final audits are not conducted until after the ceremony.

Diplomas

Diplomas are mailed to the student's address on file within four weeks of the conclusion of the term in which students graduate, after final grades are recorded and the Registrar has verified that all requirements for graduation have been satisfied. Diplomas are not presented at the commencement ceremony. All financial obligations to the college must be met before the college will release a student's diploma. A student may order a replacement diploma by notifying the Records and Registration Office; the cost for the replacement shall be the student's responsibility and it must be paid before a replacement will be ordered.

Graduation with Honors

Any graduate who has attained a cumulative grade point average of 3.5-3.69 shall be graduated with "Honors." A graduate who has attained a cumulative grade point average of 3.7-3.89 shall be graduated with "High Honors." Graduates who have attained a cumulative grade point average of 3.9 or above shall be graduated with "Highest Honors." Honors will be recognized on the official academic transcript.

Graduation Requirements

Iowa Western Community College is authorized by the State of Iowa to grant the following degrees, diplomas, and certificates upon satisfactory completion of a specific curriculum or degree program.

Associate of Arts
(in effect Fall 2012)

Candidates for this degree must:

A.   Complete a minimum of 64 semester hours of academic credit of which at least 50% or the last 20 semester hours shall be in residence.
B.   Attain a minimum cumulative grade point average of 2.0.
C.   Select a major or program that will be recognized on the student's official transcript.
D.   Complete the following minimum requirements:

Communications   **9 credits**
Courses must include Composition I, Composition II, and one Speech course, either Public Speaking or Interpersonal Communications.

Social Sciences   **9 credits**
Courses must be selected from Anthropology, Economics, Geography, History, Political Science, Psychology, and Sociology.

Science and Mathematics   **10 credits**
Courses must include a minimum of four credit hours of laboratory science and a minimum of three credit hours of mathematics. Courses must be selected from Biology, Chemistry, Environmental Science, Mathematics, Physical Science, and Physics; all mathematics courses must be selected from MAT 121-227.

Humanities   **9 credits**
Courses must be selected from Art, Cultural Studies, Film and Theatre, Foreign Language, Humanities, Literature, General Music, Philosophy, and Religion.

Distributed Requirement   **3 credits**
Course must be selected from Communications, Social Sciences, Science and Mathematics, and Humanities.

General Electives   **24 credits**
Courses may include up to 16 semester hours of career/technical courses.

Diversity Requirement   **3 credits***
Course must be selected from the following:
ANT 105, FLS 141, FLS 142, FLS 241,FLS 242, GEO 121, HIS 253, HIS 257, ITP 125, ITP 130, LIT 130, LIT 134, LIT 190, MGT 195, MKT 190, MUS 205, POL 121, REL 101, SOC 198, SOC 200, SOC 210, and SPC 120.

*The Diversity Requirement does not increase the number of credits required for graduation; the course taken to fulfill the diversity requirement will also fulfill requirements in Social Sciences, Humanities, Distributed Requirement or General Electives.

Additional Recommendations:
A.   Candidates for the A.A. degree are encouraged to complete a foreign language course.
B.   Students are encouraged to check with the transfer institution when selecting courses to ensure as seamless a transition to a four-year institution as possible.

Associate of Science
(in effect Fall 2012)

Candidates for this degree must:

A.   Complete a minimum of 64 semester hours of academic credit of which at least 50% or the last 20 semester hours shall be in residence
B.   Attain a minimum cumulative grade point average of 2.0.
C.   Select a major or program that will be recognized on the student's official transcript.
D.   Complete the following minimum requirements:

Communications   **9 credits**
Courses must include Composition I, Composition II, and one Speech course, either Public Speaking or Interpersonal Communications.

Humanities and Social Sciences   **9 credits**
Courses must be selected from Art, Cultural Studies, Film and Theatre, Foreign Language, Humanities, Literature, General Music, Philosophy, Religion, Anthropology, Economics, Geography, History, Political Science, Psychology, and Sociology.

Science and Mathematics   **20 credits**
Courses must include a minimum of four credit hours of laboratory science and a minimum of three credit hours of mathematics. Courses must be selected from Biology, Chemistry, Environmental Science, Mathematics, Physical Science, and Physics; all mathematics courses must be selected from MAT 121-227.

Distributed Requirement   **3 credits**
Course must be selected from Communications, Humanities and Social Sciences, and Science and Mathematics.

General Electives   **23 credits**
Courses may include up to 16 semester hours of career/technical courses.

Diversity Requirement   **3 credits***
Course must be selected from the following:
ANT 105, FLS 141, FLS 142, FLS 241,FLS 242, GEO 121, HIS 253, HIS 257, ITP 125, ITP 130, LIT 130, LIT 134, LIT 190, MGT 195, MKT 190, MUS 205, POL 121, REL 101, SOC 198, SOC 200, SOC 210, and SPC 120.

*The Diversity Requirement does not increase the number of credits required for graduation; the course taken to fulfill the diversity requirement will also fulfill requirements in Humanities and Social Sciences, Distributed Requirement or General Electives.

Additional Recommendations:
A.   Candidates for the A.S. degree are encouraged to complete a computer science course.
B.   Students are encouraged to check with the transfer institution when selecting courses to ensure as seamless a transition to a four-year institution as possible.

Associate of General Studies
(in effect Fall 2012)

Candidates for this degree must:

A.   Complete a minimum of 64 semester hours of a c a d e m i c credit of which at least 50% or the last 20 semester hours shall be in residence
B.   Attain a minimum cumulative grade point average of 2.0.
C.   Select a major or program that will be recognized on the student's official transcript.
D.   Complete the following minimum requirements:

Communications   **9 credits**
Courses must be selected from:
ENG 105, ENG 106, ENG 110, ENG 111, SPC 112, and SPC 122.

Social Sciences   **9 credits**
Courses must be selected from Anthropology, Economics, Geography, History, Political Science, Psychology, and Sociology.

Science and Mathematics   **7 credits**
Courses must include a minimum of four credit hours of laboratory science and at least one mathematics course from MAT 110-227. Courses must be selected from Biology, Chemistry, Environmental Science, Mathematics, Physical Science, and Physics.

Humanities   **6 credits**
Courses must be selected from Art, Cultural Studies, Film and Theatre, Foreign Language, Humanities, Literature, General Music, Philosophy, and Religion.

Distributed Requirement   **3 credits**
Course must be selected from Communications, Humanities and Social Sciences, and Science and Mathematics.

General Electives   **30 credits**
Courses may include up to 30 semester hours of career/technical courses.

Diversity Requirement   **3 credits***
Course must be selected from the following:
ANT 105, FLS 141, FLS 142, FLS 241,FLS 242, GEO 121, HIS 253, HIS 257, ITP 125, ITP 130, LIT 130, LIT 134, LIT 190, MGT 195, MKT 190, MUS 205, POL 121, REL 101, SOC 198, SOC 200, SOC 210, and SPC 120.

*The Diversity Requirement does not increase the number of credits required for graduation; the course taken to fulfill the diversity requirement will also fulfill requirements in Social Sciences, Humanities, or General Electives.

The Associate in General Studies degree allows students to combine a core of basic courses with a program that can be customized to their academic goals. This degree may be appropriate for those students undecided about future educational or career goals. However, because of the flexibility of this degree, it may not fulfill requirements for transfer to a four year institution. Students should work closely with their advisor for program planning assistance.

Associate of Applied Science
(in effect Fall 2012)

Candidates for this degree must:

A.   Complete a minimum of 64 semester hours of academic cred-it of which at least 50% or the last 20 semester hours shall be in residence.
B.   Attain a minimum cumulative grade point average of 2.0.
C.   Select a major or program that will be recognized on the stu-dent's official transcript.
D.   Complete the following minimum requirements:

Communications   3 credits
Course must be selected from ENG 105, ENG 110, or ENG 111.

Humanities and Social Sciences   3 credits
Course must be selected from Art, Cultural Studies, Film and The-atre, Foreign Language, Humanities, Literature, General Music, Philosophy, Religion, Anthropology, Economics, Geography, His-tory, Political Science, Psychology, and Sociology.

Mathematics   3 credits
If mathematics is taught in the program core, another general elec-tive must be selected.

Career/Diversity Requirement   3 credits*
Course must be selected from either MGT 195 Workplace Empow-erment or MGT 900 Documentation and Evaluation of Experiential Learning.**

Program Specific Courses   credits vary
Programs of study that lead to an A.A.S. degree include specific courses required for the degree in addition to the general education requirements listed above. Refer to individual A.A.S. programs of study in this catalog to learn specific degree requirements.

*The Diversity Requirement does not increase the number of cred-its required for graduation; the course taken to fulfill the diversity requirement may also fulfill requirements in Humanities and Social Sciences, or, in very limited cases, in Program Specific Courses.

**In order to satisfy the Diversity Requirement, students who take MGT 900 Documentation and Evaluation of Experiential Learning must also take one of the following courses: ANT 105, FLS 141, FLS 142, FLS 241,FLS 242, GEO 121, HIS 253, HIS 257, ITP 125, ITP 130, LIT 130, LIT 134, LIT 190, MGT 195, MKT 190, MUS 205, POL 121, REL 101, SOC 198, SOC 200, SOC 210, and SPC 120.

Diploma
(in effect Fall 2012)

Candidates for the diploma must:

A.   Complete at least 50% of the program in residence.
B.   Attain a minimum cumulative grade point average of 2.0.
C.   Select a program that will be recognized on the student's official transcript.
D.   Complete the following minimum requirements:

General Education Courses
Programs more than 12 months in length must include 9 semester hours of general education credit of which 6 credits must be in communications. One course must be Writing for the Workplace, Composition I or Technical Writing. The other course must be se-lected from the aforementioned courses or from Composition II, Public Speaking, and Interpersonal Communication. The remain-ing 3 credits must be outside the major program.

Two-semester programs and programs that are less than twelve months must include 6 semester hours of general education credit of which 3 credits must be selected from Writing for the Workplace, Composition I or Technical Writing.

Program Specific Courses
Programs of study that lead to a diploma include specific program courses that are required in addition to the general education re-quirements listed above. Refer to individual diploma programs of study in this catalog to learn specific requirements.

Certificate
(in effect Fall 2012)

Candidates for the certificate must:

A.   Complete a minimum of 16 semester hours of academic cred-
it of which at least 50% shall be in residence.
B.   Attain a minimum cumulative grade point average of 2.0.
C.   Select a program that will be recognized on the student's
      official transcript.
D.   Complete the required courses as listed in the program of
study.

Diversity Requirement

Iowa Western Community College values diversity and supports
learning experiences that promote intellectual growth and human
enrichment. To achieve this goal, all graduates earning an associ-
ate degree must take at minimum a three-credit hour course for
which the primary focus leads to an understanding and awareness
of one or more of the following: gender, race, ethnicity, sexual ori-
entation, people with disabilities, religion and/or global relations.
This requirement may be satisfied with courses taken to satisfy
other core requirements.

Courses must be selected from the following:
*Social Science
ANT 105 Cultural Anthropology
GEO 121 World Regional Geography
HIS 253   American Indian History and Culture
HIS 257   African American History
POL 121   International Relations
SOC 198 The Middle East
SOC 200 Minority Group Relations
SOC 210 Men, Women and Society

*Humanities
FLS 141   Elementary Spanish I
FLS 142   Elementary Spanish II
FLS 241   Intermediate Spanish I
FLS 242   Intermediate Spanish II
LIT 130   African American Literature
LIT 134   Multicultural Literature
LIT 190   Women Writers
MUS 205 Jazz, History and Appreciation
REL 101   Survey of World Religions

General Electives
ITP 125   Orientation to Deafness
ITP 130   Social Aspects of Deaf Culture
MGT 195 Workplace Empowerment
MKT 190 International Marketing
*SPC 120 Intercultural Communications

*Courses listed under Social Science and Humanities, as well as
any other asterisked course, will also satisfy the Distributed re-
quirement.

SERVICES FOR STUDENTS

Because students come to Iowa Western Community College with
diverse backgrounds and interests, the College provides a wide va-
riety of services and activities to make sure that every student has
the best possible chance to succeed and grow while participating in
the various instructional programs offered by the College. Students
who have questions about any of the services offered or about how
to access the services should contact the various departments on
the Council Bluffs campus or the center director. Students can also
access information online in ROC.

Advising

Academic Advising

Upon registering for their first semester, all students are assigned
an academic advisor in their program of study. Student advisees
are ultimately responsible for all aspects of their education, in-
cluding course selection and awareness of their current academic
status; however, advisors can provide guidance and assistance
regarding program and graduation requirements. In addition, stu-
dents should feel that they can freely discuss personal interests,
values, and goals with their advisor and should seek their advi-
sor's assistance in developing academic, social, and career goals.
Students should always consult with their advisor before making
any important academic decision, such as changing a program of
study, adding or dropping courses, or withdrawing from school. Ad-
visor assignments and advisor contact information are accessible
online in Student Self Services.

Career Planning

Iowa Western Community College offers students a variety of ser-
vices and resources that are designed to help them gather infor-
mation, which in turn enables them to make informed decisions
regarding major and ultimately career selection. These resources
also provide an opportunity for students to make a connection
between a program of study, or major, and the related job pos-
sibilities. A student's assigned advisor will serve as an important
resource when it comes to questions about careers but students
are also encouraged to take it upon themselves to research oppor-
tunities through online resources such as the Iowa Western Com-
munity College Career Planning web pages and IhaveaPlanIowa.
gov, both of which are accessible online. Students who have ques-
tions should meet with their assigned academic advisor or meet
with an Enrollment Advisor in the Advising and Academic Success
department for more information.

Transfer Planning

Iowa Western Community College offers valuable resources and
assistance to students who intend to transfer. These resources in-
clude a transfer web site, trained academic advisors, one-on-one
and group visits from four-year colleges and universities, transfer
fairs, and articulation (transfer) agreements. Students who in-
tend to transfer should begin the planning process early in their
academic careers to help make informed decisions regarding their
major and the institution to which they ultimately plan to transfer.
Students who have questions should meet with their assigned aca-
demic advisor or meet with an Enrollment Advisor in the Advising
and Academic Success department for more information.

Student Support and Resources

Intercultural and International Students

The Office of Admissions provides services for students outside the United States seeking F-1 visas as well as services for non-native English speaking students. Services include issuing the I-20 form (Certificate of Eligibility for Nonimmigrant Students). English proficiency for all non-native English speaking students is determined by this office. The office also assists non-native English speaking students with the application process, including completing the Free Application for Federal Student Aid. For more information, contact the Office of Admissions.

Personal Advising/Counseling

The Student Success Center provides inquiring Iowa Western Community College students with information, resources, and short-term counseling or advising in order for them to become better equipped to deal with personal problems that may impact their academic progress. Students are urged to seek such help before personal problems, including mental health issues, family/roommate conflicts, or academic struggles, seriously damage their academic performance or future quality of life. For more information, contact the Student Success Center.

Services for Students with Disabilities

In accordance with the Americans with Disabilities Act (ADA), Iowa Western Community College provides reasonable accommodations to students with documented disabilities. Staff will assist students in arranging necessary access and/or academic accommodations. Students who request an accommodation must have disability documentation on file with the Disability Services Specialist prior to receiving accommodations. Therefore, students are strongly encouraged to provide documentation of their disability and make arrangements early in their semester registration process in order to receive timely services. All disability documentation files are kept strictly confidential. For more information, contact the Student Success Center.

TRiO/Student Support Services

TRiO Programs, including Student Support Services, are federal grant programs that are fully-funded by the Department of Education under Title IV of the Higher Education Act of 1965. The overall goal of TRiO is to support students in continuing their education by increasing the number of graduates and assisting students in transferring to four-year institutions to obtain baccalaureate degrees. Meant to assist disadvantaged or underprepared students in overcoming barriers to a post-secondary education, TRiO provides academic advising, career advising, access to Math/Science/Writing Specialists, peer mentoring, transfer assistance, financial aid assistance, financial literacy advising, computer training, TRiO Minority Leadership Group, academic improvement workshops, cultural and educational activities, volunteer opportunities, and personal development workshops. For more information, contact the Director of TRiO.

Tutoring

The Academic Support Center (ASC) is located next to the Cyber Library and offers free academic assistance in a variety of "core" subjects, specializing in assistance for math and writing classes. ASC Peer Tutors are academically successful students trained to assist other students with many of the general requirement courses necessary for most associate's degrees. Peer tutors maintain regular hours and are available on a walk-in basis. Group tutoring is also available, but must be scheduled in advance. For more information about the free tutoring available to all Iowa Western Community College students, contact the Academic Support Center.

COLLEGE SERVICES

In addition to the variety of services available for students, the college offers many College Services. Students who have questions about any of the services offered or about how to access the services should contact the various departments on the Council Bluffs campus or the campus/center director. Students can also access information online in ROC.

College Store

The College Store is a student's source for textbooks and supplies. In addition, the College Store sells Reiver gifts and clothing, as well as food items, and has student-priced software available for purchase. Books and supplies are also available at the Clarinda, Cass County (Atlantic), Shelby County (Harlan), and Page/Fremont (Shenandoah) centers before the start of each semester. Students can also purchase or rent textbooks and get more information online at www.iwcccollegestore.com.

Cyber Library

Iowa Western Community College offers a technology-based resource center that provides 24/7 access to full-text journal articles, books, and other resources through an electronic database. Students, faculty, and staff are able to search all available learning resources with one click. The Cyber Library, located on the Council Bluffs campus, is a learner-centered environment that has netbooks available for students to check-out, individual study rooms, library research, free printing, and free wi-fi service. Library facilities are also available for students at the Clarinda Center. For more information, contact the Cyber Library.

Early Childhood Education Center

The Iowa Western Community College Early Childhood Education Center at Council Bluffs provides a quality early childhood education program on campus. The center is licensed by the Department of Human Services and accredited by the National Academy of Early Childhood Programs. For more information, contact the Director of the Early Childhood Education Center.

Food Service

The Food Service Department offers a variety of services including buffet style meals, ala carte menu choices, snacks, meal plans, and catering services.

Vocational Rehabilitation Services

Students with medical conditions or disabilities that are either physical or mental may apply for services from the State of Iowa Rehabilitation Education and Services Branch of the Department of Education. Qualified students may receive services that include medical diagnosis, counseling, assessment, post secondary training, on-the-job training, career planning, job placement, and employment follow-up. Educational tuition and expense grants may be provided for attendance at the College.

Workforce Development Resource Center

The Workforce Development Resource Center is available to assist students who are seeking career guidance and/or employment. Program graduates as well as currently enrolled students can take advantage of the services offered through the resource center. These services include career research, career assessment, job listings and access to internet job search sites, resume preparation, access

to resource library materials and labor market information, and skill upgrade programs. For more information, please call (712) 242-2121 or visit the resource center at 300 W. Broadway, Suite 13 in Council Bluffs.

CAMPUS LIFE

A college education expands a student's academic and personal development. Supplementing both areas are a number of extracurricular activities, which include intramurals, social events, community events, and student organizations. Students are encouraged to participate and assist in the planning of events through the various clubs and organizations.

Residence Life

Residence Life provides an atmosphere that nourishes the learning, growth, and personal development of each resident within a cooperative community. Three types of housing are available at the Council Bluffs campus. Students may choose to live in the Reiver Suites, Reiver Village, or Reiver Tower. The Reiver Suites are designed to house four students comfortably with four bedrooms and two bathrooms per suite. The apartment-style Reiver Village is designed to house four students. A double room in the Reiver Tower houses two male residents. In addition to the services and facilities provided, there are many activities, programs, and leadership opportunities available in Residence Life to help individuals, as well as the community, achieve educational and personal goals. For more information, contact the Residence Life Office.

Student Life

The Student Life Office is designed to complement the academic experience. By sponsoring events and activities that are co-curricular to academics, students have the opportunity to learn life skills, leadership skills, and interpersonal relationship skills. This is accomplished by providing experience in leadership, organizational management, service, decision-making, and planning. Through volunteerism, student organizations, and committees, the Student Life Office provides a learning experience outside of the classroom that helps to expose students to new ideas, people, and possibilities.

Student Activities Board

The Student Activities Board is designed to promote clubs and activities on campus as well as encourage students to get involved around campus. The Student Activities Board meets every other month in the Student Center. On the Council Bluffs campus, the Student Body President and Student Activities Assistant are appointed positions. Students interested in these positions should contact the Student Life Office.

Intramural Activities

The Iowa Western Community College Student Life Office provides a wide range of intramural sports and recreation opportunities for students at the Council Bluffs campus. Team activities such as flag football, sand volleyball, basketball, bowling, and Ulitmate Frisbee are offered throughout the year and are free to all students. For more information on intramural activities, contact the Student Life Office.

Intercollegiate Athletics

Students at the Council Bluffs campus may participate in the following intercollegiate varsity athletic programs:

Women: basketball, cross country, golf, soccer, softball, track, volleyball

Men: baseball, basketball, cross country, football, golf, soccer, track, wrestling

Iowa Western Community College is a member of the National Junior College Athletic Association (NJCAA) and the Iowa Community College Athletic Conference (ICCAC). Participants must meet all academic requirements for participation, as outlined by both the NJCAA and ICCAC.

Spirit Squads

Students at the Council Bluffs campus may participate in two programs designed to support the College's athletic teams, the Reiver Cheer Team, which competes locally, regionally, and nationally, and the Sapphires Dance Team. The team members are selected through tryouts. For more information, contact the Spirit Coordinator through the Athletic Office.

Choir/Band

The Iowa Western Community College Music Department offers a wide range of performance ensembles in vocal and instrumental music. Students are selected through audition for most ensembles. For more information, contact the Music Department.

Theatre

The Iowa Western Community College Theatre Department offers opportunities for involvement in two productions a year. Auditions for theatre productions are open to anyone. Work on the productions can be for credit or non-credit. For more information, contact the Theatre Department.

Iowa Western Programs

Program Name:	Degree Type:	Program Name:	Degree Type:
Accounting: ParaAccounting	A.A.S.	Health Information Technology Certificate	CER
Accounting Technician	DIP	Human Services: Addictive Studies	A.A.
Agribusiness Technology	A.A.S.	Human Services: Generalist	A.A.
Agriculture Transfer	A.S.	Human Services: PreSocial Work Transfer	A.A.
Applied Business: Experiential Learning/Portfolio	A.A.S.	Human Services: Youth Worker	A.A.
Applied Business: Individualized Technical Program	A.A.S.	Literature	A.A.
Art	A.A.	Management and Human Resources	A.A.S.
Athletic Training	A.S.	Marketing	A.A.S.
Automotive Technology	A.A.S.	Marketing: Fashion	A.A.S.
Automotive Maintenence and Light Repair	DIP	Marketing: Lodging and Hospitality Management	A.A.S.
Aviation Maintenance Technology	A.A.S.	Marketing Management	A.A.
Aviation Management	A.A.	Marketing: Sports	A.A.
Aviation Maintenance Tech: Airframe Certificate	CER	Mathematics	A.S.
Aviation Maintenance Tech: Powerplant Certificate	CER	Media Studies: Media Production	A.A.S.
Aviation Professional Pilot	A.A.	Media Studies: Radio Performance and Production	A.A.S.
Biological Sciences	A.S.	Media Studies: Radio Promotions, Sales and Web	A.A.S.
Business Administration	A.A.	Media Studies: Radio/Television/Video	A.A.
Chemistry	A.S.	Media Studies: Sports Media Technology	A.A.S.
Coaching	A.A.	Medical Assistant	DIP
Communication Studies	A.A.	Microbiology Transfer	A.S.
Computers: Application and Web Programming	A.A.S.	Music	A.A.
Computers: Computer Science	A.A.	Music: Technical Music AA Option	A.A.
Computers: Desktop Support Certificate	CER	Music: Technical Music AAS Option	A.A.S.
Computers: Management Information Systems	A.A.	Nursing: Advanced Placement Associate Degree	A.A.S.
Computers: Network and System Administration	A.A.S.	Nursing: Associate Degree Nursing	A.A.S.
Computers: Programming Certificate	CER	Nursing: Practical Nursing	DIP
Computers: System Administration Certificate	CER	Nursing Assistant Certificate	CER
Construction Technology	A.A.S.	Paralegal Studies	A.A.
Construction Technology: Residential	DIP	Personal Trainer Certificate	CER
Construction Technology: Sustainable Construction Certificate	CER	Physical Therapist Assistant	A.A.S.
Criminal Justice	A.A.	PreBiotechnology and Molecular Biology	A.S.
Culinary Arts: Baking and Pastry Art	A.A.S.	PreBiotechnology Technician	A.S.
Culinary Arts: Culinarian	A.A.S.	PreEngineering	DIP
Culinary Arts: Food Service	DIP	PreLaw	A.A.
Culinary Arts: Food Technology Certificate	CER	PreMedicine	A.S.
Culinary Arts: Restaurant and Hospitality Management	A.A.S.	PreOccupational Therapy	A.S.
Dental Assistant	DIP	PrePharmacy	A.S.
Dental Hygiene	A.A.S.	PrePhysical Therapy	A.S.
Diesel Mechanics	DIP	PrePhysician Assistant	A.S.
Design Technology	A.A.S.	PreRespiratory Therapy	A.S.
Early Childhood Education	A.A.	Psychology	A.A.
Early Childhood: Administration Certificate	CER	Robotics/Automated Systems Technology	A.A.S.
Early Childhood: Child Development Certificate	CER	Sign Language Interpreting	A.A.S.
Early Childhood Studies	A.A.S.	Social Sciences	A.A.
Early Childhood Studies Diploma	DIP	Sociology	A.A.
Education: Grades K 12	A.A.	Spanish	A.A.
Electronic Engineering Technology	A.A.S.	Sports Medicine: General Education	A.S.
Electrical Maintenance Certificate	CER	Sterile Processing Certificate	CER
Electrical Maintenance Specialist	DIP	Surgical Technology	A.A.S.
EMS: Emergency Medical Services	DIP	Surgical Technology AAS Option	A.A.S.
Entrepreneurship Certificate	CER	Sustainable Energy Technology: Renewable Energy	A.A.S.
Fire Science Technology	A.A.	Sustainable Energy Technology: Renewable Energy Certificate	CER
Forensic Investigation	A.S.	Technical Theatre	A.A.
General Studies AA	A.A.	Theatre	A.A.
General Studies AGS	A.G.S.	Veterinary Technology	A.A.S.
General Studies AS	A.S.		
Graphic Communications	A.A.S.		
Health and Human Performance	A.S.		

Accounting Technician

Location: Council Bluffs

The Accounting Technician program of study prepares students for a career in accounting as a general ledger, accounts payable, accounts receivable or payroll clerk. The program is built on a solid base of accounting theory and includes specialized courses in computer operations. Graduates of this program are awarded a diploma.

Students must complete the curriculum described below:

Recommended Course Sequence

First Semester

ACC	121	Principles of Accounting I	3.0
BCA	212	Introduction to Computer Business Applications **OR**	
CSC	110	Introduction to Computers	3.0
BUS	102	Introduction to Business	3.0
MAT	711	Business and Financial Mathematics	3.0
ENG	105	Composition I	3.0
		Credits	**15.0**

Second Semester

ACC	122	Principles of Accounting II	3.0
ACC	161	Payroll Accounting	3.0
ACC	311	Computer Accounting	3.0
FIN	121	Personal Finance	3.0
SPC	122	Interpersonal Communication **OR**	
SPC	112	Public Speaking	3.0
BCA	142	Spreadsheets **OR**	
BCA	152	Comprehensive Spreadsheets	3.0
		Credits	**18.0**

Summer

MGT	195	Workplace Empowerment	3.0
		Credits	**3.0**

36.0 Total Semester Hours Required

**May substitute with MAT 121-227.

Accounting: Para-Accounting

Location: Council Bluffs

The Para-Accounting program of study prepares students for a career in the field of accounting. Upon graduation, students are able to analyze, communicate, distinguish, record and summarize economic events for a profit-oriented and/or not-for-profit business entity. Fluency in oral and written communication is stressed. The program offers advanced accounting computer courses allowing students to seek advanced level employment in government offices, public accounting firms and general businesses. Graduates of this program are awarded an Associate of Applied Science (A.A.S.) degree.

Students must complete the curriculum described below:

Recommended Course Sequence

First Semester

ACC	121	Principles of Accounting I	3.0
CSC	110	Introduction to Computers **OR**	
BCA	212	Introduction to Computer Business Applications	3.0
BUS	102	Introduction to Business	3.0
MAT	711	Business and Financial Mathematics **	3.0
ENG	105	Composition I	3.0
		Credits	**15.0**

Second Semester

ACC	122	Principles of Accounting II	3.0
ACC	161	Payroll Accounting	3.0
ACC	311	Computer Accounting	3.0
FIN	121	Personal Finance	3.0
SPC	122	Interpersonal Communication **OR**	
SPC	112	Public Speaking	3.0
BCA	142	Spreadsheets **OR**	
BCA	152	Comprehensive Spreadsheets	3.0
		Credits	**18.0**

Summer

MGT	195	Workplace Empowerment	3.0
		Credits	**3.0**

Third Semester

ACC	211	Intermediate Accounting I	3.0
BUS	185	Business Law I	3.0
ACC	251	Governmental and Nonprofit Accounting	3.0
ECN	120	Principles of Macroeconomics **OR**	
ECN	130	Principles of Microeconomics	3.0
ACC	932	Accounting Internship	2.0
		General Elective	3.0
		Credits	**17.0**

Fourth Semester

ACC	221	Cost Accounting	3.0
ACC	261	Income Tax Accounting	3.0
PHI	142	Ethics in Business **OR**	
PHI	105	Introduction to Ethics	3.0
ACC	932	Accounting Internship	2.0
BUS	121	Business Communications	3.0
		General Elective	3.0
		Credits	**17.0**

70.0 Total Semester Hours Required

**May substitute with MAT 121-227.

Agribusiness Technology

Location: Council Bluffs

The Agribusiness Technology program of study provides students with the opportunity to develop skills, abilities and an understanding of the technical aspects of agriculture and agribusiness that allow preparation for a variety of career paths. Careers in agribusiness, farm management, production agriculture, agriculture research as well as domestic and international agriculture and ag-related sales, service, and supply industries can be pursued. Students are provided with classroom instruction, lab and field experience opportunities. Graduates of this program are awarded an Associate in Applied Science (A.A.S.) degree.

Students must complete the curriculum described below:

Recommended Course Sequence

First Semester

CSC	110	Introduction to Computers **OR**		
BCA	212	Introduction to Computer Business Applications		3.0
AGA	115	Principles of Agronomy		4.0
AGS	113	Survey of the Animal Industry		3.0
AGP	333	Precision Farming Systems		3.0
AGC	215	Career Seminar		1.0
MAT	743	Technical Mathematics *		3.0
		Credits		**17.0**

Second Semester

AGA	212	Grain and Forage Crops		4.0
AGP	457	Agronomic Applications of Site Specific Management		3.0
AGB	235	Introduction to Agriculture Markets		3.0
		A.A.S. Communications Requirement (ENG 105, 110 or 111)		3.0
		General Elective		3.0
		Credits		**16.0**

Summer

AGB	804	Agricultural Internship I		3.0
AGA	376	Integrated Pest Management		3.0
		Credits		**6.0**

Third Semester

MGT	195	Workplace Empowerment		3.0
AGB	437	Commodity Marketing		3.0
AGA	154	Fundamentals of Soil Science		3.0
AGB	330	Farm Business Management		3.0
		Social Science/Humanities Elective		3.0
		General Elective		3.0
		Credits		**18.0**

Fourth Semester

AGB	211	Agricultural Law, Taxation and Records		3.0
AGB	331	Entrepreneurship in Agriculture		3.0
AGB	336	Agricultural Selling		3.0
AGA	165	Agriculture Fertilizers and Chemicals		3.0
AGB	814	Agricultural Internship II		4.0
		Credits		**16.0**

73.0 Total Semester Hours Required

*May substitute with MAT 110 or higher.

Agriculture Transfer

Location: Clarinda and Council Bluffs

The Agriculture Transfer program of study provides students with course work commonly found in the first two years of a university agriculture science-emphasis baccalaureate degree. Graduates of this program are awarded an Associate of Science (A.S.) degree.

Recommended Course Sequence

First Semester

ENG	105	Composition I		3.0
BIO	112	General Biology I		4.0
AGA	115	*Principles of Agronomy		4.0
AGS	113	*Survey of the Animal Industry		3.0
ECN	120	Principles of Macroeconomics		3.0
		Credits		**17.0**

Second Semester

ENG	106	Composition II		3.0
BIO	113	General Biology II		4.0
AGA	212	*Grain and Forage Crops		4.0
AGB	235	*Introduction to Agriculture Markets		3.0
		A.S. Mathematics Requirement (MAT 121-227)	3.0	4.0
		Credits	**17.0**	**18.0**

Third Semester

CHM	166	General Chemistry I		5.0
AGB	330	*Farm Business Management		3.0
AGB	437	*Commodity Marketing		3.0
AGA	154	*Fundamentals of Soil Science		3.0
		Social Science/Humanities Elective		3.0
		Credits		**17.0**

Fourth Semester

BIO	125	*Plant Biology		4.0
SPC	112	Public Speaking		3.0
		Social Science/Humanities Elective		3.0
		Distributed Requirement		3.0
		Credits		**13.0**

One elective must also satisfy the diversity requirement.
*Required courses for the program

64.0 Total Semester Hours Required

Applied Business: Experiential Learning/Portfolio

Location: Council Bluffs and Clarinda

The Applied Business Experiential Learning/Portfolio Option program of study is designed for the individual who has reached supervisory, journey person, paraprofessional or equivalent proficiency in his/her trade or occupation and desires an associate's degree for career enhancement, career change and/or personal achievement. Prior learning from apprenticeships, on-the-job training, non-collegiate coursework, or work experience is evaluated and translated into college credit awarded for experiential learning. An individualized program of study will be designed to augment experiential learning with college courses. The intent of this degree is to broaden the student's opportunities for promotion, career enhancement or personal achievement. While this degree may be recognized by four-year colleges, it is not the intent of Iowa Western Community College to imply transferability. Graduates of this program are awarded an Associate of Applied Science (A.A.S.) degree.

Students must complete the curriculum described below:

Recommended Course Sequence

MGT	900	Documentation and Evaluation of Experiential Learning		3.0
		A.A.S. Communications Requirement (ENG 105, 110 or 111)		3.0
		A.A.S. Mathematics Requirement (MAT 110 or higher)		3.0
		Social Science/Humanities Elective		3.0
		General Electives **	22.0	51.0
		Experiential Learning ***	1.0	30.0
		Credits	**35.0**	**93.0**

64.0 Total Semester Hours Required

** A minimum of 22 credit hours of general elective classes designed to strengthen and improve occupational skills are required for this degree. The general electives, which will be part of an approved program of study, will allow the student to individualize their program to meet specific career goals and needs. A computer science course is strongly recommended if student skills in this area are weak or occupational qualifications would be strengthened by enhanced computer proficiency.

*** A minimum of 1 credit hour of Experiential Learning is required for this degree; a maximum of 30 credit hours of Experiential Learning can be earned. Experienced employees, paraprofessionals and certified journey persons who demonstrate a level of skill through the portfolio will be eligible to receive from 1 to 30 credit hours for documented training and work-based learning. Credits will be awarded for experiential learning as determined from evaluation of the professional portfolio. The experiential learning credits may be awarded in the career clusters of marketing, agriculture, business, consumer and family science, industrial technology, or health occupations and will apply only to the Applied Business degree program.

At least the last 20 credit hours must be earned at Iowa Western Community College, not including those awarded from evaluation of the portfolio.

Applied Business: Individualized Technical Program

Location: Council Bluffs and Clarinda

The Applied Business Individualized Technical Program Option program of study provides students an opportunity to adapt an existing college program of study to their individual needs and career goals. The intent of this option is to craft a program of study that meets a student's specific technical career goal. While this degree may be recognized by four-year colleges, it is not the intent of Iowa Western Community College to imply transferability. Graduates of this program are awarded an Associate of Applied Science (A.A.S.) degree.

Students must complete the curriculum described below:

Recommended Course Sequence

First Semester

		A.A.S. Communications Requirement (ENG 105, 110 or 111)		3.0
		Technical Area of Concentration	12.0	15.0
		Credits	**15.0**	**18.0**

Second Semester

		A.A.S. Mathematics Requirement (MAT 110 or higher)		3.0
		Technical Area of Concentration	12.0	15.0
		Credits	**15.0**	**18.0**

Third Semester

		Social Science/Humanities Elective		3.0
		Technical Area of Concentration	12.0	15.0
		Credits	**15.0**	**18.0**

Fourth Semester

MGT	195	Workplace Empowerment		3.0
		Technical Area of Concentration	12.0	15.0
		Credits	**15.0**	**18.0**

64.0 Total Semester Hours Required

In addition, a student must declare this major prior to completing 30 semester hours of coursework at Iowa Western Community College. The specific individualized program of study will be designed with the guidance of the applied business chair and the registrar, and will be approved by the appropriate division dean prior to the declaration of this major. It is required that a coherent program of study consisting of related technical courses, as well as related general education courses, be developed and followed to degree completion.

Art

Location: Council Bluffs

The Art program of study prepares students to transfer to four-year schools and/or art schools to continue their studies. The program produces graduates who (1) are self-directed learners, critical thinkers, problem-solvers and effective medium/community communicators (2) have demonstrated competence in the process of creating visual art forms (3) have demonstrated a practical as well as a conceptual knowledge of the visual arts (4) have knowledge of, participated in, and comprehend their responsibility to the art community (5) are prepared to pursue advanced degree studies in the visual arts. Graduates of this program are awarded an Associate of Arts (A.A.) degree.

Recommended Course Sequence

First Semester

ART	101	*Art Appreciation		3.0
ART	147	*2-D and 3-D Foundations		3.0
ENG	105	Composition I		3.0
SPC	112	Public Speaking		3.0
		A.A. Mathematics Requirement (MAT 121-227)	3.0	4.0
		Credits	**15.0**	**16.0**

Second Semester

ENG	106	Composition II	3.0
		Social Science Elective	3.0
		*Art Electives **	9.0
		Credits	**15.0**

Third Semester

		*Art Electives **	9.0
		Mathematics/Science Elective	3.0
		Social Science Elective	3.0
		General Elective	3.0
		Credits	**18.0**

Fourth Semester

ART	193	*Studio Practices	3.0
		*Art Elective **	3.0
		General Elective	3.0
		Lab Science Requirement	4.0
		Social Science Elective	3.0
		Credits	**16.0**

One elective must also satisfy the diversity requirement.
*Required courses for the program

64.0 Total Semester Hours Required

**Art Electives must include one of the following course sequences:

ART 133 Drawing I 3 and ART 134 Drawing II 3
ART 143 Painting I 3 and ART 144 Painting II 3
ART 151 Design I 3 and ART 152 Design II 3
ART 184 Photography I 3 and ART 185 Photography II 3

Athletic Training

Location: Council Bluffs

The Athletic Training program is designed for students who plan to pursue a career in athletic training. The curriculum is transfer-oriented and designed to meet the requirements generally expected in the first two years of college, with emphasis on hands-on practicum related to athletic injury evaluation, treatment, and rehabilitation. Graduates of this program are awarded an Associate of Science (A.S.) degree.

Recommended Course Sequence

First Semester

PET	140	*Athletic Training Practicum I		1.0
PEC	230	*Introduction to Sports Medicine		3.0
ENG	105	Composition I		3.0
PSY	111	Introduction to Psychology		3.0
PET	240	*Taping and Bracing		2.0
		A.S. Mathematics Requirement (MAT 121-227)	3.0	4.0
		Credits	**15.0**	**16.0**

Second Semester

PET	160	*Athletic Training Practicum II		2.0
PET	230	*Care and Prevention of Athletic Injuries		3.0
BIO	157	*Human Biology		4.0
ENG	106	Composition II		3.0
		Mathematics/Science Elective	4.0	5.0
		Credits	**16.0**	**17.0**

Third Semester

PET	170	*Athletic Training Practicum III	3.0
BIO	168	*Human Anatomy and Physiology I with Labs	4.0
SPC	112	Public Speaking	3.0
PET	235	*Athletic Injury Evaluation	3.0
		Distributed Requirement	3.0
		Credits	**16.0**

Fourth Semester

PET	181	*Athletic Training Practicum IV	1.0
BIO	173	*Human Anatomy and Physiology II with Labs	4.0
PET	250	*Introduction to Modalities	3.0
		Humanities Elective	3.0
		Social Science Elective	3.0
PET	260	Athletic Training Internship	2.0
		Credits	**16.0**

One elective must also satisfy the diversity requirement.
*Required courses for the program

64.0 Total Semester Hours Required

Students must earn a "C" or higher in all required courses in order to graduate.

Automotive Maintenance and Light Repair

Location: Council Bluffs

The Automotive Maintenance and Light Repair program of study is a one-year program admitting students in the spring and fall semesters. Students in this program can expect to find greater than average opportunities for employment in all types of automotive service facilities. A combination of theory classes, hands-on training in the lab and shop, and industry relevant on-line training prepare students to become entry-level vehicle maintenance and light repair technicians. Graduates of this program are awarded a diploma. The Iowa Western Automotive Technology program is nationally Accredited by N.A.T.E.F. (National Automotive Technicians Education Foundation) and A.S.E. (Automotive Service Excellence), 13505 Dulles Technology Dr., Suite 2, Herndon, VA 20171-3421. The program is locally endorsed by the Lake Manawa Auto Dealers Association.

Students must complete the curriculum described below:

Recommended Course Sequence

First Semester

AUT	115	Automotive Shop Safety	1.0
AUT	114	Shop Fundamentals and Minor Service	4.0
AUT	615	Automotive Electricity/Electronics	4.0
AUT	404	Automotive Suspension and Steering	4.0
AUT	918	Automotive Lab I	1.5
MAT	743	Technical Mathematics *	3.0
		Credits	**17.5**

Second Semester

AUT	652	Advanced Automotive Electricity	3.0
AUT	155	Automotive Engine Design and Systems	2.0
AUT	919	Automotive Lab II	1.5
AUT	524	Automotive Brake Systems and Service	4.0
AUT	222	Basic Automotive Drive Lines	2.0
AUT	878	Automotive Lab III	1.5
		A.A.S. Communications Requirement (ENG 105, 110 or 111)	3.0
		Credits	**17.0**

Summer

AUT	190	Hybrid Fundamentals	2.0
AUT	704	Automotive Heating and Air Conditioning	4.0
AUT	920	Automotive Lab IV	1.5
		Credits	**7.5**

42.0 Total Semester Hours Required

*May substitute with MAT 110 or higher.

Automotive Technology

Location: Council Bluffs

The Automotive Technology program of study is designed to prepare students to become proficient, entry-level automotive technicians. Students desiring to enter this high-tech profession can take advantage of the training offered in all eight of the A.S.E. certification areas to acquire the skills needed to succeed. Instruction includes a wide variety of theory classes and up-to-date practical experience as well as on-line training comparable to many manufacturer training programs. Graduates of this program are awarded an Associate in Applied Science (A.A.S.) degree. The Iowa Western Automotive Technology program is nationally Accredited by the National Automotive Technicians Education Foundation (NATEF) and Automotive Service Excellence (ASE), 13505 Dulles Technology Dr., Suite 2, Herndon, VA 20171-3421. The program is locally endorsed by the Lake Manawa Auto Dealers Association

Students must complete the curriculum described below:

Recommended Course Sequence

First Semester

AUT	115	Automotive Shop Safety	1.0
AUT	114	Shop Fundamentals and Minor Service	4.0
AUT	615	Automotive Electricity/Electronics	4.0
AUT	404	Automotive Suspension and Steering	4.0
AUT	918	Automotive Lab I	1.5
		A.A.S. Mathematics Requirement (MAT 110 or higher)	3.0
		Credits	**17.5**

Second Semester

AUT	652	Advanced Automotive Electricity	3.0
AUT	155	Automotive Engine Design and Systems	2.0
AUT	919	Automotive Lab II	1.5
AUT	524	Automotive Brake Systems and Service	4.0
AUT	222	Basic Automotive Drive Lines	2.0
AUT	878	Automotive Lab III	1.5
		A.A.S. Communications Requirement (ENG 105, 110 or 111)	3.0
		Credits	**17.0**

Summer

AUT	190	Hybrid Fundamentals	2.0
AUT	704	Automotive Heating and Air Conditioning	4.0
AUT	920	Automotive Lab IV	1.5
		Credits	**7.5**

Third Semester

AUT	842	Automotive Computerized Engine Controls	4.0
AUT	852	Automotive Engine Performance Diagnosis	4.0
AUT	921	Automotive Lab V **OR**	
AUT	901	Automotive Internship I	4.0
		Social Science/Humanities Elective	3.0
		Credits	**15.0**

Fourth Semester

AUT	163	Automotive Engine Repair	3.0
AUT	532	Advanced Brakes and Alignment	3.0
AUT	200	Automotive Automatic Transmissions/Transaxles	3.0
AUT	303	Automotive Manual Drive Train and Axles	3.0
AUT	922	Automotive Lab VI **OR**	
AUT	903	Automotive Internship II	4.0
MGT	195	Workplace Empowerment	3.0
		Credits	**19.0**

Summer

AUT	653	Advanced Automotive Systems	4.0
AUT	923	Automotive Lab VII **OR**	
AUT	904	Automotive Internship III	2.0
		Credits	**6.0**

82.0 Total Semester Hours Required

*May substitute MAT 110 or higher.

Aviation Maintenance Tech: Airframe Certificate

Location: Council Bluffs

The Aviation Maintenance Technology Airframe Certificate is for those individuals who already hold a current and effective Federal Aviation Administration (FAA) issued Powerplant Mechanic License or who have taken and passed the FAA General Subject Areas per 14 Code of Federal Regulations 147 Appendix B at an FAA approved aviation maintenance technician school. Graduates of this program are awarded a certificate.

Students must complete the curriculum described below:

Recommended Course Sequence

AVM	181	Aviation Airframe I	7.5	
AVM	182	Aviation Airframe II	7.5	
AVM	183	Aviation Airframe III	8.0	
AVM	184	Aviation Airframe IV	8.0	
		Credits	**31.0**	

31.0 Total Semester Hours Required

Aviation Maintenance Tech: Powerplant Certificate

Location: Council Bluffs

The Aviation Maintenance Technology Powerplant Certificate is for those individuals who already hold a current and effective Federal Aviation Administration (FAA) issued Airframe Mechanic License or who have taken and passed the FAA General Subject Areas per 14 Code of Federal Regulations 147 Appendix B at an FAA approved aviation maintenance technician school. Graduates of this program are awarded a certificate.

Students must complete the curriculum described below:

Recommended Course Sequence

AVM	191	Aviation Powerplant I	7.0	
AVM	192	Aviation Powerplant II	7.5	
AVM	193	Aviation Powerplant III	8.5	
AVM	194	Aviation Powerplant IV	7.5	
		Credits	**30.5**	

30.5 Total Semester Hours Required

Aviation Maintenance Technology

Location: Council Bluffs

The Aviation Maintenance Technology program of study provides the necessary instruction and practical experience required by the Federal Aviation Administration Regulations for those individuals who wish to become a Certificated Aviation Maintenance Technician with an Airframe and Powerplant rating. The curriculum follows the guidelines set forth by the Federal Aviation Administration in FAR Part 147 and provides students with training on both fixed-wing and rotor-winged aircraft along with training in reciprocating and turbine-powered aircraft systems. The student must take the required FAA written/oral and practical tests to receive a Mechanic's certificate with Airframe and Powerplant ratings. Graduates of this program are awarded an Associate of Applied Science (A.A.S.) degree.

Students must complete the curriculum described below:

Recommended Course Sequence

First Semester

AVM	120	Aviation Mechanics General I	7.0
AVM	130	Aviation Mechanics General II	8.0
MAT	743	Technical Mathematics	3.0
		Credits	**18.0**

Second Semester

AVM	181	Aviation Airframe I	7.5
AVM	182	Aviation Airframe II	7.5
ENG	105	Composition I **OR**	
ENG	111	Technical Writing	3.0
		Credits	**18.0**

Summer

AVM	183	Aviation Airframe III	8.0
		Credits	**8.0**

Third Semester

AVM	184	Aviation Airframe IV	8.0
AVM	191	Aviation Powerplant I	7.0
		Social Science/Humanities Elective	3.0
		Credits	**18.0**

Fourth Semester

AVM	192	Aviation Powerplant II	7.5
AVM	193	Aviation Powerplant III	8.5
MGT	195	Workplace Empowerment	3.0
		Credits	**19.0**

Summer

AVM	194	Aviation Powerplant IV	7.5
		Credits	**7.5**

88.5 Total Semester Hours Required

Aviation Management

Location: Council Bluffs

The Aviation Flight and Administration Program gives students the option of pursuing a career as a professional pilot or as an aviation manager. Both options are designed for students intending to transfer to four-year institutions. The Aviation Management Option provides students with the opportunity to develop skills, abilities, and an understanding of the field of aviation management. Students experience solo flight and develop an awareness of how aviation fills a worldwide transportation need. Courses dealing with FAA regulations as well as the principles of supervision help lay the foundation for transfer to four-year institutions offering a baccalaureate degree in aviation management/administration. Special fees apply to some of the courses offered. Graduates of this program are awarded an Associate of Arts (A.A.) degree.

Recommended Course Sequence

First Semester

ENG	105	Composition I	3.0
MAT	121	College Algebra	4.0
AVI	105	*Introduction to Aviation	3.0
AVI	139	*Private Pilot Theory	3.0
AVI	185	Private Pilot Flight Lab	1.0
AVI	125	*Maintenance for Pilots	3.0
		Credits	**17.0**

Second Semester

ENG	106	Composition II	3.0
SPC	112	*Public Speaking	3.0
MAT	130	Trigonometry	3.0
AVI	110	*History of Aviation	3.0
		Humanities Elective	3.0
		Credits	**15.0**

Third Semester

POL	111	*American National Government	3.0
PHI	101	Introduction to Philosophy	3.0
ECN	120	*Principles of Macroeconomics	3.0
AVI	215	*Aviation Safety	3.0
MGT	101	Principles of Management	3.0
		Credits	**15.0**

Fourth Semester

PHI	142	Ethics in Business	3.0
MGT	130	Principles of Supervision	3.0
MGT	170	Human Resource Management	3.0
PHY	156	*General Physics I	4.0
PHY	157	*General Physics I Lab	1.0
		Social Science Elective	3.0
		Humanities Elective	3.0
		Credits	**20.0**

One elective must also satisfy the diversity requirement.
*Required courses for the program

64.0 Total Semester Hours Required

Aviation Professional Pilot

Location: Council Bluffs

The Aviation Flight and Administration Program gives students the option of pursuing a career as a professional pilot or as an aviation manager. Both options are designed for students intending to transfer to four-year institutions. The Professional Pilot Option is designed to prepare students for a career as a professional pilot. The curriculum provides the required training to become a private pilot with an instrument rating. Students also study the history of aviation, aviation safety and aviation meteorology. Since most professional pilot positions require a four-year degree, this program is designed for transfer to such institutions as the University of Nebraska at Omaha and its Aviation Institute. Special fees apply to some of the courses offered. Graduates of this program are awarded an Associate of Arts (A.A.) degree.

Recommended Course Sequence

First Semester

ENG	105	Composition I		3.0
MAT	121	College Algebra		4.0
AVI	105	*Introduction to Aviation		3.0
AVI	139	*Private Pilot Theory		3.0
AVI	185	*Private Pilot Flight Lab		1.0
AVI	125	Maintenance for Pilots		3.0
		Credits		**17.0**

Second Semester

ENG	106	Composition II		3.0
SPC	112	*Public Speaking		3.0
MAT	130	Trigonometry		3.0
AVI	110	*History of Aviation		3.0
AVI	186	*Private Pilot Certificate		2.0
		Humanities Elective		3.0
		Credits		**17.0**

Third Semester

POL	111	*American National Government		3.0
PHI	101	Introduction to Philosophy		3.0
PHS	165	*Introduction to Meteorology		3.0
ECN	120	*Principles of Macroeconomics		3.0
AVI	215	*Aviation Safety		3.0
AVI	250	*Professional Pilot I		2.0
		Credits		**17.0**

Fourth Semester

AVI	213	*Instrument Flight Theory		3.0
AVI	251	*Professional Pilot II		2.0
PHY	156	*General Physics I		4.0
PHY	157	*General Physics I Lab		1.0
		Social Science Elective		3.0
		Humanities Elective		3.0
		Credits		**16.0**

One elective must also satisfy the diversity requirement.
*Required courses for the program

64.0 Total Semester Hours Required

Biological Sciences

Location: Council Bluffs and Clarinda

The Biological Sciences program of study provides a background in various areas of the life sciences. This program is intended for students who plan to transfer and study biological sciences at four-year institutions. Some areas of opportunity for graduates having this major and a baccalaureate degree include medicine, the allied health fields, science education, wildlife conservation, forestry, soil conservation, fishery management, and many others. Graduates of this program are awarded an Associate of Science (A.S.) degree.

Recommended Course Sequence

First Semester

ENG	105	Composition I		3.0
BIO	112	*General Biology I		4.0
CHM	166	General Chemistry I		5.0
		Social Science Elective		3.0
		A.S. Mathematics Requirement (MAT 121-227)	3.0	4.0
		Credits	**18.0**	**19.0**

Second Semester

ENG	106	Composition II		3.0
BIO	113	*General Biology II		4.0
CHM	176	General Chemistry II		5.0
		Humanities Elective		3.0
		Credits		**15.0**

Third Semester

SPC	112	Public Speaking		3.0
BIO	168	Human Anatomy and Physiology I with Labs **OR**		
ENV	111	Environmental Science		4.0
		Social Science/Humanities Elective		3.0
		General Electives		4.0
		Credits		**14.0**

Fourth Semester

BIO	173	Human Anatomy and Physiology II with Labs **OR**		
BIO	186	Microbiology		4.0
		Biology Elective		4.0
		Social Science Elective		3.0
		Social Science/Humanities Electives		6.0
		Credits		**17.0**

One elective must also satisfy the diversity requirement.
*Required courses for the program

64.0 Total Semester Hours Required

Business Administration

Location: Clarinda and Council Bluffs

Business Administration is a program of study that enables graduates to enter four-year institutions with junior standing in the College of Business Administration. This program consists of a series of both required and elective courses that meet the Pre-Business Core curriculum requirements of a university's College of Business, as well as the comprehensive requirements of the university. Iowa Western Community College maintains articulation agreements with many regional four-year institutions. Graduates of this program are awarded an Associate of Arts (A.A.) degree.

Recommended Course Sequence

First Semester

ENG	105	Composition I		3.0
		A.A. Mathematics Requirement (MAT 121-227)	3.0	4.0
ACC	121	*Principles of Accounting I		3.0
BUS	102	*Introduction to Business		3.0
CSC	110	Introduction to Computers		3.0
		Credits	**15.0**	**16.0**

Second Semester

ENG	106	Composition II	3.0
MAT	157	Statistics	4.0
ACC	122	Principles of Accounting II	3.0
BUS	185	*Business Law I	3.0
		Humanities Elective	3.0
		Credits	**16.0**

Third Semester

SPC	112	Public Speaking	3.0
ECN	120	*Principles of Macroeconomics	3.0
PHI	142	Ethics in Business	3.0
		Distributed Requirement	3.0
		Lab Science Requirement	4.0
		Credits	**16.0**

Fourth Semester

ECN	130	*Principles of Microeconomics	3.0
		Humanities Elective	3.0
		*Business Elective **	3.0
		Social Science Elective	3.0
		General Electives	6.0
		Credits	**18.0**

One elective must also satisfy the diversity requirement.
*Required courses for the program

64.0 Total Semester Hours Required

**Business Elective must be selected from the following:

ACC 122 Principles of Accounting II 3
ACC 311 Computer Accounting 3
BUS 121 Business Communications (Business) 3
BUS 130 Introduction to Entrepreneurship 3
BUS 186 Business Law II 3
FIN 121 Personal Finance 3
MGT 101 Principles of Management 3
MGT 130 Principles of Supervision 3
MGT 170 Human Resource Management 3
MKT 110 Principles of Marketing 3

Chemistry

Location: Council Bluffs and Clarinda

The Chemistry program of study encompasses the first two years of a university chemistry major. Chemists are in demand worldwide in technological fields, including plastics, medicine, pharmacology, vaccines, recombinant DNA, and other related areas. Graduates of this program are awarded an Associate of Science (A.S.) degree.

Recommended Course Sequence

First Semester

ENG	105	Composition I	3.0
CHM	166	*General Chemistry I	5.0
MAT	211	*Calculus I	5.0
		Social Science Elective	3.0
		Credits	**16.0**

Second Semester

ENG	106	Composition II	3.0
CHM	176	*General Chemistry II	5.0
MAT	217	*Calculus II	5.0
		Humanities Elective	3.0
		Credits	**16.0**

Third Semester

SPC	112	Public Speaking	3.0
CHM	263	*Organic Chemistry I	5.0
PHY	210	*Classical Physics I (Calculus based)	4.0
PHY	211	*Classical Physics I Lab	1.0
		Social Science/Humanities Electives	6.0
		Credits	**19.0**

Fourth Semester

CHM	273	*Organic Chemistry II	5.0
PHY	220	*Classical Physics II (Calculus based)	4.0
PHY	221	*Classical Physics II Lab	1.0
		Social Science/Humanities Electives	6.0
		Credits	**16.0**

One elective must also satisfy the diversity requirement.
*Required courses for the program

64.0 Total Semester Hours Required

Coaching

Location: Council Bluffs

The Coaching program of study is designed for transfer to four-year institutions with similar programs at the baccalaureate level. Students acquire fundamental skills in sports psychology, sports physiology, and coaching theory. This program of study may lead to coaching authorization in the state of Iowa or Nebraska. Graduates of this program are awarded an Associate of Arts (A.A.) degree.

Recommended Course Sequence

First Semester

PEC	101	*Introduction to Coaching		3.0
PEH	142	*First Aid		3.0
ENG	105	Composition I		3.0
PSY	111	*Introduction to Psychology		3.0
		A.A. Mathematics Requirement (MAT 121-227)	3.0	4.0
		Credits	**15.0**	**16.0**

Second Semester

BIO	157	*Human Biology	4.0
PEC	155	*Theory of Coaching I	3.0
ENG	106	Composition II	3.0
		Social Science Elective	3.0
		Humanities Elective	3.0
		Credits	**16.0**

Third Semester

BIO	151	*Nutrition	3.0
PEC	157	*Theory of Coaching II	3.0
PET	240	*Taping and Bracing	2.0
PEH	170	Principles of Weight Training	3.0
		Humanities Electives	6.0
		Credits	**17.0**

Fourth Semester

PSY	210	*Sport and Exercise Psychology		3.0
SPC	112	*Public Speaking		3.0
PEC	230	Introduction to Sports Medicine		3.0
PEH	908	*Cooperative Education	1.0	3.0
		Distributed Requirement		3.0
		Credits	**13.0**	**15.0**

One elective must also satisfy the diversity requirement.
*Required courses for the program

64.0 Total Semester Hours Required

Communication Studies

Location: Council Bluffs

Communication Studies majors will learn about concepts and practices of human communication. Courses focus on communication within business and organizations and among people with diverse cultural backgrounds. This program prepares students for a variety of avenues within a business environment, or for transfer to a four-year program in business or communications. Graduates of this program are awarded an Associate of Arts (A.A.) degree.

Recommended Course Sequence

First Semester

ENG	105	Composition I	3.0
		Psychology Elective	3.0
SPC	112	*Public Speaking	3.0
SPC	122	*Interpersonal Communication	3.0
		A.A. Mathematics Requirement (MAT 121-227)	4.0
		Credits	**16.0**

Second Semester

ENG	106	Composition II	3.0
SPC	120	*Intercultural Communications	3.0
		Sociology Elective	3.0
MGT	101	*Principles of Management **OR**	
BUS	102	*Introduction to Business **OR**	
MKT	110	*Principles of Marketing	3.0
		Lab Science Requirement	4.0
		Credits	**16.0**

Third Semester

SPC	132	*Group Communication	3.0
BUS	121	*Business Communications	3.0
		Mathematics/Science Elective	3.0
HUM	287	Leadership Development Studies	3.0
		Humanities Elective	3.0
		Credits	**15.0**

Fourth Semester

CSC	110	Introduction to Computers	3.0
SPC	140	*Oral Interpretation **OR**	
SPC	160	*Voice and Diction	3.0
PHI	142	Ethics in Business	3.0
		Social Science Elective	3.0
		General Electives **	5.0
		Credits	**17.0**

One elective must also satisfy the diversity requirement.
*Required courses for the program

64.0 Total Semester Hours Required

**Recommended General Electives:

BCA 184 Comprehensive Web Page Design Software 3
BUS 154 E-business 3
ENG 111 Technical Writing 3
GRA 137 Digital Design 3
JOU 110 Introduction to Mass Media 3

Computers: Application & Web Programming

Location: Council Bluffs

The Application & Web Programming program of study prepares students for entry-level professional careers as programmers in the business world. Upon successful completion, students in this course of study are proficient in multiple programming languages, and World Wide Web technologies. Students gain experience in these languages while working hands-on with current technology and multiple computer environments. Graduates of this program are awarded an Associate of Applied Science (A.A.S.) degree.

Students must complete the curriculum described below:

Recommended Course Sequence

First Semester

CSC	114	Introduction to Information Technology		3.0
CIS	207	Fundamentals of Web Programming		3.0
CIS	127	Introduction to Programming		3.0
CSC	121	Operating Systems		3.0
		A.A.S. Mathematics Requirement (MAT 110 or higher)		3.0
SPC	122	Interpersonal Communication		3.0
		Credits		**18.0**

Second Semester

CIS	213	Advanced Client Side Scripting		3.0
CIS	134	Web Design		3.0
CIS	139	Programming I		3.0
NET	142	Network Essentials		3.0
CIS	332	Database and SQL		3.0
		A.A.S. Communications Requirement (ENG 105, 110 or 111)		3.0
		Credits		**18.0**

Third Semester

NET	612	Fundamentals of Network Security		3.0
CIS	227	Advanced Web Design		3.0
CIS	215	Server Side Web Programming		3.0
CIS	171	Java		3.0
CIS	144	Programming II		3.0
MGT	195	Workplace Empowerment		3.0
		Credits		**18.0**

Fourth Semester

CIS	780	Computer Projects **OR**		
NET	810	Computer Internship		6.0
CIS	151	Programming III		3.0
CIS	158	Web e-Business		3.0
CIS	187	ASP.NET MVC with C#		3.0
		Social Science/Humanities Elective		3.0
		Credits		**18.0**

72.0 Total Semester Hours Required

Computers: Computer Science

Location: Council Bluffs

The Computer Science program of study prepares students for transfer to four-year colleges and universities to complete undergraduate degrees. Students can choose one of four areas of concentration: Programming, Networking, Web Development, or E-Commerce. Students acquire credit in a broad base of general education courses and have the opportunity to obtain knowledge in information technology. Graduates of this program are awarded an Associate of Arts (A.A.) degree.

Recommended Course Sequence

First Semester

CSC	110	*Introduction to Computers **OR**		
CSC	114	*Introduction to Information Technology		3.0
		A.A. Mathematics Requirement (MAT 121-227)	3.0	4.0
ENG	105	Composition I		3.0
		*CIT Concentration **		6.0
		Credits	**15.0**	**16.0**

Second Semester

		*CIT Concentration **		6.0
ENG	106	Composition II		3.0
		Social Science Elective		3.0
		Humanities Elective		3.0
		Credits		**15.0**

Third Semester

		*CIT Concentration **		9.0
SPC	112	Public Speaking		3.0
		Lab Science Requirement		4.0
		Credits		**16.0**

Fourth Semester

		Distributed Requirement		3.0
		Mathematics/Science Elective		3.0
		Social Science Electives		6.0
		Humanities Electives		6.0
		Credits		**18.0**

One elective must also satisfy the diversity requirement.
*Required courses for the program

64.0 Total Semester Hours Required

**Students must choose one of the four following areas of concentration and take all of the courses for that area of concentration:

Programming
First Semester:
CIS 127 Introduction to Programming 3
CSC 121 Operating Systems 3
Second Semester:
CIS 332 Database and SQL 3
CIS 139 Programming I 3
Third Semester:
CIS 171 Java 3
CIS 144 Programming II 3
NET 612 Fundamentals of Network Security 3

Networking
First Semester:
CSC 121 Operating Systems 3
NET 785 Fundamentals of Desktop Support 3
Second Semester:
NET 142 Network Essentials 3
NET 313 Windows Server 3
Third Semester:
CIS 127 Introduction to Programming 3
NET 343 Windows Directory Services 3
NET 612 Fundamentals of Network Security 3

Web Development
First Semester:
CIS 127 Introduction to Programming 3
CIS 207 Fundamentals of Web Programming 3
Second Semester:
CIS 134 Web Design 3
CIS 332 Database and SQL 3
CIS 213 Advanced Client Side Scripting 3
Third Semester:
CIS 227 Advanced Web Design 3
CIS 215 Server Side Web Programming 3

e-Commerce
First Semester:
BUS 130 Introduction to Entrepreneurship 3
CIS 207 Fundamentals of Web Programming 3
Second Semester:
CIS 134 Web Design 3
BUS 154 E-Business 3
Third Semester:
ACC 121 Principles of Accounting I 3
MGT 101 Principles of Management 3
MKT 110 Principles of Marketing **3**

Computers: Desktop Support Certificate

Location: Council Bluffs

The Desktop Support Certificate program of study prepares students for careers in support of computer users. Students are able to install and manage computer hardware and operating systems. Graduates of this program are awarded a certificate.

Students must complete the curriculum described below:

Recommended Course Sequence

First Semester

SPC	122	Interpersonal Communication	3.0
CSC	114	Introduction to Information Technology	3.0
NET	790	PC Support I	3.0
NET	785	Fundamentals of Desktop Support	3.0
CSC	121	Operating Systems	3.0
NET	795	Desktop Support Practicum	1.0
		Credits	**16.0**

16.0 Total Semester Hours Required

Students must earn a "C" or higher in all required courses in order to graduate.

Computers: Management Information Systems

Location: Council Bluffs

The Computer Science Management Information Systems program of study prepares students to integrate computer technology with business practices and management skills. Students will acquire knowledge of business functions, information technology processes, decision-making skills, and management skills. Students will grow and develop into professionals who can apply information technology tools to the spectrum of business issues. Students acquire credit in a broad base of general education courses and have the opportunity to obtain knowledge in information technology. Graduates of this program are awarded an Associate of Arts (A.A.) degree.

Recommended Course Sequence

First Semester

ENG	105	Composition I		3.0
		A.A. Mathematics Requirement (MAT 121-227)	3.0	4.0
CIS	127	*Introduction to Programming		3.0
CSC	114	*Introduction to Information Technology		3.0
CIS	207	*Fundamentals of Web Programming		3.0
		Credits	**15.0**	**16.0**

Second Semester

ENG	106	Composition II	3.0
		Humanities Elective	3.0
CIS	134	*Web Design	3.0
NET	142	*Network Essentials	3.0
CIS	332	*Database and SQL	3.0
		Credits	**15.0**

Third Semester

SPC	112	Public Speaking	3.0
BUS	102	*Introduction to Business **OR**	
BUS	154	*E-business	3.0
		Social Science Elective	3.0
		Humanities Elective	3.0
		Lab Science Requirement	4.0
		Credits	**16.0**

Fourth Semester

		Mathematics/Science Elective	3.0
ACC	121	*Principles of Accounting I	3.0
		Humanities Elective	3.0
		Distributed Requirement	3.0
		Social Science Elective	6.0
		Credits	**18.0**

One elective must also satisfy the diversity requirement.

*Required courses for the program

64.0 Total Semester Hours Required

Computers: Network and System Administration

Location: Council Bluffs

The Network and System Administration program of study provides students with the necessary training to install, maintain and administer network operating systems. Students learn current network technologies used to connect, route, and secure network traffic. Students also become proficient with installing and maintaining hardware and software for servers and desktops. Graduates of this program are awarded an Associate of Applied Science (A.A.S.) degree.

Students must complete the curriculum described below:

Recommended Course Sequence

First Semester

SPC	122	Interpersonal Communication		3.0
CSC	114	Introduction to Information Technology		3.0
NET	790	PC Support I		3.0
NET	785	Fundamentals of Desktop Support		3.0
CSC	121	Operating Systems		3.0
		A.A.S. Mathematics Requirement (MAT 110 or higher)		3.0
		Credits		**18.0**

Second Semester

CIS	332	Database and SQL		3.0
NET	217	CCNA Exploration 1		3.0
NET	313	Windows Server		3.0
NET	418	LINUX Administration		3.0
NET	478	Information Storage and Management		3.0
		A.A.S. Communications Requirement (ENG 105, 110 or 111)		3.0
		Credits		**18.0**

Third Semester

NET	495	Virtual Infrastructure		3.0
NET	218	CCNA Exploration 2		3.0
NET	343	Windows Directory Services		3.0
CIS	127	Introduction to Programming		3.0
NET	612	Fundamentals of Network Security		3.0
		Social Science/Humanities Elective		3.0
		Credits		**18.0**

Fourth Semester

NET	219	CCNA Exploration 3		3.0
NET	220	CCNA Exploration 4		3.0
CIS	780	Computer Projects	3.0	6.0
NET	810	Computer Internship		6.0
MGT	195	Workplace Empowerment		3.0
		Credits	**18.0**	**21.0**

72.0 Total Semester Hours Required

Computers: Programming Certificate

Location: Council Bluffs

The Programming Certificate program of study prepares students for entry-level professional careers as programmers in the business world. Upon successful completion, students in this course of study have a basic understanding of programming languages, and World Wide Web technologies. Students are introduced to programming languages while working hands-on with current technology and multiple computer environments. Graduates of this program are awarded a certificate.

Students must complete the curriculum described below:

Recommended Course Sequence

First Semester

CSC	114	Introduction to Information Technology		3.0
CIS	207	Fundamentals of Web Programming		3.0
CIS	127	Introduction to Programming		3.0
CSC	121	Operating Systems		3.0
SPC	122	Interpersonal Communication		3.0
		Credits		**15.0**

Second Semester

CIS	213	Advanced Client Side Scripting		3.0
CIS	134	Web Design		3.0
CIS	139	Programming I		3.0
NET	142	Network Essentials		3.0
CIS	332	Database and SQL		3.0
		Credits		**15.0**

30.0 Total Semester Hours Required

Students must earn a "C" or higher in all required courses in order to graduate.

Computers: System Administration Certificate

Location: Council Bluffs

The System Administration Certificate program of study provides students documentation of proficiency with installing and maintaining hardware and software for servers and desktops. Graduates of this program are awarded a certificate.

Students must complete the curriculum described below:

Recommended Course Sequence

First Semester

SPC	122	Interpersonal Communication	3.0
CSC	114	Introduction to Information Technology	3.0
NET	790	PC Support I	3.0
NET	785	Fundamentals of Desktop Support	3.0
CSC	121	Operating Systems	3.0
		Credits	**15.0**

Second Semester

CIS	332	Database and SQL	3.0
NET	217	CCNA Exploration 1	3.0
NET	313	Windows Server	3.0
NET	418	LINUX Administration	3.0
NET	478	Information Storage and Management	3.0
		Credits	**15.0**

30.0 Total Semester Hours Required

Students must earn a "C" or higher in all required courses in order to graduate.

Construction Technology

Location: Council Bluffs

The Construction Technology program of study provides a basic knowledge of carpentry and related skills used in residential and commercial construction. Residential construction involves the building or remodeling of homes, apartments and similar structures. Commercial construction involves advanced skills in concrete, metal building construction, advanced blueprint reading, and commercial interior/exterior wall finishes. The program provides the opportunity to learn and apply all phases of the industry with emphasis on carpentry. Graduates of this program are awarded an Associate of Applied Science (A.A.S.) degree.

Students must complete the curriculum described below:

Recommended Course Sequence

First Semester

MAT	743	Technical Mathematics **	3.0
CON	114	Residential Print Reading	3.0
CON	180	Principles of Building Construction I	3.0
CON	170	Building Construction Techniques I	6.0
ENG	110	Writing For The Workplace **OR**	
ENG	105	Composition I	3.0
		Credits	**18.0**

Second Semester

CON	244	Related Trade Applications	3.0
CON	181	Principles of Building Construction II	3.0
CON	171	Building Construction Techniques II	6.0
MGT	195	Workplace Empowerment	3.0
CON	118	Introduction to Sustainable Construction	3.0
		Credits	**18.0**

Summer

CON	425	Internship	4.0
		Credits	**4.0**

Third Semester

CON	250	Principles of Commercial Construction I	3.0
CON	251	Commercial Construction Techniques I	6.0
CON	115	Commercial Print Reading	3.0
CON	325	Estimating	3.0
		Social Science Elective	3.0
		Credits	**18.0**

Fourth Semester

CON	253	Principles of Commercial Construction II	3.0
CON	254	Commercial Construction Techniques II	6.0
CON	348	Supervision and Leadership in Building Construction	3.0
WEL	149	Arc Welding	3.0
CON	119	Construction Materials and Inspection	3.0
		Credits	**18.0**

76.0 Total Semester Hours Required

**May substitute with MAT 110 or higher.

Construction Technology: Residential

Location: Council Bluffs

The Residential Construction Technology program of study provides a basic knowledge of carpentry and related skills used in the residential construction industry. Residential construction involves the building or remodeling of homes, apartments and similar structures. The program provides the opportunity to learn and apply all phases of the industry with emphasis on carpentry and the related areas of electricity, HVAC, blueprint reading, and math. Graduates of this program are awarded a diploma.

Students must complete the curriculum described below:

Recommended Course Sequence

First Semester

MAT	743	Technical Mathematics *		3.0
CON	114	Residential Print Reading		3.0
CON	180	Principles of Building Construction I		3.0
CON	170	Building Construction Techniques I		6.0
ENG	110	Writing For The Workplace **OR**		
ENG	105	Composition I		3.0
		Credits		**18.0**

Second Semester

CON	244	Related Trade Applications		3.0
CON	181	Principles of Building Construction II		3.0
CON	171	Building Construction Techniques II		6.0
MGT	195	Workplace Empowerment		3.0
CON	118	Introduction to Sustainable Construction		3.0
		Credits		**18.0**

Summer

CON	425	Internship		4.0
		Credits		**4.0**

40.0 Total Semester Hours Required

*May substitute with MAT 110 or higher.

Construction Technology: Sustainable Construction Certificate

Location: Council Bluffs

The Sustainable Construction Technology certificate introduces the students to the principles and techniques utilized in residential construction, which will have a positive impact on our environment. Graduates of this program are awarded a certificate.

Students must complete the curriculum described below:

Recommended Course Sequence

CON	316	Sustainable Construction Science		3.0
CON	317	Sustainable Building Materials		3.0
CON	318	Sustainable Foundations		3.0
CON	319	Interior and Exterior Energy Principles		4.0
SER	120	Introduction to Renewable Energy		3.0
CON	425	Internship **		4.0
		Credits		**20.0**

16.0 Total Semester Hours Required

**The Internship is optional; it is not required for graduation.

Criminal Justice

Location: Council Bluffs and Clarinda

The Criminal Justice program of study is designed to provide students with the background necessary to enter the justice field and/or to continue their education at a four-year institution upon graduation. Graduates of this program are awarded an Associate of Arts (A.A.) degree.

Recommended Course Sequence

First Semester

ENG	105	Composition I		3.0
CRJ	100	*Introduction to Criminal Justice		3.0
CRJ	111	*Police and Society		3.0
SPC	112	Public Speaking		3.0
		Social Science Elective		3.0
		Credits		**15.0**

Second Semester

ENG	106	Composition II		3.0
CRJ	120	*Introduction to Corrections		3.0
CRJ	133	*Constitutional Criminal Procedures		3.0
		Humanities Elective		3.0
		A.A. Mathematics Requirement (MAT 121-227)	3.0	4.0
		Credits	**15.0**	**16.0**

Third Semester

CRJ	130	*Criminal Law		3.0
CRJ	258	*Ethical Issues in Criminal Justice		3.0
		Distributed Requirement **		3.0
		Lab Science Requirement		4.0
		Social Science Elective **		3.0
		Credits		**16.0**

Fourth Semester

		Humanities Electives		6.0
		Mathematics/Science Elective		3.0
		General Electives **		6.0
		Social Science Elective **		3.0
		Credits		**18.0**

One elective must also satisfy the diversity requirement.
*Required courses for the program

64.0 Total Semester Hours Required

**Recommended Social Science, Distributed and General Electives:

CRJ 160 Introduction to Forensic Investigation 3
CRJ 240 Criminal Investigation 3
CRJ 290 Criminal Justice Cooperative Education 3
HIS 151 United States History to 1877 3
POL 111 American National Government 3
POL 201 The United States Constitution 3
PSY 111 Introduction to Psychology 3
PSY 241 Abnormal Psychology 3
SOC 110 Introduction to Sociology 3
SOC 200 Minority Group Relations 3
SOC 230 Juvenile Delinquency 3
SOC 235 Gangs 3
SOC 240 Criminology 3

Culinary Arts: Baking and Pastry Art

Location: Council Bluffs

The Culinary Arts program of study, Baking and Pastry Art prepares students for a challenging career in the bake shop. The curriculum emphasizes fundamental techniques in culinary arts, and baking. Students will be introduced to the techniques of producing artisan breads, classic pastries, pies, tarts and petit fours, celebration cakes, confections and showpieces. Throughout the program students will develop professionalism and proficiency in preparation procedures, production methods and presentation techniques of pastries, baked goods and desserts, as well as related instruction in cost controls, food handling safety, purchasing, menu planning, dining service, and nutrition and wellness. Graduates of this program are awarded an Associate of Applied Science (A.A.S.) degree.

Students must complete the curriculum described below:

Recommended Course Sequence

First Semester

HCM	186	Culinary Foundations I	3.0
HCM	111	Principles of Baking I	2.0
HCM	191	Quantity Food Production I Lab	4.0
HCM	113	Culinary Baking	1.0
HCM	100	Sanitation and Safety	2.0
HCM	200	Dining Service	2.0
MAT	711	Business and Financial Mathematics	3.0
		Credits	**17.0**

Second Semester

HCM	187	Culinary Foundations II	3.0
HCM	112	Principles of Baking II	2.0
HCM	192	Quantity Food Production II Lab	4.0
HCM	121	Culinary Baking II	1.0
		Social Science/Humanities Elective	3.0
		A.A.S. Communications Requirement (ENG 105, 110 or 111)	3.0
		Credits	**16.0**

Summer

HCM	517	Baking Internship	2.0
		Credits	**2.0**

Third Semester

HCM	240	Menu Planning and Design	2.0
HCM	230	Nutrition and Wellness	3.0
HCM	343	Recipe Costing and Menu Pricing	2.0
HCM	255	Purchasing	3.0
HCM	257	Advanced Baking I	3.0
HCM	267	Baking Science	2.0
		Advanced Baking Lab Electives **	4.0
		Credits	**19.0**

Fourth Semester

HCM	278	Cost Control	2.0
HCM	258	Advanced Baking II	3.0
HCM	225	Food Artistry-Styling	2.0
HCM	274	Baking Seminar	2.0
HCM	525	Baking Capstone	1.0
		Advanced Baking Lab Electives **	4.0
MGT	195	Workplace Empowerment	3.0
		Credits	**17.0**

71.0 Total Semester Hours Required

**Advanced Baking Lab electives must be selected from the following:

HCM 216 Pastries 1
HCM 217 Artisan Breads 1
HCM 218 Cakes 1
HCM 219 International Breads 1
HCM 220 Chocolate and Sugar 1
HCM 221 Cake Decorating 1
HCM 222 Convenience Food 1
HCM 223 Laminated Doughs 1

Culinary Arts: Culinarian

Location: Council Bluffs

The Culinary Arts program of study, Culinarian prepares students who enjoy working with food for a challenging career in all facets of the hospitality industry. The curriculum emphasizes fundamental and intermediate techniques in culinary skills and kitchen management. The curriculum enables students to develop supervisory skills as well as training to become a culinarian. Related instruction emphasizes supervision, cost controls, purchasing, nutrition and wellness, advanced culinary garde manger, advanced soups and sauces, and â la carte cookery principles. Graduates of this program are awarded an Associate of Applied Science (A.A.S.) degree.

Students must complete the curriculum described below:

Recommended Course Sequence

First Semester

HCM	186	Culinary Foundations I	3.0
HCM	111	Principles of Baking I	2.0
HCM	191	Quantity Food Production I Lab	4.0
HCM	113	Culinary Baking	1.0
HCM	100	Sanitation and Safety	2.0
HCM	200	Dining Service	2.0
MAT	711	Business and Financial Mathematics	3.0
		Credits	**17.0**

Second Semester

HCM	187	Culinary Foundations II	3.0
HCM	112	Principles of Baking II	2.0
HCM	192	Quantity Food Production II Lab	4.0
HCM	121	Culinary Baking II	1.0
		Social Science/Humanities Elective	3.0
		A.A.S. Communications Requirement (ENG 105, 110 or 111)	3.0
		Credits	**16.0**

Summer

HCM	512	Culinary Arts Internship	2.0
		Credits	**2.0**

Third Semester

HCM	240	Menu Planning and Design	2.0
HCM	230	Nutrition and Wellness	3.0
HCM	343	Recipe Costing and Menu Pricing	2.0
HCM	255	Purchasing	3.0
HCM	243	Soups and Sauces	1.0
HCM	244	Soups and Sauces Lab	2.0
HCM	246	Garde Manger/Charcuterie	1.0
HCM	247	Garde Manger/Charcuterie Lab	2.0
HCM	198	Regional Wine History	3.0
		Credits	**19.0**

Fourth Semester

HCM	176	World Cuisine	2.0
HCM	278	Cost Control	2.0
HCM	248	A la Carte Cooking	2.0
HCM	249	A la Carte Cooking Lab	4.0
HCM	225	Food Artistry-Styling	2.0
HCM	532	Culinary Capstone	2.0
MGT	195	Workplace Empowerment	3.0
		Credits	**17.0**

71.0 Total Semester Hours Required

Culinary Arts: Food Service

Location: Council Bluffs

The Food Service program of study prepares students for a challenging career in restaurant, hotel, motel, institutional, health care and private club facilities. The curriculum emphasizes fundamental and intermediate techniques of food preparation, production and baking skills. It enables students to develop culinary skills as they prepare for entry or intermediate positions in the industry. Related instruction emphasizes the use and selection of equipment, safety and sanitation, mathematical applications, meal service, product selection, and computer skills. Graduates of this program are awarded a diploma.

Students must complete the curriculum described below:

Recommended Course Sequence

First Semester

HCM	186	Culinary Foundations I	3.0
HCM	111	Principles of Baking I	2.0
HCM	191	Quantity Food Production I Lab	4.0
HCM	113	Culinary Baking	1.0
HCM	100	Sanitation and Safety	2.0
HCM	200	Dining Service	2.0
MAT	711	Business and Financial Mathematics	3.0
		Credits	**17.0**

Second Semester

HCM	187	Culinary Foundations II	3.0
HCM	112	Principles of Baking II	2.0
HCM	192	Quantity Food Production II Lab	4.0
HCM	121	Culinary Baking II	1.0
MGT	195	Workplace Empowerment	3.0
		Communications Requirement (ENG 105, 110 or 111)	3.0
		Credits	**16.0**

Summer

HCM	512	Culinary Arts Internship **OR**	
HCM	517	Baking Internship	2.0
		Credits	**2.0**

35.0 Total Semester Hours Required

Culinary Arts: Food Technology Certificate

Location: Council Bluffs

The Food Technology Certificate program of study prepares students for a challenging career in restaurant, hotel, motel, institutional, health care and private club facilities. The curriculum emphasizes the fundamental techniques of food preparation and production skills. It enables the students to develop culinary skills as they prepare for entry level positions in the industry. Related instruction emphasizes the use and selection of equipment, safety and sanitation, measurement math applications, and product selection. Graduates of this program are awarded a certificate.

Students must complete the curriculum described below:

Recommended Course Sequence

HCM	100	Sanitation and Safety	2.0
HCM	186	Culinary Foundations I	3.0
HCM	191	Quantity Food Production I Lab	4.0
HCM	187	Culinary Foundations II	3.0
HCM	192	Quantity Food Production II Lab	4.0
		Credits	**16.0**

16.0 Total Semester Hours Required

Culinary Arts: Restaurant & Hospitality Management

Location: Council Bluffs

The Culinary Arts program of study, Restaurant and Hospitality Management prepares students for a challenging career in all facets of the hospitality industry. The curriculum emphasizes fundamental techniques in culinary arts with an emphasis in restaurant and institutional management. The curriculum enables students to develop management, marketing, and supervisory skills emphasizing cost controls, nutrition and wellness, fine dining management, human relations and personnel. Graduates of this program are awarded an Associate of Applied Science (A.A.S.) degree.

Students must complete the curriculum described below:

Recommended Course Sequence

First Semester

HCM	186	Culinary Foundations I	3.0
HCM	111	Principles of Baking I	2.0
HCM	191	Quantity Food Production I Lab	4.0
HCM	113	Culinary Baking	1.0
HCM	100	Sanitation and Safety	2.0
HCM	200	Dining Service	2.0
MAT	711	Business and Financial Mathematics	3.0
		Credits	**17.0**

Second Semester

HCM	187	Culinary Foundations II	3.0
HCM	112	Principles of Baking II	2.0
HCM	192	Quantity Food Production II Lab	4.0
HCM	121	Culinary Baking II	1.0
		A.A.S. Communications Requirement (ENG 105, 110 or 111)	3.0
		Social Science/Humanities Elective	3.0
		Credits	**16.0**

Summer

HCM	512	Culinary Arts Internship	2.0
		Credits	**2.0**

Third Semester

HCM	240	Menu Planning and Design	2.0
HCM	230	Nutrition and Wellness	3.0
HCM	343	Recipe Costing and Menu Pricing	2.0
HCM	255	Purchasing	3.0
BUS	185	Business Law I	3.0
BUS	102	Introduction to Business	3.0
HCM	198	Regional Wine History	3.0
		Credits	**19.0**

Fourth Semester

HCM	278	Cost Control	2.0
HCM	245	Design and Layout of Food Service Facilities	3.0
HCM	330	Hospitality Personnel Management	3.0
HCM	214	Culinary Media/Networking	3.0
MKT	110	Principles of Marketing	3.0
MGT	195	Workplace Empowerment	3.0
		Credits	**17.0**

71.0 Total Semester Hours Required

Dental Assistant

Location: Council Bluffs

The Dental Assistant program of study prepares students to assist dentists in four-handed dentistry and to perform chairside related procedures. This program includes clinical experience at a dental school and in area dental offices. We adhere to CDC and OSHA guidelines. A copy of our infection control policy is located in the office of the Health Division. Graduates of this program are eligible to take the Dental Assistant National Board and become a Certified Dental Assistant. Graduates are also eligible to take the Iowa Dental Assistants Registration Exam and become an Iowa Registered Dental Assistant. Graduates of this program are awarded a diploma. The program in dental assisting 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 U.S. Department of Education. The Commission on Dental Accreditation can be contacted at (312) 440-4653 or at 211 East Chicago Avenue, Chicago, IL 60611.

Students must complete the curriculum described below:

Recommended Course Sequence

First Semester

HSC	125	Survey of Anatomy for Allied Health	2.0
DEA	271	Dental Theory I	6.0
DEA	403	Dental Materials	3.0
DEA	502	Dental Assisting Principles	4.0
DEA	314	Radiography I	2.0
		Communications Requirement (ENG 105, 110 or 111)	3.0
		Credits	**20.0**

Second Semester

DEA	320	Radiography II	2.0
DEA	602	Dental Specialties	4.5
DEA	706	Procedures for the Dental Office	2.5
DEA	275	Dental Theory II	5.0
DEA	582	Dental Assisting Experience I	2.0
		Psychology Elective	3.0
		Credits	**19.0**

Summer

DEA	585	Dental Assisting Experience II	5.0
DEA	933	Internship Seminar	1.0
		Credits	**6.0**

45.0 Total Semester Hours Required

Dental Hygiene

Location: Council Bluffs

The Dental Hygiene program of study prepares students to become preventive health professionals who provide educational and clinical services to support oral health. These services include: evaluation; charting oral disease and conditions; removing deposits from teeth; exposing and processing dental radiographs; and applying fluoride and sealants to teeth. Graduates can seek positions in general or specialty dental practices, hospitals, research or academic institutions, public health, business and industry, or armed services. The rigorous science-oriented curriculum is the foundational framework for applying principles from the social sciences and biomedical areas to patient oral care. Didactic courses are offered at Iowa Western; clinical experiences occur at the clinic-affiliated site, Creighton UniversitySchool of Dentistry, and at extramural community sites. We adhere to CDC and OSHA guidelines. A copy of our infection control policy is located in the office of the Health Division. Upon program completion, graduates are awarded an Associate of Applied Science (A.A.S.) degree. To become a licensed professional, graduates must successfully complete both the National Board Examination and a state or regional exam. CPR certification is required. 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 U.S. Department of Education. The Commission on Dental Accreditation can be contacted at (312) 440-4653 or at 211 East Chicago Avenue, Chicago, IL 60611.

Prerequisite: Grades of "C" or higher in Anatomy and Phyisology I with Lab, Anatomy and Physiology II with Lab, and Microbiology.

Requirements for the Degree:
SPC 112 Public Speaking 3
ENG 105 Composition I 3

Students must complete the curriculum described below:

Recommended Course Sequence

First Semester

CHM	132	Introduction to Organic and Biochemistry		4.0
DHY	120	Oral Histology and Embryology		0.5
DHY	174	Principles of Dental Hygiene		5.0
DHY	114	Dental Hygiene Anatomical Sciences		4.0
DHY	155	Radiology		2.0
DHY	157	Radiology Lab		1.0
		Credits		**16.5**

Second Semester

DHY	183	Dental Hygiene I Theory		2.0
DHY	184	Clinical Dental Hygiene I		3.0
DHY	230	Oral Health Nutrition		2.0
DHY	141	General and Oral Pathology		3.0
DHY	153	Dental Emergencies		1.0
DHY	211	Periodontology		2.0
DHY	228	Clinical Preventive Denistry		2.0
		Credits		**15.0**

Third Semester

DHY	275	Dental Hygiene II Theory		1.0
DHY	286	Clinical Dental Hygiene II **	2.0	4.0
DHY	132	Dental Pharmacology		3.0
DHY	288	Local Anesthesia and Pain Control		1.0
		Credits	**7.0**	**9.0**

Fourth Semester

DHY	293	Dental Hygiene III Theory		2.0
DHY	295	Clinical Dental Hygiene III **	2.0	4.0
DHY	226	Biomaterials for the Dental Hygienist		2.5
DHY	252	Community Dentistry		3.0
DHY	213	Periodontology II		1.0
		Credits	**10.5**	**12.5**

Fifth Semester

DHY	303	Dental Hygiene IV Theory		2.0
DHY	304	Clinical Dental Hygiene IV		4.0
DHY	253	Community Oral Health Rotations		1.0
DHY	241	Dental Ethics		2.0
PSY	111	Introduction to Psychology		3.0
MGT	195	Workplace Empowerment		3.0
		Credits		**15.0**

72.0 Total Semester Hours Required

**The number of credit hours is dictated by the student's start term; however, a combined total of six credit hours of Clinical Dental Hygiene II and Clinical Dental Hygiene III are required for this degree.

Design Technology

Location: Atlantic

The Design Technology program prepares students to assist engineers in the design of products or the solution to problems utilizing computerized drawings for all types of machines and manufacturing industries. Coursework emphasizes the Product Lifecycle Management (PLM) model of industrial product management. Students will learn various CAD techniques as well as understanding various materials used in manufacturing. Students will earn an Associate of Applied Science degree.

Students must complete the curriculum described below:

Recommended Course Sequence

First Semester

ENG	105	Composition I	3.0
CSC	110	Introduction to Computers	3.0
EGT	113	Introduction to PLM	3.0
EGT	167	Geometric Dimensioning and Tolerancing	3.0
CAD	129	CAD I	3.0
		Credits	**15.0**

Second Semester

MAT	129	Precalculus *	5.0
MGT	195	Workplace Empowerment	3.0
EGT	153	Design Statics	3.0
CAD	197	CAD 3D-NX	4.0
EGT	171	Manufacturing Processes	3.0
		Credits	**18.0**

Summer

CAD	933	Design Technology Internship	6.0
		Credits	**6.0**

Third Semester

SPC	122	Interpersonal Communication	3.0
EGT	176	Electric Power and Electronics	4.0
CAD	203	Principles of Design	3.0
CAD	213	Component Design	4.0
EGT	184	Strength of Materials	3.0
		Credits	**17.0**

Fourth Semester

PHI	105	Introduction to Ethics	3.0
CAD	222	Advanced CAD 3D-NX	3.0
CAD	234	Design Problems	4.0
CAD	238	Design Communications	3.0
		Credits	**13.0**

69.0 Total Semester Hours Required

*May substitute with MAT 121 and MAT 130.

Diesel Mechanics

Location: Council Bluffs

The Diesel Mechanics program of study equips students with necessary skills to become entry-level diesel mechanics. It emphasizes the maintenance of over-the-road diesel trucks. Students receive instruction through a combination of theory classes and practical experience. Graduates of this program are awarded a diploma.

Students must complete the curriculum described below:

Recommended Course Sequence

First Semester

DSL	324	Introduction to Diesel	4.0
DSL	144	Electrical Systems	4.0
DSL	846	Diesel Lab I **	6.0
		General Elective	3.0
		Credits	**17.0**

Second Semester

DSL	654	Hydraulic/Air Brakes	4.0
DSL	674	Chassis/Driveline	4.0
DSL	856	Diesel Lab II **	6.0
		Communications Requirement (ENG 105, 110 or 111)	3.0
		Credits	**17.0**

Summer

DSL	742	Air Conditioning/Refrigeration	2.0
DSL	829	Preventative Maintenance	2.0
DSL	863	Diesel Lab III **	3.0
		Credits	**7.0**

41.0 Total Semester Hours Required

**Students must complete 15 semester credit hours of laboratory courses.

Diesel Technology

Location: Council Bluffs

The Diesel Technology program of study prepares students to be proficient diesel truck technicians having skills to be competitive in the diesel truck maintenance industry. Students study all phases of the diesel truck including engines, transmissions, drive axles, electrical systems, and auxiliary systems. Instruction includes a wide variety of theory classes and up-to-date practical experiences. Graduates of this program are awarded an Associate of Applied Science (A.A.S.) degree.

Students must complete the curriculum described below:

Recommended Course Sequence

First Semester

DSL	324	Introduction to Diesel	4.0
DSL	144	Electrical Systems	4.0
DSL	846	Diesel Lab I	6.0
		A.A.S. Mathematics Requirement (MAT 110 or higher)	3.0
		Credits	**17.0**

Second Semester

DSL	654	Hydraulic/Air Brakes	4.0
DSL	674	Chassis/Driveline	4.0
DSL	856	Diesel Lab II	6.0
		A.A.S. Communications Requirement (ENG 105, 110 or 111)	3.0
		Credits	**17.0**

Summer

DSL	742	Air Conditioning/Refrigeration	2.0
DSL	863	Diesel Lab III	3.0
DSL	829	Preventative Maintenance	2.0
		Credits	**7.0**

Third Semester

DSL	354	Engines I	4.0
DSL	444	Fuel Systems	4.0
DSL	876	Diesel Lab IV OR**	
DSL	883	Diesel Internship II	6.0
MGT	195	Workplace Empowerment	3.0
		Credits	**17.0**

Fourth Semester

DSL	364	Engines II	4.0
DSL	544	Transmissions/Drive Axle	4.0
DSL	886	Diesel Lab V OR **	
DSL	883	Diesel Internship II **	6.0
		Social Science/Humanities Elective	3.0
		Credits	**17.0**

Summer

DSL	893	Diesel Lab VI OR **	
DSL	881	Diesel Internship I **	3.0
		Credits	**3.0**

78.0 Total Semester Hours Required

**Students must complete 30 credit hours of laboratory courses OR complete a minimum of 21 credit hours of laboratory courses and a maximum of 9 credit hours of internship, with any combination of laboratory and internship credit hours within that range being acceptable.

Early Childhood Education

Location: Council Bluffs

The Early Childhood Education program of study is designed for students who wish to become early childhood teachers in birth through grade three classrooms. The curriculum provides students with a foundation in best practices with an emphasis in planning, leading, and evaluating learning experiences through observation, discussion and active participation. Students apply research and theory by demonstrating newly acquired skills in the Laboratory School. The program is designed for transfer to institutions that offer teacher certification. Graduates of this program are awarded an Associate of Arts (A.A.) degree.

Recommended Course Sequence

First Semester

ECE	103	*Introduction to Early Childhood Education	3.0
ECE	170	*Child Growth and Development	3.0
PSY	111	Introduction to Psychology	3.0
ENG	105	Composition I	3.0
SPC	112	Public Speaking	3.0
ART	101	Art Appreciation **OR**	
MUS	100	Music Appreciation	3.0
		Credits	**18.0**

Second Semester

ECE	221	*Infant/Toddler Care and Education	3.0
ECE	133	*Child Health, Safety and Nutrition	3.0
ENG	106	Composition II	3.0
HIS	151	U.S. History to 1877 **OR**	
HIS	152	U.S. History Since 1877	3.0
ENV	111	Environmental Science	4.0
		Credits	**16.0**

Third Semester

ECE	153	*Early Childhood Curriculum I with Lab		4.0
ECE	244	*Early Childhood Guidance with Lab		4.0
LIT	110	American Literature to Mid 1800s **OR**		
LIT	140	British Literature I		3.0
		A.A. Mathematics Requirement (MAT 121-227)	3.0	4.0
		Physical Science Elective		3.0
		Credits	**17.0**	**18.0**

Fourth Semester

ECE	156	*Early Childhood Curriculum II with Lab	4.0
POL	111	American National Government	3.0
PHI	101	Introduction to Philosophy	3.0
		Distributed Requirement	3.0
		Credits	**13.0**

One elective must also satisfy the diversity requirement.
*Required courses for the program

64.0 Total Semester Hours Required

Early Childhood Studies

Location: Council Bluffs

The Early Childhood Studies program of study prepares students to become lead teachers and child specialists in preschools, family child care homes, and Head Start programs. Students are involved in planning, leading and evaluating learning experiences through observation, discussion and active participation. Students culminate their educational experience with a field experience and practicum in a variety of early childhood settings. Students must maintain First Aid/CPR certification throughout the program. Graduates of this program are awarded an Associate of Applied Science (A.A.S.) degree.

Students must complete the curriculum described below:

Recommended Course Sequence

First Semester

ECE	244	Early Childhood Guidance with Lab	4.0
ECE	103	Introduction to Early Childhood Education	3.0
ECE	170	Child Growth and Development	3.0
ECE	153	Early Childhood Curriculum I with Lab	4.0
SPC	122	Interpersonal Communication	3.0
		Credits	**17.0**

Second Semester

ECE	120	Communication with Families	2.0
ECE	156	Early Childhood Curriculum II with Lab	4.0
ECE	221	Infant/Toddler Care and Education	3.0
ECE	125	School Age Child	2.0
ECE	133	Child Health, Safety and Nutrition	3.0
ENG	105	Composition I	3.0
		Credits	**17.0**

Third Semester

EDU	235	Children's Literature	3.0
ECE	287	Exceptional Learner	3.0
ECE	268	Early Childhood Field Experience	4.0
ECE	290	Early Childhood Administration	3.0
		A.A.S. Mathematics Requirement (MAT 110 or higher)	3.0
		Credits	**16.0**

Fourth Semester

ECE	258	Early Childhood Field Practicum	6.0
CSC	110	Introduction to Computers **OR**	
BCA	212	Introduction to Computer Business Applications	3.0
MGT	195	Workplace Empowerment	3.0
		Social Science Elective	3.0
		Credits	**15.0**

65.0 Total Semester Hours Required

Early Childhood Studies Diploma

Location: Council Bluffs

The Early Childhood Diploma program of study is designed to provide students with a foundation in best practices with an emphasis in the development of the young child, planning activities and working with families. Students apply research and theory by demonstrating newly acquired skills in the Laboratory School. This program prepares students to be assistant preschool teachers and nannies. Graduates of this program are awarded a diploma.

Students must complete the curriculum described below:

Recommended Course Sequence

First Semester

ECE	244	Early Childhood Guidance with Lab	4.0
ECE	103	Introduction to Early Childhood Education	3.0
ECE	170	Child Growth and Development	3.0
ECE	153	Early Childhood Curriculum I with Lab	4.0
SPC	122	Interpersonal Communication	3.0
		Credits	**17.0**

Second Semester

ECE	120	Communication with Families	2.0
ECE	133	Child Health, Safety and Nutrition	3.0
ECE	156	Early Childhood Curriculum II with Lab	4.0
ECE	221	Infant/Toddler Care and Education	3.0
ENG	110	Writing For The Workplace **OR**	
ENG	105	Composition I	3.0
		Credits	**15.0**

32.0 Total Semester Hours Required

Students must maintain First Aid/CPR certification throughout the program.

Early Childhood: Administration Certificate

Location: Council Bluffs

The Early Childhood Administration Certificate program of study is designed for early childhood professionals who wish to pursue an administrative career. The certificate provides leadership and management skills necessary to successfully administer an early childhood program.

Prerequisite: An associate or higher academic degree to begin this certificate.

Students must complete the curriculum described below:

Recommended Course Sequence

ECE	268	Early Childhood Field Experience	4.0
ECE	290	Early Childhood Administration	3.0
MGT	130	Principles of Supervision	3.0
ACC	111	Introduction to Accounting	3.0
MGT	175	Introduction to Law for Managers and Supervisors	3.0
BUS	130	Introduction to Entrepreneurship	3.0
		Credits	**19.0**

19.0 Total Semester Hours Required

Early Childhood: Child Development Certificate

Location: Council Bluffs

The Child Development Certificate program of study prepares students for careers in the early childhood profession. Students become knowledgeable in career development; guidance and discipline; health, safety and nutrition; and curriculum planning. Graduates of this program are awarded a certificate. Upon completion of the certificate, students are eligible for CDA certification from the Council for Professional Recognition.

Students must complete the curriculum described below:

Recommended Course Sequence

ECE	103	Introduction to Early Childhood Education	3.0
ECE	244	Early Childhood Guidance with Lab	4.0
ECE	133	Child Health, Safety and Nutrition	3.0
ECE	221	Infant/Toddler Care and Education	3.0
ECE	153	Early Childhood Curriculum I with Lab	4.0
		Credits	**17.0**

17.0 Total Semester Hours Required

Education: Grades K - 12

Location: Council Bluffs and Clarinda

The Education: Grades K-12 program of study is designed for students who wish to become preschool, elementary or secondary teachers. The curriculum is structured so that students have the opportunity to explore the field of teaching. It is designed for transfer to institutions that offer teaching certificates. Graduates of this program are awarded an Associate of Arts (A.A.) degree.

Recommended Course Sequence

First Semester

ENG	105	Composition I		3.0
CSC	110	Introduction to Computers		3.0
PSY	111	Introduction to Psychology		3.0
EDU	210	*Foundations of Education		3.0
ECE	170	*Child Growth and Development **OR** **		
PSY	121	*Developmental Psychology		3.0
		Credits		**15.0**

Second Semester

ENG	106	Composition II		3.0
HIS	151	U.S. History to 1877 **OR**		
HIS	152	U.S. History Since 1877		3.0
SPC	112	Public Speaking		3.0
EDU	245	*Exceptional Learner		3.0
MAT	157	Statistics		4.0
		Credits		**16.0**

Third Semester

BIO	105	Introductory Biology		4.0
LIT	110	American Literature to Mid 1800s **OR**		
LIT	140	British Literature I		3.0
EDU	240	Educational Psychology		3.0
		General Electives		4.0
		Distributed Requirement		3.0
		Credits		**17.0**

Fourth Semester

ENV	111	Environmental Science		4.0
POL	111	American National Government		3.0
EDU	235	*Children's Literature **OR** **		
PSY	224	*Adolescent Psychology		3.0
ART	101	Art Appreciation **OR**		
MUS	100	Music Appreciation		3.0
PHI	101	Introduction to Philosophy		3.0
		Credits		**16.0**

One elective must also satisfy the diversity requirement.
*Required courses for the program

64.0 Total Semester Hours Required

**Elementary Education majors must take ECE 170 and EDU 235, and Secondary Education majors must take PSY 121 and PSY 224.

Electrical Maintenance Certificate

Location: Council Bluffs

The Electrical Maintenance program of study prepares students to be employed as technicians in the fields of electrical maintenance, installation and repair. The program was developed especially for industry in the development, installation and maintenance of complex industrial processes as well as their electronic, controller and computer devices. Graduates of this program are awarded a certificate.

Students must complete the curriculum described below:

Recommended Course Sequence

ELT	331	Circuit Analysis I		4.0
ELT	332	Circuit Analysis I Lab		1.0
ELT	313	Digital Circuits I		4.0
ELT	314	Digital Circuits I Lab		1.0
ELT	616	Microprocessors I		4.0
ELT	617	Microprocessors I Lab		1.0
MAT	743	Technical Mathematics		3.0
		Credits		**18.0**

18.0 Total Semester Hours Required

Electrical Maintenance Specialist

Location: Council Bluffs

The Electrical Maintenance Specialist program of study prepares students to be employed as technicians in the fields of electrical maintenance, installation and repair. The program was developed especially for industry and is valuable in the development, installation and maintenance of complex industrial processes as well as their electronic, controller and computer devices. Graduates of this program are awarded a diploma.

Students must complete the curriculum described below:

Recommended Course Sequence

First Semester

ELT	331	Circuit Analysis I	4.0
ELT	332	Circuit Analysis I Lab	1.0
ELT	313	Digital Circuits I	4.0
ELT	314	Digital Circuits I Lab	1.0
ELT	616	Microprocessors I	4.0
ELT	617	Microprocessors I Lab	1.0
		Credits	**15.0**

Second Semester

ELT	523	Electronic Devices	4.0
ELT	524	Electronic Devices Lab	1.0
ELT	158	Industrial Electronics I	4.0
ELT	159	Industrial Electronics I Lab	1.0
MAT	750	Technical Mathematics II **	5.0
ENG	105	Composition I	3.0
		Credits	**18.0**

33.0 Total Semester Hours Required

**Students may substitute Precalculus, Calculus I or Calculus II for Technical Mathematics II.

Electronic Engineering Technology

Location: Council Bluffs

The Electronic Engineering Technology program of study prepares students for a technical level career in manufacturing, service and sales in four primary electronics fields: computers, telecommunications, bio-medical electronics, and industrial electronics. Students learn high technology theory in industrial electronics, microelectronics and optoelectronics in conjunction with associated laboratory assignments to assure practical knowledge. Graduates of this program are awarded an Associate of Applied Science (A.A.S.) degree.

Students must complete the curriculum described below:

Recommended Course Sequence

First Semester

ELT	331	Circuit Analysis I		4.0
ELT	332	Circuit Analysis I Lab		1.0
ELT	313	Digital Circuits I **OR**		
EGT	420	Digital Electronics **OR**		
EGR	420	Digital Electronics	3.0	4.0
ELT	314	Digital Circuits I Lab		1.0
ELT	616	Microprocessors I		4.0
ELT	617	Microprocessors I Lab		1.0
		Credits	**14.0**	**15.0**

Second Semester

ELT	523	Electronic Devices	4.0
ELT	524	Electronic Devices Lab	1.0
ELT	158	Industrial Electronics I	4.0
ELT	159	Industrial Electronics I Lab	1.0
MAT	750	Technical Mathematics II **	5.0
ENG	105	Composition I	3.0
		Credits	**18.0**

Third Semester

ELT	445	Industrial Networking I	4.0
ELT	446	Industrial Networking I Lab	1.0
PHY	156	General Physics I	4.0
PHY	157	General Physics I Lab	1.0
MAT	751	Technical Mathematics III **OR** **	
MAT	129	Precalculus	5.0
MGT	195	Workplace Empowerment	3.0
		Credits	**18.0**

Fourth Semester

ELT	432	Telecommunications		4.0
ELT	433	Telecommunications Lab		1.0
ELT	850	Design Projects Lab **OR**		
EGT	470	Engineering Design and Development **OR**		
EGR	470	Engineering Design and Development	1.0	3.0
MAT	752	Technical Mathematics IV **		2.0
PHY	158	General Physics II		4.0
PHY	159	General Physics II Lab		1.0
		Social Science/Humanities Elective		3.0
		Credits	**16.0**	**18.0**

66.0 Total Semester Hours Required

**Students may substitute advanced mathematics courses for any or all of the courses in the Technical Mathematics sequence as follows: Differential Equations for Technical Mathematics IV, Calculus I and/or Calculus II for Technical Mathematics II and/or Technical Mathematics III.

EMS: Emergency Medical Services

Location: Council Bluffs

The Emergency Medical Services program is an option for those students preparing themselves for a career in Emergency Medical Services. It is suitable for those students wanting to gain professional experience in EMS before proceeding on to the paramedic level. Graduates of this program are awarded a diploma.

Prerequisite: Current, valid American Heart Association Healthcare Provider CPR, American Red Cross CPR for Professional Rescuer, or American Heart Association Basic Life Support (BLS) Instructor certification.

Students must complete the curriculum described below:

Recommended Course Sequence

First Semester

EMS	211	Emergency Medical Technician		6.5
HSC	126	Anatomy for Allied Health		4.0
HSC	113	Medical Terminology		2.0
		Communications Requirement (ENG 105, 110 or 111)		3.0
		Credits		**15.5**

Second Semester

		Mathematics Elective (MAT 110-227)	3.0	4.0
MGT	195	Workplace Empowerment		3.0
SPC	112	Public Speaking **OR**		
SPC	122	Interpersonal Communication		3.0
		Social Science/Humanities Elective		3.0
		Credits	**12.0**	**13.0**

27.5 Total Semester Hours Required

Entrepreneurship Certificate

Location: Council Bluffs

The Entrepreneurship Certificate program of study is designed for individuals interested in developing entrepreneurial skills. Students will acquire basic knowledge of how to investigate, develop and grow a business. All required courses may be taken online as well as applied to selected Associate of Arts degree programs. Graduates of this program are awarded a certificate.

Students must complete the curriculum described below:

Recommended Course Sequence

First Semester

ACC	121	Principles of Accounting I	3.0
BUS	130	Introduction to Entrepreneurship	3.0
BUS	185	Business Law I	3.0
MGT	101	Principles of Management	3.0
MKT	110	Principles of Marketing	3.0
		General Elective **	3.0
		Credits	**18.0**

18.0 Total Semester Hours Required

**General Elective should be selected from the student's entrepreneurial area of interest.

Fire Science Technology

Location: Council Bluffs

The Fire Science Technology program of study is designed to enhance the careers of students already employed as firefighters as well as those interested in this as a new career. Students progress systematically through an extended program of study. Courses emphasize state-of-the-art fire fighting techniques, as well as preparing firefighters for administrative duties. Graduates of this program are awarded an Associate of Arts (A.A.) degree.

Recommended Course Sequence

First Semester

ENG	105	Composition I		3.0
		A.A. Mathematics Requirement (MAT 121-227)	3.0	4.0
		Humanities Elective		3.0
		*Fire Science Electives **		6.0
		Credits	**15.0**	**16.0**

Second Semester

ENG	106	Composition II		3.0
		Mathematics/Science Elective		3.0
		Social Science Elective		3.0
		*Fire Science Electives **		6.0
		Credits		**15.0**

Third Semester

		Social Science Elective		3.0
		Lab Science Requirement		4.0
		*Fire Science Electives **		6.0
		Credits		**13.0**

Fourth Semester

		Social Science Elective		3.0
		Humanities Elective		3.0
SPC	112	Public Speaking		3.0
		*Fire Science Elective **		3.0
		Credits		**12.0**

Fifth Semester

		Humanities Elective		3.0
		*Fire Science Elective **		3.0
		Distributed Requirement		3.0
		Credits		**9.0**

One elective must also satisfy the diversity requirement.
*Required courses for the program

64.0 Total Semester Hours Required

**Required Courses for the Program:

FIR 101 Introduction to Fire Protection Technology 3
FIR 131 Codes and Inspection 3
FIR 145 Fire Strategy and Tactics 3
FIR 148 Hydraulics and Pumping Applications 3
FIR 152 Fire Protection Systems 3
FIR 157 Fire Protection Equipment 3
FIR 235 Fire Investigation 3
FIR 270 Survey of Construction 3

Forensic Investigation

Location: Council Bluffs

The Forensic Investigation program of study examines the application of science as it applies to law and criminal investigation. Graduates of this program are awarded an Associate of Science (A.S.) degree.

Recommended Course Sequence

First Semester

ENG	105	Composition I		3.0
CRJ	100	*Introduction to Criminal Justice		3.0
CRJ	160	*Introduction to Forensic Investigation		3.0
CRJ	133	*Constitutional Criminal Procedures		3.0
BIO	157	*Human Biology		4.0
		Credits		**16.0**

Second Semester

ENG	106	Composition II		3.0
CRJ	142	*Criminalistics		3.0
SOC	110	Introduction to Sociology		3.0
BIO	168	*Human Anatomy and Physiology I with Labs		4.0
		Distributed Requirement		3.0
		Credits		**16.0**

Third Semester

CRJ	260	*Medicolegal Death Investigation		3.0
CRJ	258	*Ethical Issues in Criminal Justice		3.0
PSY	111	Introduction to Psychology		3.0
CHM	122	Introduction to General Chemistry		4.0
		A.S. Mathematics Requirement (MAT 121-227)	3.0	4.0
		Credits	**16.0**	**17.0**

Fourth Semester

CRJ	111	*Police and Society		3.0
SOC	200	Minority Group Relations **OR**		
SOC	240	Criminology		3.0
SPC	112	Public Speaking **OR**		
SPC	122	Interpersonal Communication		3.0
CRJ	291	*Forensic Investigation Cooperative Education **OR**		
CRJ	130	*Criminal Law **OR**		
CRJ	240	*Criminal Investigation		3.0
		Mathematics/Science Elective	4.0	5.0
		Credits	**16.0**	**17.0**

One elective must also satisfy the diversity requirement.
*Required courses for the program

64.0 Total Semester Hours Required

General Studies AA

Location: Clarinda and Council Bluffs

The General Studies A.A. program of study is designed for students who plan to transfer to a Bachelor of Arts degree program at a four-year institution. Graduates of this program are awarded an Associate of Arts (A.A.) degree.

Recommended Course Sequence

First Semester

SDV	108	*The College Experience		1.0
ENG	105	Composition I		3.0
		A.A. Mathematics Requirement (MAT 121-227)	3.0	4.0
		Social Science Elective		3.0
		Humanities Elective		3.0
		General Elective		3.0
		Credits	**16.0**	**17.0**

Second Semester

ENG	106	Composition II	3.0
		Mathematics/Science Elective	3.0
		Social Science Elective	3.0
		Humanities Elective	3.0
		General Elective	3.0
		Credits	**15.0**

Third Semester

SPC	112	Public Speaking **OR**	
SPC	122	Interpersonal Communication	3.0
		Lab Science Requirement	4.0
		Social Science Elective	3.0
		General Electives	6.0
		Credits	**16.0**

Fourth Semester

		Humanities Elective	3.0
		Distributed Requirement	3.0
		General Electives	11.0
		Credits	**17.0**

One elective must also satisfy the diversity requirement.
*Required courses for the program

64.0 Total Semester Hours Required

To ensure as seamless a transition to a four-year institution as possible, students are encouraged to check with the transfer institution when selecting courses.

General Studies AGS

Location: Council Bluffs

The General Studies A.G.S. program of study is designed for students who are exploring career and/or educational options. It may not fulfill requirements for transfer to a four-year institution. Graduates of this program are awarded an Associate of General Studies degree.

Recommended Course Sequence

First Semester

		A.G.S. Communications Requirement (ENG 105, ENG 106, ENG 110, ENG 111, SPC 112, and SPC 122)		3.0
		Social Science Elective		3.0
		A.G.S. Mathematics Requirement (MAT 110-227)	3.0	4.0
		General Electives		6.0
		Credits	**15.0**	**16.0**

Second Semester

		A.G.S. Communications Requirement (ENG 105, ENG 106, ENG 110, ENG 111, SPC 112, and SPC 122)	3.0
		Social Science Elective	3.0
		Lab Science Requirement	4.0
		Humanities Elective	3.0
		General Elective	3.0
		Credits	**16.0**

Third Semester

		A.G.S. Communications Requirement (ENG 105, ENG 106, ENG 110, ENG 111, SPC 112, and SPC 122)	3.0
		Social Science Elective	3.0
		Humanities Elective	3.0
		General Electives	6.0
		Credits	**15.0**

Fourth Semester

		General Electives	15.0
		Distributed Requirement	3.0
		Credits	**18.0**

One elective must also satisfy the diversity requirement.
*Required courses for the program

64.0 Total Semester Hours Required

General Studies AS

Location: Clarinda and Council Bluffs

The General Studies A.S. program of study is designed for students who plan to transfer to a Bachelor of Science degree program at a four-year institution. Graduates of this program are awarded an Associate of Science (A.S.) degree.

Recommended Course Sequence

First Semester

SDV	108	*The College Experience		1.0
ENG	105	Composition I		3.0
		A.S. Mathematics Requirement (MAT 121-227)	3.0	4.0
		Lab Science Requirement		4.0
		Social Science/Humanities Elective		3.0
		General Elective		2.0
		Credits	**16.0**	**17.0**

Second Semester

ENG	106	Composition II	3.0
		Mathematics/Science Electives	7.0
		Social Science/Humanities Elective	3.0
		General Elective	3.0
		Credits	**16.0**

Third Semester

SPC	112	Public Speaking **OR**	
SPC	122	Interpersonal Communication	3.0
		Mathematics/Science Elective	3.0
		Social Science/Humanities Elective	3.0
		General Electives	7.0
		Credits	**16.0**

Fourth Semester

		Mathematics/Science Elective	3.0
		Distributed Requirement	3.0
		General Electives	10.0
		Credits	**16.0**

One elective must also satisfy the diversity requirement.
*Required courses for the program

64.0 Total Semester Hours Required

To ensure as seamless a transition to a four-year institution as possible, students are encouraged to check with the transfer institution when selecting courses.

Graphic Communications

Location: Council Bluffs

The Graphic Communications program of study provides an exciting and rewarding career for graduates. Graphic Communications provides students with skills needed for graphic arts in printing and web development, and with basic skills in marketing and e-commerce. Due to the enormous growth factor and ever-expanding technological advances, countless opportunities exist for graduates. Graduates of this program are awarded an Associate of Applied Science (A.A.S.) degree.

Students must complete the curriculum described below:

Recommended Course Sequence

First Semester

GRA	137	Digital Design	3.0
GRA	173	Typography	3.0
JOU	110	Introduction to Mass Media	3.0
MKT	110	Principles of Marketing	3.0
ART	147	2-D and 3-D Foundations	3.0
		Credits	**15.0**

Second Semester

GRA	112	Introduction to Printing Technologies	3.0
GRA	121	Digital Drawing	3.0
GRA	949	Special Topics	1.0
MKT	150	Principles of Advertising	3.0
ENG	105	Composition I	3.0
ART	151	Design I	3.0
		Credits	**16.0**

Third Semester

GRA	140	Digital Imaging	3.0
GRA	949	Special Topics	1.0
BUS	154	E-business	3.0
SPC	122	Interpersonal Communication **OR**	
SPC	112	Public Speaking	3.0
CIS	207	Fundamentals of Web Programming **OR**	
BCA	184	Comprehensive Web Page Design Software	3.0
		Program Elective **	3.0
		A.A.S. Mathematics Requirement (MAT 110 or higher)	3.0
		Credits	**19.0**

Fourth Semester

GRA	949	Special Topics	1.0
MGT	195	Workplace Empowerment	3.0
GRA	908	Cooperative Education	3.0
		Program Electives **	6.0
		Social Science/Humanities Elective	3.0
		Credits	**16.0**

66.0 Total Semester Hours Required

**Program electives must be selected from the following courses or subjects:

Courses:
BCA 134 Word Processing 3
BCA 142 Spreadsheets 3
BCA 184 Comprehensive Web Page Design Software 3
BUS 102 Introduction to Business 3
BUS 121 Business Communications 3
BUS 130 Introduction to Entrepreneurship 3
ENG 106 Composition II 3
GRA 165 Digital 3-D 3
MKT 140 Principles of Selling 3
MKT 154 Visual Merchandising 3
MKT 184 Customer Service 3
MKT 198 Sports Marketing 3
MMS 113 Introduction to Media Production 3
PHI 142 Ethics in Business 3

Subjects:
ART Art
CIS Computer Programming
CSC Computer Science

Health & Human Performance

Location: Council Bluffs

The Health and Human Performance program of study is designed for transfer to four-year institutions with similar programs at the baccalaureate level. Students acquire fundamental knowledge and skills in physical fitness assessment, first-aid practices, health risk appraisal, and the principles of leisure and recreation. Students will also have the option to become a Certified Personal Trainer. Graduates of this program are awarded an Associate of Science (A.S.) degree.

Recommended Course Sequence

First Semester

BIO	151	*Nutrition		3.0
ENG	105	Composition I		3.0
PSY	210	*Sport and Exercise Psychology		3.0
PEH	102	*Health		3.0
		Mathematics/Science Elective	3.0	5.0
		Credits	**15.0**	**17.0**

Second Semester

PEH	142	*First Aid		3.0
BIO	157	Human Biology		4.0
ENG	106	Composition II		3.0
PEA	187	Weight Training I		1.0
		Social Science/Humanities Elective		3.0
		A.S. Mathematics Requirement (MAT 121-227)	3.0	4.0
		Credits	**17.0**	**18.0**

Third Semester

PEH	170	Principles of Weight Training	3.0
HSC	272	*Certified Personal Trainer	3.0
BIO	168	Human Anatomy and Physiology I with Labs	4.0
HSV	259	*Introduction to Chemical Dependency	3.0
		Social Science/Humanities Elective	3.0
		Credits	**16.0**

Fourth Semester

PSY	121	*Developmental Psychology	3.0
BIO	173	Human Anatomy and Physiology II with Labs	4.0
PEC	230	*Introduction to Sports Medicine	3.0
SPC	112	*Public Speaking	3.0
		Distributed Requirement	3.0
		Credits	**16.0**

One elective must also satisfy the diversity requirement.
*Required courses for the program

64.0 Total Semester Hours Required

Health Information Technology Certificate

Location: Council Bluffs

The Health Information Technology Certificate program of study prepares the student for an entry-level position in a medical office. The student will be exposed to health information technology in paper format as well as in electronic format. Graduates of this program are awarded a certificate.

Students must complete the curriculum described below:

Recommended Course Sequence

HSC	125	Survey of Anatomy for Allied Health	2.0
MAP	408	Medical Jurisprudence	2.0
MAP	124	Administrative Office Procedures	2.0
MAP	128	Introduction to Electronic Health Records	2.0
MAP	140	Principles of Medical Insurance	3.0
HSC	113	Medical Terminology	2.0
ENG	110	Writing For The Workplace	3.0
		Credits	**16.0**

16.0 Total Semester Hours Required

Human Services: Addictive Studies

Location: Council Bluffs

The Human Services Addictive Studies program of study prepares students to work in the field of chemical dependency counseling. Upon graduation, individuals will have met all the educational requirements to be certified as a Drug and Alcohol Counselor by the Iowa Board of Certification. Graduates of this program are awarded an Associate of Arts (A.A.) degree.

Recommended Course Sequence

First Semester

ENG	105	Composition I		3.0
PSY	111	Introduction to Psychology		3.0
HSV	259	*Introduction to Chemical Dependency		3.0
HSV	140	*Social Work and Social Welfare		3.0
		A.A. Mathematics Requirement (MAT 121-227)	3.0	4.0
		Credits	**15.0**	**16.0**

Second Semester

ENG	106	Composition II	3.0
SOC	110	Introduction to Sociology	3.0
HSV	225	*Interviewing and Counseling	3.0
HSV	131	*Fundamentals of Case Management	3.0
		Lab Science Requirement	4.0
		Credits	**16.0**

Summer

	Philosophy Elective	3.0
	Credits	**3.0**

Third Semester

SPC	112	Public Speaking	3.0
PSY	121	Developmental Psychology	3.0
HUM	287	*Leadership Development Studies	3.0
HSV	115	*Agency and Community Resources	3.0
HSV	226	*Fundamentals of Family Counseling	3.0
		Credits	**15.0**

Fourth Semester

PSY	241	*Abnormal Psychology	3.0
HSV	228	*Group Counseling Theories and Practices	3.0
HSV	275	*Human Services Capstone	1.0
HSV	802	*Internship	2.0
		Mathematics/Science Elective	3.0
		Humanities Elective	3.0
		Credits	**15.0**

One elective must also satisfy the diversity requirement.
*Required courses for the program

64.0 Total Semester Hours Required

Human Services: Generalist

Location: Council Bluffs

The Human Services Generalist program of study prepares students for careers and further study in the human services field. Upon graduation, students are prepared to begin working as a human services professional in such areas as: domestic violence, crisis intervention, child welfare, and with the elderly. Graduates of this program are awarded an Associate of Arts (A.A.) degree.

Recommended Course Sequence

First Semester

ENG	105	Composition I		3.0
PSY	111	Introduction to Psychology		3.0
HSV	259	*Introduction to Chemical Dependency		3.0
HSV	109	*Introduction to Human Services		3.0
		A.A. Mathematics Requirement (MAT 121-227)	3.0	4.0
		Credits	**15.0**	**16.0**

Second Semester

ENG	106	Composition II	3.0
SOC	110	Introduction to Sociology	3.0
HSV	225	*Interviewing and Counseling	3.0
HSV	131	*Fundamentals of Case Management	3.0
		Lab Science Requirement	4.0
		Credits	**16.0**

Summer

	Philosophy Elective	3.0
	Credits	**3.0**

Third Semester

SPC	112	Public Speaking	3.0
PSY	121	Developmental Psychology	3.0
HUM	287	*Leadership Development Studies	3.0
HSV	115	*Agency and Community Resources	3.0
		*Human Services Elective **	3.0
		Credits	**15.0**

Fourth Semester

HSV	275	*Human Services Capstone	1.0
HSV	802	*Internship	2.0
		Mathematics/Science Elective	3.0
		*Human Services Elective **	3.0
		Humanities Elective	3.0
		Social Science Elective	3.0
		Credits	**15.0**

One elective must also satisfy the diversity requirement.
*Required courses for the program

64.0 Total Semester Hours Required

**Human Services Electives must be selected from the following:

HSV 140 Social Work and Social Welfare 3
HSV 190 Youth Care Issues 3
HSV 226 Fundamentals of Family Counseling 3
HSV 228 Group Counseling Theories and Practices 3

Human Services: Pre-Social Work Transfer

Location: Council Bluffs

The Human Services Pre-Social Work program of study is designed for students intending to transfer to four-year institutions with social work programs accredited by the Council on Social Work Education. The Human Services Pre-Social Work curriculum stresses general education coursework. The program listed below is a recommended curriculum. However, students are encouraged to see their program advisor for specific course recommendations. Graduates of this program are awarded an Associate of Arts (A.A.) degree.

Recommended Course Sequence

First Semester

ENG	105	Composition I		3.0
PSY	111	Introduction to Psychology		3.0
MAT	121	College Algebra **OR**		
MAT	157	Statistics		4.0
ECN	120	Principles of Macroeconomics		3.0
HSV	140	*Social Work and Social Welfare		3.0
		Credits		**16.0**

Second Semester

ENG	106	Composition II		3.0
BIO	112	General Biology I		4.0
SOC	110	Introduction to Sociology		3.0
HSV	225	*Interviewing and Counseling		3.0
HSV	131	*Fundamentals of Case Management		3.0
		Credits		**16.0**

Summer

		Philosophy Elective		3.0
		Credits		**3.0**

Third Semester

SPC	112	Public Speaking		3.0
PSY	121	Developmental Psychology		3.0
HIS	152	U.S. History Since 1877		3.0
HUM	287	*Leadership Development Studies		3.0
HSV	115	*Agency and Community Resources		3.0
		Credits		**15.0**

Fourth Semester

POL	111	American National Government		3.0
HSV	228	*Group Counseling Theories and Practices		3.0
HSV	802	*Internship		2.0
		Humanities Elective		3.0
		Mathematics/Science Elective		3.0
		Credits		**14.0**

One elective must also satisfy the diversity requirement.
*Required courses for the program

64.0 Total Semester Hours Required

Human Services: Youth Worker

Location: Council Bluffs

The Human Services Youth Worker program of study prepares students to work with children and adolescents within a variety of settings such as residential treatment centers, group homes, runaway crisis shelters, hospital-based adolescent programs, and in juvenile detention centers. Graduates of this program are awarded an Associate of Arts (A.A.) degree.

Recommended Course Sequence

First Semester

ENG	105	Composition I		3.0
PSY	111	Introduction to Psychology		3.0
HSV	259	*Introduction to Chemical Dependency		3.0
HSV	109	*Introduction to Human Services		3.0
		A.A. Mathematics Requirement (MAT 121-227)	3.0	4.0
		Credits	**15.0**	**16.0**

Second Semester

ENG	106	Composition II		3.0
SOC	230	*Juvenile Delinquency		3.0
HSV	225	*Interviewing and Counseling		3.0
HSV	131	*Fundamentals of Case Management		3.0
		Lab Science Requirement		4.0
		Credits		**16.0**

Summer

		Philosophy Elective		3.0
		Credits		**3.0**

Third Semester

SPC	112	Public Speaking		3.0
PSY	121	Developmental Psychology		3.0
HUM	287	*Leadership Development Studies		3.0
HSV	115	*Agency and Community Resources		3.0
HSV	190	*Youth Care Issues		3.0
		Credits		**15.0**

Fourth Semester

PSY	224	*Adolescent Psychology		3.0
HSV	228	*Group Counseling Theories and Practices		3.0
HSV	802	*Internship		2.0
HSV	275	*Human Services Capstone		1.0
		Mathematics/Science Elective		3.0
		Humanities Elective		3.0
		Credits		**15.0**

One elective must also satisfy the diversity requirement.
*Required courses for the program

64.0 Total Semester Hours Required

Literature

Location: Clarinda and Council Bluffs

The Literature program of study prepares students to transfer to four-year colleges and universities to complete undergraduate majors in Literature and Communication Arts or pursue related fields in education. Students study American literature, fiction, poetry, and drama. Graduates of this program are awarded an Associate of Arts (A.A.) degree.

Recommended Course Sequence

First Semester

ENG	105	Composition I		3.0
		A.A. Mathematics Requirement (MAT 121-227)	3.0	4.0
		Social Science Elective		3.0
		Humanities Elective		3.0
CSC	110	Introduction to Computers		3.0
		Credits	**15.0**	**16.0**

Second Semester

ENG	106	Composition II	3.0
		Social Science Elective	3.0
		Humanities Elective	3.0
LIT	160	Short Story/Novel	3.0
DRA	101	Introduction to Theatre	3.0
		Literature Elective	3.0
		Credits	**18.0**

Third Semester

		Lab Science Requirement	4.0
		Social Science Elective	3.0
SPC	112	Public Speaking	3.0
		Humanities Elective	3.0
		Literature Elective	3.0
		Credits	**16.0**

Fourth Semester

SPC	122	Interpersonal Communication	3.0
LIT	134	Multicultural Literature	3.0
		Literature Electives	6.0
		Mathematics/Science Elective	3.0
		Credits	**15.0**

One elective must also satisfy the diversity requirement.
*Required courses for the program

64.0 Total Semester Hours Required

Must include 12 credits of Literature Electives.

Management & Human Resources

Location: Council Bluffs

The Management and Human Resources program of study is designed to develop entry-level supervisory, managerial, and personnel resource skills. Students develop a basic foundation in applicable business, supervision and fundamental management skills. Human relations, accounting, marketing, teams and quality fundamentals, problem solving, electronic commerce, communications, and specialized areas of employee training and evaluation, compensation and benefits, as well as labor/management relations are intended to provide a background to enhance an individual's success as a supervisor or personnel officer in business and industry. Graduates of this program are awarded an Associate of Applied Science (A.A.S.) degree.

Students must complete the curriculum described below:

Recommended Course Sequence

First Semester

BUS	102	Introduction to Business		3.0
CSC	110	Introduction to Computers **OR**		
BCA	212	Introduction to Computer Business Applications		3.0
MGT	101	Principles of Management		3.0
PSY	111	Introduction to Psychology		3.0
ENG	105	Composition I **OR**		
ENG	111	Technical Writing		3.0
		Social Science/Humanities Elective **		3.0
		Credits		**18.0**

Second Semester

MGT	130	Principles of Supervision	3.0
MGT	175	Introduction to Law for Managers and Supervisors	3.0
BUS	121	Business Communications	3.0
MGT	138	Employee Evaluation and Training Techniques	3.0
BUS	154	E-business	3.0
		A.A.S. Mathematics Requirement (MAT 110 or higher) ***	3.0
		Credits	**18.0**

Third Semester

ACC	111	Introduction to Accounting **OR**	
ACC	121	Principles of Accounting I	3.0
MGT	180	Management and Labor Relations	3.0
MGT	165	Principles of Quality	3.0
SPC	122	Interpersonal Communication	3.0
MKT	110	Principles of Marketing	3.0
MGT	190	Employee Compensation and Benefits Management	3.0
		Credits	**18.0**

Fourth Semester

MGT	170	Human Resource Management		3.0
ACC	311	Computer Accounting		3.0
SPC	112	Public Speaking		3.0
MGT	932	Internship ****	3.0	8.0
MGT	195	Workplace Empowerment		3.0
		Credits	**15.0**	**20.0**

69.0 Total Semester Hours Required

**SOC 115 or SOC 110 recommended.

***MAT 711 recommended.

****A minimum of three credits of internship are required.

Marketing

Location: Council Bluffs

The Marketing program of study provides students with an opportunity to develop a technical understanding of marketing/retail principles and procedures, merchandise selection/buying/distribution, entrepreneurship, and promotional concepts. Students further develop their management potential through extensive paid internships. Graduates of this program are awarded an Associate of Applied Science (A.A.S.) degree.

Students must complete the curriculum described below:

Recommended Course Sequence

First Semester

MKT	140	Principles of Selling	3.0
MKT	154	Visual Merchandising	3.0
MKT	163	Merchandising	3.0
MKT	185	Marketing Internship I	2.0
MKT	191	Seminar I: Career Options	1.0
		A.A.S. Communications Requirement (ENG 105, 110 or 111)	3.0
		Credits	**15.0**

Second Semester

MKT	165	Retail Management	3.0
BUS	130	Introduction to Entrepreneurship	3.0
MKT	150	Principles of Advertising	3.0
MKT	189	Marketing Internship II	2.0
MKT	193	Seminar II: Applications in Management	1.0
BCA	184	Comprehensive Web Page Design Software **OR**	
		Marketing/Business Elective *	3.0
		General Elective **	3.0
		Credits	**18.0**

Third Semester

MKT	110	Principles of Marketing	3.0
MKT	184	Customer Service	3.0
BUS	154	E-business	3.0
MKT	200	Marketing Intership III	2.0
MKT	196	Seminar III: Professional Development	1.0
MKT	101	Marketing Mathematics ***	3.0
		*Marketing/Business Elective	3.0
		Credits	**18.0**

Fourth Semester

MGT	170	Human Resource Management	3.0
MKT	190	International Marketing	3.0
BUS	121	Business Communications	3.0
MGT	195	Workplace Empowerment	3.0
		Social Science/Humanities Elective	3.0
		Credits	**15.0**

66.0 Total Semester Hours Required

**Computer science course recommended.

***May substitute with MAT 110 or higher.

*Marketing/Business Electives must be selected from the following:

ACC 111 Introduction to Accounting 3
ACC 121 Principles of Accounting I 3
ACC 122 Principles of Accounting II 3
APP 150 Clothing Selection 3
APP 210 Apparel Textiles 3
BUS 102 Introduction to Business 3
MGT 101 Principles of Management 3
MKT 198 Sports Marketing 3

Marketing Management

Location: Council Bluffs

The Marketing Management program of study prepares graduates to perform basic marketing functions in industrial, wholesale, retail, and service areas. Students learn the principles of marketing and marketing management, including sales, advertising, communication, business mathematics, and computer skills. Graduates of this program are awarded an Associate of Arts (A.A.) degree.

Recommended Course Sequence

First Semester

MKT	140	*Principles of Selling		3.0
MKT	110	*Principles of Marketing		3.0
MGT	101	*Principles of Management		3.0
ENG	105	Composition I		3.0
ECN	120	Principles of Macroeconomics		3.0
		Credits		**15.0**

Second Semester

MKT	150	*Principles of Advertising		3.0
		*Marketing/Business Elective **		3.0
ECN	130	Principles of Microeconomics		3.0
ENG	106	Composition II		3.0
		A.A. Mathematics Requirement (MAT 121-227)	3.0	4.0
		Credits	**15.0**	**16.0**

Third Semester

SPC	112	Public Speaking	3.0
		Mathematics/Science Elective	3.0
		Social Science Elective	3.0
		Humanities Elective	3.0
		Distributed Requirement	3.0
		*Marketing/Business Elective **	3.0
		Credits	**18.0**

Fourth Semester

MKT	190	*International Marketing	3.0
MGT	170	*Human Resource Management	3.0
		Lab Science Requirement	4.0
		Humanities Electives	6.0
		Credits	**16.0**

One elective must also satisfy the diversity requirement.
*Required courses for the program

64.0 Total Semester Hours Required

**Marketing/Business Electives must be selected from the following:

ACC 121 Principles of Accounting I 3
ACC 122 Principles of Accounting II 3
BUS 121 Business Communications 3
BUS 154 E-business 3
BUS 130 Introduction to Entrepreneurship 3
MKT 154 Visual Merchandising 3
MKT 185 Marketing Internship I 2
MKT 189 Marketing Internship II 2
MKT 200 Marketing Internship III 2

Marketing: Fashion

Location: Council Bluffs

The Marketing program of study, Fashion Marketing Option, prepares students to be employed as store managers and assistant managers, department coordinators, fashion coordinators, and consultants. This program provides students with on-the-job training and knowledge of retailing operations as well as specialized courses in textiles and clothing selection. A highlight of this program is a study tour to a fashion center. Graduates of this program are awarded an Associate of Applied Science (A.A.S.) degree.

Students must complete the curriculum described below:

Recommended Course Sequence

First Semester

MKT	140	Principles of Selling	3.0
MKT	154	Visual Merchandising	3.0
MKT	163	Merchandising	3.0
MKT	185	Marketing Internship I	2.0
MKT	191	Seminar I: Career Options	1.0
		A.A.S. Communications Requirement (ENG 105, 110 or 111)	3.0
		Credits	**15.0**

Second Semester

MKT	165	Retail Management	3.0
BUS	130	Introduction to Entrepreneurship	3.0
MKT	150	Principles of Advertising	3.0
APP	150	Clothing Selection	3.0
MKT	189	Marketing Internship II	2.0
MKT	193	Seminar II: Applications in Management	1.0
		General Elective *	3.0
		Credits	**18.0**

Third Semester

MKT	110	Principles of Marketing	3.0
MKT	184	Customer Service	3.0
BUS	154	E-business	3.0
MKT	200	Marketing Intership III	2.0
MKT	196	Seminar III: Professional Development	1.0
		Social Science/Humanities Elective	3.0
MKT	101	Marketing Mathematics **	3.0
		Credits	**18.0**

Fourth Semester

MGT	170	Human Resource Management	3.0
APP	210	Apparel Textiles	3.0
BUS	121	Business Communications	3.0
MGT	195	Workplace Empowerment	3.0
MKT	190	International Marketing	3.0
		Credits	**15.0**

66.0 Total Semester Hours Required

*Computer science course recommended.

**May substitute with MAT 110 or higher.

Marketing: Lodging & Hospitality Management

Location: Council Bluffs

The Marketing program of study, Lodging and Hospitality Management Option, provides students an opportunity to develop a technical understanding of the hospitality industry as a whole. This program option takes a global look at hotels, clubs and restaurants from a management viewpoint. It covers some of today's hottest hospitality management issues, including diversity, retention, TQM, harassment, leadership, and ADA. Other features include business ethics, the managers' responsibilities regarding meetings and conventions, human resources, marketing and sales, franchising, and more. Graduates of this program are awarded an Associate of Applied Science (A.A.S.) degree.

Students must complete the curriculum described below:

Recommended Course Sequence

First Semester

HCM	598	Hotel Front Office Management	3.0
MKT	140	Principles of Selling	3.0
MKT	110	Principles of Marketing	3.0
MKT	185	Marketing Internship I	2.0
MKT	191	Seminar I: Career Options	1.0
		A.A.S. Communications Requirement (ENG 105, 110 or 111)	3.0
		Credits	**15.0**

Second Semester

HCM	310	Hospitality Law	3.0
MGT	170	Human Resource Management	3.0
MKT	189	Marketing Internship II	2.0
MKT	193	Seminar II: Applications in Management	1.0
MKT	165	Retail Management	3.0
		General Elective *	3.0
		Marketing/Business Elective **	3.0
		Credits	**18.0**

Third Semester

MGT	101	Principles of Management	3.0
MKT	101	Marketing Mathematics ***	3.0
MKT	184	Customer Service	3.0
BUS	154	E-business	3.0
MKT	200	Marketing Intership III	2.0
MKT	196	Seminar III: Professional Development	1.0
		Social Science/Humanities Elective	3.0
		Credits	**18.0**

Fourth Semester

MKT	150	Principles of Advertising	3.0
BCA	184	Comprehensive Web Page Design Software **OR**	
		Marketing/Business Elective **	3.0
BUS	121	Business Communications	3.0
MGT	195	Workplace Empowerment	3.0
MKT	190	International Marketing	3.0
		Credits	**15.0**

66.0 Total Semester Hours Required

*Computer science course recommended.
***May substitute with MAT 110 or higher.

Marketing/Business Electives must be selected from the following:

ACC 111 Introduction to Accounting 3
ACC 121 Principles of Accounting I 3
ACC 122 Principles of Accounting II 3
BUS 102 Introduction to Business 3
BUS 130 Introduction to Entrepreneurship 3
MKT 154 Visual Merchandising 3
MKT 163 Merchandising 3
MKT 198 Sports Marketing 3

Marketing: Sports

Location: Council Bluffs

The Sports Marketing program is designed to provide preparation for marketing positions with professional sports teams, college and university intercollegiate programs, intramural and recreation programs, and sports stadiums and arenas. The program is designed to transfer to a four-year institution. Graduates of this program are awarded an Associate of Arts (A.A.) degree.

Recommended Course Sequence

First Semester

ENG	105	Composition I		3.0
CSC	110	Introduction to Computers		3.0
MKT	140	*Principles of Selling		3.0
MKT	110	*Principles of Marketing		3.0
		A.A. Mathematics Requirement (MAT 121-227)	3.0	4.0
		Credits	**15.0**	**16.0**

Second Semester

ENG	106	Composition II	3.0
MKT	150	*Principles of Advertising	3.0
MKT	198	*Sports Marketing	3.0
		Humanities Elective	3.0
		Mathematics/Science Elective	3.0
		Credits	**15.0**

Third Semester

SPC	112	Public Speaking	3.0
PHI	142	Ethics in Business	3.0
ECN	120	Principles of Macroeconomics	3.0
		Distributed Requirement	3.0
		Lab Science Requirement	4.0
		Credits	**16.0**

Fourth Semester

MKT	190	*International Marketing	3.0
ECN	130	Principles of Microeconomics	3.0
		Humanities Elective	3.0
		*Marketing/Business Electives **	6.0
		Social Science Elective	3.0
		Credits	**18.0**

One elective must also satisfy the diversity requirement.
*Required courses for the program

64.0 Total Semester Hours Required

**Marketing/Business Electives must be selected from the following:

ACC 121 Principles of Accounting I 3
ACC 122 Principles of Accounting II 3
BCA 184 Comprehensive Webpage Design Software 3
BUS 102 Introduction to Business 3
MGT 101 Principles of Management 3
MKT 184 Customer Service 3
MKT 300 Sports Marketing Internship 1-8

Mathematics

Location: Council Bluffs and Clarinda

The Mathematics program of study prepares students to transfer to a baccalaureate program in mathematics. Students also have the mathematics prerequisite needed for science classes at the junior and senior level. Graduates of this program are awarded an Associate of Science (A.S.) degree.

Recommended Course Sequence

First Semester

MAT	211	*Calculus I	5.0
ENG	105	Composition I	3.0
		*Science Elective with Lab	5.0
		General Elective	3.0
		Credits	**16.0**

Second Semester

MAT	217	*Calculus II	5.0
ENG	106	Composition II	3.0
		Social Science Elective	3.0
		General Electives	6.0
		Credits	**17.0**

Third Semester

MAT	220	*Calculus III	5.0
SPC	112	Public Speaking	3.0
		Humanities Elective	3.0
		General Elective	3.0
		Credits	**14.0**

Fourth Semester

MAT	225	*Differential Equations **OR**		
MAT	227	*Elementary Differential Equations with Laplace Transforms	3.0	4.0
MAT	157	*Statistics		4.0
		Social Science/Humanities Elective		3.0
		General Electives		6.0
		Credits	**16.0**	**17.0**

One elective must also satisfy the diversity requirement.
*Required courses for the program

64.0 Total Semester Hours Required

Media Studies: Media Production

Location: Council Bluffs

The Applied Electronic Media Studies: Media Production program of study will focus on all aspects of storytelling as it relates to video production and distribution (i.e. cable, web, and new media applications). The program is highly specialized and allows for students to work in multiple video production platforms found in all media environments today. Graduates of this program are awarded an Associate of Applied Science (A.A.S.) degree.

Students must complete the curriculum described below:

Recommended Course Sequence

First Semester

JOU	110	Introduction to Mass Media		3.0
MMS	113	Introduction to Media Production		3.0
ENG	105	Composition I		3.0
SPC	112	Public Speaking		3.0
BCA	155	Introduction to Web Design		3.0
		Credits		**15.0**

Second Semester

MMS	114	Media Production II		3.0
		A.A.S. Mathematics Requirement (MAT 110 or higher)		3.0
MMS	134	Media Writing		3.0
MMS	204	New Media Production		3.0
MMS	296	Video Practicum I		1.0
		Social Science/Humanities Elective		3.0
		Credits		**16.0**

Third Semester

MMS	231	Advanced Video Production I		3.0
MMS	190	Broadcast Promotions		3.0
MMS	291	Video Cooperative Education		3.0
		Electronic Media Studies Elective **		3.0
MMS	297	Video Practicum II		1.0
HUM	122	American Film		3.0
		Credits		**16.0**

Fourth Semester

MMS	150	Electronic News Writing		3.0
MMS	232	Advanced Video Production II		3.0
MMS	301	Video Practicum III		2.0
		Electronic Media Studies Electives **		6.0
MGT	195	Workplace Empowerment		3.0
		Credits		**17.0**

64.0 Total Semester Hours Required

**Electronic Media Studies electives must be selected from the following:

GRA 140 Digital Imaging 3
GRA 165 Digital 3-D 3
MKT 110 Principles of Marketing 3
MKT 150 Principles of Advertising 3
MMS 123 Electronic Media Performance 3
MMS 135 Copy Writing 3
MMS 260 Electronic Media Sales and Management 3
MMS 291 Video Cooperative Education 3

Media Studies: Radio Performance & Production

Location: Council Bluffs

The Applied Electronic Media Studies: Radio Broadcasting Performance and Production program of study allows students to work with professional radio personnel and learn how to develop the skills needed to move directly into the radio industry after graduation. The program features extensive work in the areas of on-air performance, vocal and personality development, and production. In addition, the program includes general coursework in promotions, sales and management, news writing, maintaining web sites, and programming. Students enhance their classroom experience through participation in station operations at KIWR-FM, 89.7 The River. Graduates of this program are awarded an Associate of Applied Science (A.A.S.) degree.

Students must complete the curriculum described below:

Recommended Course Sequence

First Semester

JOU	110	Introduction to Mass Media		3.0
MMS	105	Audio Production		3.0
MMS	340	Radio Practicum I		1.0
MMS	123	Electronic Media Performance		3.0
SPC	112	Public Speaking		3.0
ENG	105	Composition I		3.0
		Credits		**16.0**

Second Semester

MMS	341	Radio Practicum II		1.0
MMS	135	Introduction to Copy Writing		3.0
MMS	205	Advanced Audio Production		3.0
MMS	190	Broadcast Promotions		3.0
		Electronic Media Studies Elective **		3.0
MMS	261	Programming for the Electronic Media		3.0
		Credits		**16.0**

Third Semester

MMS	342	Radio Practicum III		1.0
MMS	223	Advanced Radio Performance		3.0
BCA	155	Introduction to Web Design		3.0
		Social Science/Humanities Elective		3.0
		Electronic Media Studies Elective **		3.0
		A.A.S. Mathematics Requirement (MAT 110 or higher)		3.0
		Credits		**16.0**

Fourth Semester

MMS	150	Electronic News Writing		3.0
MMS	343	Radio Practicum IV		1.0
MMS	260	Electronic Media Sales and Management		3.0
MMS	290	Radio Cooperative Education		3.0
		Electronic Media Studies Elective **		3.0
MGT	195	Workplace Empowerment		3.0
		Credits		**16.0**

64.0 Total Semester Hours Required

**Electronic Media Studies electives must be selected from the following (minimum of 9 hours):

BCA 184 Comprehensive Web Page Design Software 3
GRA 140 Digital Imaging 3
JOU 211 Ethics in the Media 3
MGT 130 Principles of Supervision 3
MKT 110 Principles of Marketing 3
MKT 140 Principles of Selling 3
MMS 151 Fall Sports Announcing 3
MMS 152 Spring Sports Announcing 3
MMS 153 Summer Sports Announcing 3
MMS 344 Radio Practicum V 1
MMS 345 Radio Practicum VI 1
MUS 305 Introduction to Audio 3
MUS 306 Digital Audio Production I 3
SPC 140 Oral interpretation 3

Media Studies: Radio Promotions, Sales & Web

Location: Council Bluffs

The Applied Electronic Media Studies: Radio Broadcasting Promotions, Sales and Web program of study features extensive coursework in the areas of sales, management, promotions and web design. The program allows students to work with professional radio personnel to enable graduates to move directly into the radio industry. Cousework includes intensive work in sales, marketing, management, promotions and web design. The program also features general coursework in production, radio performance and announcing, and programming. Students enhance their classroom experience through participation in station operations at KIWR-FM, 89.7 The River. Graduates of this program are awarded an Associate of Applied Science (A.A.S.) degree.

Students must complete the curriculum described below:

Recommended Course Sequence

First Semester

JOU	110	Introduction to Mass Media		3.0
MMS	105	Audio Production		3.0
MMS	340	Radio Practicum I		1.0
MMS	123	Electronic Media Performance		3.0
SPC	112	Public Speaking		3.0
ENG	105	Composition I		3.0
		Credits		**16.0**

Second Semester

MMS	135	Introduction to Copy Writing		3.0
MMS	190	Broadcast Promotions		3.0
MMS	261	Programming for the Electronic Media		3.0
		Electronic Media Studies Elective **		3.0
BCA	155	Introduction to Web Design		3.0
		Credits		**15.0**

Third Semester

MKT	110	Principles of Marketing		3.0
GRA	140	Digital Imaging		3.0
		Electronic Media Studies Elective **		3.0
MGT	130	Principles of Supervision		3.0
MKT	140	Principles of Selling		3.0
		A.A.S. Mathematics Requirement (MAT 110 or higher)		3.0
		Credits		**18.0**

Fourth Semester

MMS	260	Electronic Media Sales and Management		3.0
MMS	290	Radio Cooperative Education		3.0
		Electronic Media Studies Elective **		3.0
		Social Science/Humanities Elective		3.0
MGT	195	Workplace Empowerment		3.0
		Credits		**15.0**

64.0 Total Semester Hours Required

**Electronic Media Studies electives must be selected from the following (minimum of 9 hours):

BCA Comprehensive Web Page Design Software 3
CIS 207 Fundamentals of Web Programming 3
CIS 227 Advanced Web Design 3
JOU 211 Ethics in Media 3
MMS 150 Electronic News Writing 3
MMS 151 Fall Sports Announcing 3
MMS 152 Spring Sports Announcing 3
MMS 153 Summer Sports Announcing 3
MMS 205 Advanced Audio Production 3
MMS 223 Advanced Radio Performance 3
MMS 341 Radio Practicum II 1
MMS 342 Radio Practicum III 1
MMS 343 Radio Practicum IV 1

Media Studies: Radio/Television/Video

Location: Council Bluffs

The Electronic Media Studies: Radio/Television/Video program of study is designed as a transfer program with basic core courses in all aspects of the broadcast industry. The program coursework contains both strong theoretical and practical applications. Graduates of this program are awarded an Associate of Arts (A.A.) degree.

Recommended Course Sequence

First Semester

JOU	110	*Introduction to Mass Media		3.0
MMS	105	*Audio Production OR**		
MMS	113	*Introduction to Media Production		3.0
ENG	105	Composition I		3.0
SPC	112	*Public Speaking		3.0
		Humanities Elective		3.0
		Credits		**15.0**

Second Semester

MMS	135	*Introduction to Copy Writing		3.0
MMS	150	*Electronic News Writing		3.0
ENG	106	Composition II		3.0
MMS	296	*Video Practicum I OR**		
MMS	340	*Radio Practicum I		1.0
		Social Science Elective		3.0
		Mathematics/Science Elective		3.0
		Credits		**16.0**

Third Semester

MMS	123	*Electronic Media Performance		3.0
		*Electronic Media Studies Elective ***		3.0
		Social Science Elective		3.0
		A.A. Mathematics Requirement (MAT 121-227)	3.0	4.0
		Humanities Elective		3.0
		Credits	**15.0**	**16.0**

Fourth Semester

MMS	260	*Electronic Media Sales and Management		3.0
		Humanities Elective		3.0
		*Electronic Media Studies Elective ***		3.0
		Lab Science Requirement		4.0
		Distributed Requirement		3.0
		Social Science Elective		3.0
		Credits		**19.0**

One elective must also satisfy the diversity requirement.
*Required courses for the program

65.0 Total Semester Hours Required

**Radio students must take Audio Production and Radio Practicum I. Video/Television students must take Introduction to Media Production and Video Practicum I.

***Electronic Media Studies electives must be selected from the following:

BCA 155 Introduction to Web Design 3
BCA 184 Comprehensive Web Page Design Software 3
BCA 212 Introduction to Computer Business Applications 3
CSC 110 Introduction to Computers 3
HUM 122 American Film 3
MMS 114 Media Production II 3
MMS 134 Media Writing 3
MMS 204 New Media Production 3
MMS 205 Advanced Audio Production 3
MMS 231 Advanced Video Production I 3
MMS 232 Advanced Video Production II 3
MMS 290 Radio Cooperative Education 3
MMS 291 Video Cooperative Education 3

Media Studies: Sports Media Technology

Location: Council Bluffs

The Applied Electronic Media Studies: Sports Media Technology program of study prepares students to be employed as sports media specialists. The two-year program provides students the opportunity to explore and hone their skills in the sports media industry. Students work to develop skills in radio, video and sports journalism. Upon completion of the program, students are awarded an Associate of Applied Science (A.A.S.) degree.

Students must complete the curriculum described below:

Recommended Course Sequence

First Semester

ENG	105	Composition I **OR**		
ENG	111	Technical Writing		3.0
MMS	105	Audio Production		3.0
MMS	123	Electronic Media Performance		3.0
MMS	113	Introduction to Media Production		3.0
MMS	146	Sports Information and Copywriting		3.0
MMS	306	Sports Media Practicum I		1.0
		Credits		**16.0**

Second Semester

MMS	134	Media Writing		3.0
		A.A.S. Mathematics Requirement (MAT 110 or higher)		3.0
MMS	152	Spring Sports Announcing		3.0
MMS	107	Sports Production I - Visual		3.0
		Electronic Media Studies Elective **		3.0
MMS	307	Sports Media Practicum II		1.0
		Credits		**16.0**

Third Semester

JOU	110	Introduction to Mass Media		3.0
BCA	155	Introduction to Web Design		3.0
MMS	108	Sports Production II - Audio		3.0
MKT	110	Principles of Marketing		3.0
		Electronic Media Studies Elective **		3.0
MMS	308	Sports Media Practicum III		1.0
		Credits		**16.0**

Fourth Semester

		Social Science/Humanities Elective		3.0
MGT	195	Workplace Empowerment		3.0
MMS	109	Sports Production III		3.0
MKT	198	Sports Marketing		3.0
MMS	930	Sports Media Internship		3.0
MMS	309	Sports Media Practicum IV		1.0
		Credits		**16.0**

64.0 Total Semester Hours Required

**Electronic Media Studies electives must be selected from the following:

BCA 184 Comprehensive Web Page Design Software 3
GRA 140 Digital Imaging 3
JOU 211 Ethics in Media 3
MMS 114 Media Production II 3
MMS 151 Fall Sports Announcing 3
MMS 153 Summer Sports Announcing 3
MMS 204 New Media Production 3
MMS 223 Advanced Radio Performance 3

Medical Assistant

Location: Council Bluffs

The Medical Assistant program serves "to prepare competent entry-level medical assistants in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains,"; preparing students to be employed as administrative and clinical assistants in a medical provider's office. The ten-month program includes practical experience of 190 unpaid practicum hours in a provider's office. Upon completion, students are eligible to take the American Association of Medical Assistants (AAMA) examination to become a Certified Medical Assistant (CMA, AAMA). Graduates of this program are awarded a diploma. The Medical Assistant Program at Iowa Western Community College is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), on recommendation of the Medical Assistant Education Review Board (MAERB). For more information, contact the Commission on Accreditation of Allied Health Education Programs (CAAHEP) at this address: 1361 Park Street, Clearwater, FL 33756. Phone (727) 210-2350. http://www.maerb.org.

Students must complete the curriculum described below:

Recommended Course Sequence

First Semester

HSC	126	Anatomy for Allied Health		4.0
MAP	124	Administrative Office Procedures		2.0
MAP	333	Fundamentals of Medical Assisting I		4.0
HSC	113	Medical Terminology		2.0
MAP	408	Medical Jurisprudence		2.0
CSC	110	Introduction to Computers **OR**		
BCA	212	Introduction to Computer Business Applications		3.0
		Communications Requirement (ENG 105, 110 or 111)		3.0
		Credits		**20.0**

Second Semester

MAP	215	Medical Laboratory Techniques		4.0
MAP	338	Fundamentals of Medical Assisting II		4.0
MAP	140	Principles of Medical Insurance		3.0
MAP	128	Introduction to Electronic Health Records		2.0
MAP	514	Basics of Pharmacology		3.0
		Psychology Elective		3.0
		Credits		**19.0**

Summer

MAP	612	Medical Assistant Externship		3.0
MAP	601	Medical Assistant Seminar		1.0
		Credits		**4.0**

43.0 Total Semester Hours Required

Microbiology Transfer

Location: Council Bluffs and Clarinda

The Microbiology Transfer program of study provides the student with the first two years of an Iowa State University baccalaureate degree in microbiology. This program meets requirements for the first two years of the Iowa State University microbiology major. Graduates of this program are awarded an Associate of Science (A.S.) degree.

Recommended Course Sequence

First Semester

ENG	105	Composition I		3.0
BIO	112	*General Biology I		4.0
CHM	166	*General Chemistry I		5.0
		Social Science Elective		3.0
		Credits		**15.0**

Second Semester

ENG	106	Composition II		3.0
BIO	113	*General Biology II		4.0
CHM	176	*General Chemistry II		5.0
MAT	157	*Statistics		4.0
PHI	105	Introduction to Ethics		3.0
		Credits		**19.0**

Third Semester

SPC	112	Public Speaking		3.0
CHM	263	*Organic Chemistry I		5.0
BIO	157	Human Biology		4.0
		Social Science/Humanities Electives		6.0
		Credits		**18.0**

Fourth Semester

BIO	186	*Microbiology		4.0
CHM	273	*Organic Chemistry II		5.0
		Social Science/Humanities Elective		3.0
		Credits		**12.0**

One elective must also satisfy the diversity requirement.
*Required courses for the program

64.0 Total Semester Hours Required

Music

Location: Council Bluffs

The Music program of study prepares students to transfer credits to the music programs of four-year colleges and universities. Students majoring in vocal or instrumental music acquire knowledge of sight singing and ear training, music theory and performance. Graduates of this program are awarded an Associate of Arts (A.A.) degree.

Recommended Course Sequence

First Semester

MUS	400	*Music in Theory and Practice I		3.0
MUS	410	*Ear Training and Sight Singing I		1.0
MUA	119	*Class Piano I		1.0
		*Applied Voice I OR Instrument I		2.0
		*Ensemble **		1.0
ENG	105	Composition I		3.0
		A.A. Mathematics Requirement (MAT 121-227)	3.0	4.0
MUS	100	Music Appreciation		3.0
		Credits	**17.0**	**18.0**

Second Semester

MUS	401	*Music in Theory and Practice II		3.0
MUS	411	*Ear Training and Sight Singing II		1.0
MUA	219	*Class Piano II		1.0
		*Applied Voice II OR Instrument II		2.0
		*Ensemble **		1.0
ENG	106	Composition II		3.0
SPC	112	Public Speaking		3.0
PSY	121	Developmental Psychology		3.0
		Credits		**17.0**

Third Semester

MUS	402	*Music in Theory and Practice III		3.0
MUS	412	*Ear Training and Sight Singing III		1.0
MUA	225	*Class Piano III		1.0
		*Applied Voice III OR Instrument III		2.0
		*Ensemble **		1.0
		Lab Science Requirement		4.0
		Mathematics/Science Elective		3.0
		Credits		**15.0**

Fourth Semester

MUS	403	*Music in Theory and Practice IV		3.0
MUS	413	*Ear Training and Sight Singing IV		1.0
MUA	235	*Class Piano IV		1.0
		*Applied Voice IV OR Instrument IV		2.0
		*Ensemble **		1.0
		Psychology Elective		3.0
		History Elective		3.0
		Music Elective		1.0
		Credits		**15.0**

One elective must also satisfy the diversity requirement.
*Required courses for the program

64.0 Total Semester Hours Required

Students must choose one of the following areas of ensemble concentration and take all of the courses for that area of concentration:

Concert Choir
MUS 134 Concert Choir I 1
MUS 141 Concert Choir II 1
MUS 142 Concert Choir III 1
MUS 240 Concert Choir IV 1

Jazz Ensemble
MUS 124 Instrumental Jazz Ensemble I 1
MUS 182 Instrumental Jazz Ensemble II 1
MUS 183 Instrumental Jazz Ensemble III 1
MUS 184 Instrumental Jazz Ensemble IV 1

Marching/Concert Band
MUS 131 Concert Band I 1
MUS 370 Marching Band I 1
MUS 371 Marching Band II 1
MUS 245 Concert Band II 1

Music: Technical Music AA Option

Location: Council Bluffs

The Technical Music program is designed to prepare students for all phases of music, including music theory, sight singing and ear training, and performance skills. In addition to receiving traditional music training, this program will also introduce aspects of live music production and digital audio recording to enable students to deliver a perfect performance to an audience. Graduates of this program are awarded an Associate of Arts (A.A.) degree.

Recommended Course Sequence

First Semester

MUS	305	*Introduction to Audio		3.0
MUS	306	*Digital Audio Production I		3.0
MUS	400	*Music in Theory and Practice I		3.0
MUS	410	*Ear Training and Sight Singing I		1.0
MUA	119	*Class Piano I		1.0
ENG	105	Composition I		3.0
		A.A. Mathematics Requirement (MAT 121-227)	3.0	4.0
		Credits	**17.0**	**18.0**

Second Semester

MUS	307	*Digital Audio Production II		3.0
MUS	401	*Music in Theory and Practice II		3.0
MUS	411	*Ear Training and Sight Singing II		1.0
MUA	219	*Class Piano II		1.0
ENG	106	Composition II		3.0
SPC	112	Public Speaking		3.0
		American History Elective		3.0
		Credits		**17.0**

Third Semester

MUS	330	*Audio Mixing I		3.0
MUS	402	*Music in Theory and Practice III		3.0
MUS	412	*Ear Training and Sight Singing III		1.0
MUA	225	*Class Piano III		1.0
		*Ensemble		1.0
		Lab Science Requirement		4.0
PSY	121	Developmental Psychology		3.0
		Credits		**16.0**

Fourth Semester

MUS	310	*Recording Project I		1.0
MUS	403	*Music in Theory and Practice IV		3.0
MUS	413	*Ear Training and Sight Singing IV		1.0
MUA	235	*Class Piano IV		1.0
		Psychology Elective		3.0
		Mathematics/Science Elective		3.0
		Non-Music Humanities Elective		3.0
		Credits		**15.0**

One elective must also satisfy the diversity requirement.
*Required courses for the program

65.0 Total Semester Hours Required

Music: Technical Music AAS Option

Location: Council Bluffs

The Technical Music Associate of Applied Science (AAS) program is designed to prepare students for a wide variety of opportunities in the music industry and media production. This program is designed as a two-year terminal degree with no option to transfer to a four-year university. Graduates can go on to become live audio engineers, own and operate their own studio as recording and mixing engineers, or apply their music and audio skills to post-production by understanding audio for other media such as video, video games, and the web. Graduates of this degree are awarded an Associate of Applied Science (A.A.S.) degree.

Students must complete the curriculum described below:

Recommended Course Sequence

First Semester

MUS	102	Music Fundamentals	3.0
MUS	305	Introduction to Audio	3.0
MUS	306	Digital Audio Production I	3.0
MUS	320	Technical Music Practicum I	1.0
ENG	110	Writing For The Workplace **OR**	
ENG	105	Composition I	3.0
		A.A.S. Mathematics Requirement (MAT 110 or higher)	3.0
		Credits	**16.0**

Second Semester

MUS	307	Digital Audio Production II	3.0
MUS	325	Mix Listening I	3.0
MUS	328	Virtual Instrument and Processing Plug-Ins	3.0
MUS	310	Recording Project I	1.0
MUS	321	Technical Music Practicum II	1.0
MKT	110	Principles of Marketing	3.0
		Credits	**14.0**

Third Semester

MUS	311	Recording Project II	1.0
MUS	326	Mix Listening II	3.0
MUS	330	Audio Mixing I	3.0
MUS	333	Popular Music Analysis	3.0
MUS	322	Technical Music Practicum III	1.0
BCA	155	Introduction to Web Design	3.0
BUS	130	Introduction to Entrepreneurship	3.0
		Credits	**17.0**

Fourth Semester

MUS	312	Recording Project III	1.0
MUS	331	Audio Mixing II	3.0
MUS	335	Audio Mastering	3.0
MUS	323	Technical Music Practicum IV	1.0
MUS	935	Technical Music Internship	3.0
MGT	195	Workplace Empowerment	3.0
		Social Science Elective	3.0
		Credits	**17.0**

64.0 Total Semester Hours Required

Nursing Assistant Certificate

Location: Council Bluffs

The Nursing Assistant Certificate program of study prepares students for entry level positions in healthcare. The curriculum exposes students to processes, vocabulary and an overview of the healthcare field. Upon completion of this program, students are eligible to take the Nurse Aide written and skills tests and become certified as a Certified Nurse Aid (CNA). Graduates of this program are awarded a certificate.

Students must complete the curriculum described below:

Recommended Course Sequence

HSC	126	Anatomy for Allied Health	4.0
HSC	113	Medical Terminology	2.0
MAP	408	Medical Jurisprudence	2.0
ENG	110	Writing For The Workplace	3.0
HSC	172	Nurse Aide	3.0
HSC	105	Introduction to Healthcare Occupations	1.0
PEH	130	CPR and First Aid in the Workplace	1.0
		Credits	**16.0**

16.0 Total Semester Hours Required

Nursing: Advanced Placement Associate Degree

Location: Council Bluffs

The Advanced Placement Associate Degree Nursing program of study is designed specifically for the practicing LPN. This program prepares students in role transition from LPN to RN, building on existing nursing foundations. With a curriculum designed to encompass care of individuals and families through the life span, theory and clinical are enhanced through the use of the nursing process. Graduates of the program are awarded an Associate of Applied Science (A.A.S.) degree. They are eligible for the NCLEX-RN exam and are prepared to function in all areas of nursing.

Program Prerequisite: Current, valid Practical Nursing License.

General Education Courses that must be completed prior to first semester of nursing:
BIO 168 Human Anatomy and Physiology I with Labs 4
BIO 173 Human Anatomy and Physiology II with Labs 4
PSY 111 Introduction to Psychology 3
ENG 105 Composition I 3
BIO 151 Nutrition 3
SPC 112 Public Speaking 3
PSY 121 Developmental Psychology 3
SOC 110 Introduction to Sociology 3
BIO 186 Microbiology 4
MGT 195 Workplace Empowerment 3

Students must complete the curriculum described below:

Recommended Course Sequence

First Semester

ADN	131	Bridging LPN to ADN, Theory and Laboratory **	2.0
ADN	133	Health Assessment Across the Life Span	1.5
ADN	631	Nursing Care Through the Life Span III	4.0
ADN	132	Professional Topics III	1.0
		Credits	**8.5**

Second Semester

ADN	222	Pharmacology	3.0
ADN	632	Nursing Care Through the Life Span IV	8.5
ADN	320	Professional Topics IV	1.0
		Credits	**12.5**

Third Semester

ADN	633	Nursing Care Through the Life Span V	10.0
ADN	330	Professional Topics V	1.0
		Credits	**11.0**

65.0 Total Semester Hours Required

**Iowa Western Community College PNN graduates do not need to complete this course.

Courses with ADN prefix must be completed in the sequence listed above. Students must earn a "C" or higher in all required courses in order to graduate.

Nursing: Associate Degree Nursing

Location: Clarinda and Council Bluffs

The Associate Degree Nursing program of study prepares students to deliver safe patient care in simple and complex situations. Learners focus on acquiring a knowledge base in basic sciences, oral and written communication, human behavior, and social sciences. These courses form a foundation for the study of the nursing care needs of persons of all ages. A combination of classroom instruction and actual supervised experiences caring for patients in a variety of health care settings is used to prepare learners to function in an entry-level staff nurse position after graduation. Upon completion of the first year of the curriculum, graduates are awarded a diploma and are qualified to write the National Council of State Board of Nursing (NCLEX-PN) examination for practical nurses. Upon completion of the second year of the curriculum, graduates are awarded an Associate of Applied Science (A.A.S.) degree and are qualified to write the National Council of State Boards of Nursing (NCLEX-RN) examination for registered nurses.

Program Prerequisite: Current, valid CNA Certificate.

Prerequisite to Fourth Semester: Current Practical Nursing License.

General Education Courses that must be completed prior to first semester of nursing:

ENG 105 Composition I 3
PSY 121 Developmental Psychology 3
SPC 112 Public Speaking 3
BIO 168 Human Anatomy and Physiology I with Labs 4
BIO 173 Human Anatomy and Physiology II with Labs 4
Students must complete the curriculum described below:

Recommended Course Sequence

First Semester

PNN	321	Professional Topics I	1.0
PNN	201	Introduction to Math and Medications	1.0
PNN	167	Foundations of Nursing	5.0
PNN	168	Practical Nursing I	5.0
		Credits	**12.0**

Second Semester

PNN	177	Practical Nursing II	4.5
PNN	178	Practical Nursing III	4.5
PNN	205	Practical Nursing Pharmacology	1.0
PNN	322	Professional Topics II	1.0
BIO	151	Nutrition	3.0
		Credits	**14.0**

Summer

ADN	631	Nursing Care Through the Life Span III	4.0
ADN	132	Professional Topics III	1.0
PSY	111	Introduction to Psychology	3.0
ADN	133	Health Assessment Across the Life Span	1.5
		Credits	**9.5**

Third Semester

BIO	186	Microbiology	4.0
ADN	632	Nursing Care Through the Life Span IV	8.5
ADN	222	Pharmacology	3.0
ADN	320	Professional Topics IV	1.0
MGT	195	Workplace Empowerment	3.0
		Credits	**19.5**

Fourth Semester

ADN	633	Nursing Care Through the Life Span V	10.0
ADN	330	Professional Topics V	1.0
SOC	110	Introduction to Sociology	3.0
		Credits	**14.0**

86.0 Total Semester Hours Required

Courses with PNN/ADN prefix must be completed in the sequence listed above. Students must earn a "C" or higher in all required courses in order to graduate.

Consideration for enrollment in the summer term, as well as the semesters that follow it, is limited to those persons meeting established criteria: 2.5 cumulative GPA and above average standardized testing and clinical skills in slected courses.

Nursing: Practical Nursing

Location: Clarinda, Council Bluffs and Harlan

The Practical Nursing program of study prepares graduates to provide direct nursing care for individual clients with common health needs in structured health care settings under the direction and supervision of a registered nurse or physician. Graduates are awarded a diploma and are qualified to write the National Council of State Board of Nursing (NCLEX-PN) examination for practical nurses. This common core of nursing knowledge supports an educational ladder concept and serves as the foundational courses for the Associate Degree Nursing program offered at the college.

Program Prerequisite: Current, valid CNA certificate.

General Education Courses that must be completed prior to first semester of nursing:

ENG 105 Composition I 3
PSY 121 Developmental Psychology 3
SPC 112 Public Speaking 3
BIO 168 Human Anatomy and Physiology I with Labs 4
BIO 173 Human Anatomy and Physiology II with Labs 4
Students must complete the curriculum described below:

Recommended Course Sequence

First Semester

PNN	321	Professional Topics I	1.0
PNN	201	Introduction to Math and Medications	1.0
PNN	167	Foundations of Nursing	5.0
PNN	168	Practical Nursing I	5.0
		Credits	**12.0**

Second Semester

PNN	177	Practical Nursing II	4.5
PNN	178	Practical Nursing III	4.5
PNN	205	Practical Nursing Pharmacology	1.0
PNN	322	Professional Topics II	1.0
BIO	151	Nutrition	3.0
		Credits	**14.0**

43.0 Total Semester Hours Required

Courses with PNN prefix must be completed in the sequence listed above. Students must earn a "C" or higher in all required courses in order to graduate.

Paralegal Studies

Location: Council Bluffs

The Paralegal Studies program of study prepares students for a variety of paralegal positions. The program focuses on basic legal courses exploring the great diversity of the profession and legal subject matter. Significant emphasis is placed upon practical application as well as general legal theory. Ethical concerns and legal research and writing skills are emphasized in each course. An internship is an integral part of the paralegal studies curriculum. Graduates of this program are awarded an Associate of Arts (A.A.) degree.

Recommended Course Sequence

First Semester

PRL	101	*Paralegal Studies Orientation		3.0
ENG	105	Composition I		3.0
POL	111	*American National Government		3.0
		A.A. Mathematics Requirement (MAT 121-227)	3.0	4.0
		Distributed Requirement		3.0
		Credits	**15.0**	**16.0**

Second Semester

PRL	115	*Legal Research and Writing	4.0
ENG	106	Composition II	3.0
POL	201	*The United States Constitution	3.0
		Mathematics/Science Elective	3.0
		Humanities Elective	3.0
		Credits	**16.0**

Third Semester

PRL	131	*Torts and Litigation I	3.0
PRL	168	*Property/Probate	3.0
BUS	185	*Business Law I	3.0
		Humanities Elective	3.0
		Lab Science Requirement	4.0
		Credits	**16.0**

Fourth Semester

PRL	281	*Legal Ethics	2.0
PRL	161	*Family Law	3.0
PRL	933	*Internship **	3.0
SPC	112	Public Speaking	3.0
		Social Science Elective	3.0
		Humanities Elective	3.0
		Credits	**17.0**

One elective must also satisfy the diversity requirement.
*Required courses for the program

64.0 Total Semester Hours Required

Students must have a 2.5 cumulative grade point average to graduate.

**Students must earn a grade of "B" or higher in their internship course in order to graduate.

Personal Trainer Certificate

Location: Council Bluffs

Personal Trainer program will prepare students to work as a Certified Personal Trainer. This program will consist of academic achievement in the areas of human anatomy, nutrition, exercise prescription, healthy lifestyles, and basic sports injury recognition and treatments. Upon successful completion of the National Personal Training Certification exam, a student will become certified and eligible to work. Graduates of this program are awarded a certificate.

Students must complete the curriculum described below:

Recommended Course Sequence

HSC	113	Medical Terminology	2.0
BIO	151	Nutrition	3.0
PEH	102	Health	3.0
HSC	126	Anatomy for Allied Health	4.0
PEH	170	Principles of Weight Training	3.0
HSC	272	Certified Personal Trainer	3.0
		Credits	**18.0**

18.0 Total Semester Hours Required

Physical Therapist Assistant

Location: Council Bluffs

The Physical Therapist Assistant program of study prepares graduates to assume an active role in the provision of physical therapy services under the direction and supervision of a licensed physical therapist. A combination of classroom, laboratory and actual supervised clinical experiences caring for patients is used. Graduates of the program can seek employment in hospitals, outpatient clinics, long-term care facilities or other health related agencies. Graduates are awarded an Associate of Applied Science (A.A.S.) degree. Effective November 6, 2013, Iowa Western Community College has been granted Candidate for Accreditation status by the Commission on Accreditation in Physical Therapy Education (1111 North Fairfax Street, Alexandria, VA, 22314; phone: 703-706-3245; email: accreditation@apta.org). Candidacy is not an accreditation status nor does it assure eventual accreditation. Candidate for Accreditation is a pre-accreditation status of affiliation with the Commission on Accreditation in Physical Therapy Education that indicates the program is progressing toward accreditation. Graduation from a physical therapist assistant education program accredited by CAPTE, 1111 North Fairfax Street, Alexandria, VA 22314; phone; 703-706-3245; accreditation@apta.org is necessary for eligibility to sit for the licensure examination, which is required in all states.

Prerequisite: Current, valid American Heart Association Healthcare Provider CPR.

Students must complete the curriculum described below:

Recommended Course Sequence

First Semester

BIO	168	Human Anatomy and Physiology I with Labs	4.0
ENG	105	Composition I	3.0
MAT	743	Technical Mathematics	3.0
HSC	113	Medical Terminology	2.0
PTA	102	Introduction to Physical Therapist Assistant	3.0
PTA	105	Basic Skills for the Physical Therapist Assistant	3.0
		Credits	**18.0**

Summer

BIO	209	Kinesiology	3.0
BIO	173	Human Anatomy and Physiology II with Labs	4.0
		Credits	**7.0**

Third Semester

BIO	211	Pathophysiology	3.0
SPC	120	Intercultural Communications	3.0
PSY	210	Sport and Exercise Psychology	3.0
PTA	107	Documentation for Physical Therapist Assistant	1.0
PTA	222	Therapeutic Exercise I	3.0
PTA	181	Therapeutic Modality	3.0
PTA	310	Physical Therapist Assistant Clinical I	1.0
		Credits	**17.0**

Fourth Semester

MGT	195	Workplace Empowerment	3.0
PTA	215	Orthopedic Issues	4.0
PTA	248	Pediatric and Neurological Issues	4.0
PTA	227	Therapeutic Exercise II	3.0
PTA	385	Physical Therapist Assistant Clinical II	3.0
		Credits	**17.0**

Summer

PTA	415	Physical Therapy Assistant Clinical III	5.0
PTA	480	Physical Therapist Assistant Clinical IV	6.0
PTA	280	Physical Therapist Assistant Seminar	1.0
		Credits	**12.0**

71.0 Total Semester Hours Required

Pre-Biotechnology & Molecular Biology

Location: Council Bluffs

The Pre-Biotechnology and Molecular Biology program of study prepares graduates to function as an entry-level laboratory technician in research and/or biotechnology labs. This program also prepares students for further study in a range of related degree programs at a four-year college. Curricula includes biology and chemistry with laboratory courses directly relevant to current research in biotechnology, including recombinant DNA, protein technology, tissue culture and molecular genetics. Graduates of this program are awarded an Associate of Science (A.S.) degree.

Recommended Course Sequence

First Semester

BIO	267	*Biotechnology I	4.0
MAT	140	*Finite Math	3.0
CHM	122	*Introduction to General Chemistry	4.0
BIO	112	*General Biology I	4.0
		Credits	**15.0**

Second Semester

ENG	105	Composition I	3.0
CHM	132	*Introduction to Organic and Biochemistry	4.0
BIO	113	*General Biology II	4.0
BIO	740	*Biomedical Occupational Health and Safety	3.0
		Social Science Elective	3.0
		Credits	**17.0**

Third Semester

ENG	106	Composition II	3.0
BIO	147	*Genetics	4.0
BIO	186	*Microbiology	4.0
		Social Science Elective	3.0
		Credits	**14.0**

Fourth Semester

BIO	268	*Biotechnology II	5.0
SPC	112	*Public Speaking	3.0
		Humanities Elective	3.0
		*Pre-Biotechnolgoy Electives **	7.0
		Credits	**18.0**

One elective must also satisfy the diversity requirement.
*Required courses for the program

64.0 Total Semester Hours Required

**Pre-Biotechnology Electives must be selected from the following:

AGA 115 Principles of Agronomy 4
AGH 221 Principles of Horticulture 3
BIO 908 Cooperative Education 1-6
BIO 125 Plant Biology 4
ENV 111 Environmental Science 4
PHY 156 General Physics I 4
PHY 157 General Physics I Lab 1
PHI 105 Introduction to Ethics 3

Pre-Biotechnology Technician

Location: Council Bluffs

The Pre-Biotechnology Technician program of study encompasses the first two years of a university biotechnology technician major. Biotechnology technicians are in demand worldwide in the bio-processing industry. This program draws its courses from biology, chemistry, engineering, manufacturing, and agricultural fields of study. Graduates of this program are awarded an Associate of Science (A.S.) degree.

Recommended Course Sequence

First Semester

BIO	267	*Biotechnology I	4.0
CHM	122	*Introduction to General Chemistry	4.0
MAT	129	*Precalculus	5.0
ENG	105	Composition I	3.0
		Credits	**16.0**

Second Semester

BIO	105	*Introductory Biology	4.0
CHM	132	*Introduction to Organic and Biochemistry	4.0
MAT	211	*Calculus I	5.0
ENG	106	Composition II	3.0
		Credits	**16.0**

Third Semester

MAT	217	*Calculus II	5.0
PHY	210	*Classical Physics I (Calculus based)	4.0
PHY	211	*Classical Physics I Lab	1.0
		Social Science Elective	3.0
		Humanities Elective	3.0
		Credits	**16.0**

Fourth Semester

PHY	220	*Classical Physics II (Calculus based)	4.0
PHY	221	*Classical Physics II Lab	1.0
BIO	740	*Biomedical Occupational Health and Safety	3.0
		Social Science Elective	3.0
SPC	112	*Public Speaking	3.0
		General Elective	2.0
		Credits	**16.0**

One elective must also satisfy the diversity requirement.
*Required courses for the program

64.0 Total Semester Hours Required

Pre-Engineering

Location: Council Bluffs

The Pre-Engineering program of study prepares students to transfer to a baccalaureate degree program in engineering. This program provides the basic core courses required for all engineering degrees and meets transfer institution requirements. Graduates of this program are awarded a diploma.

Students must complete the curriculum described below:

Recommended Course Sequence

First Semester

MAT	211	Calculus I	5.0
ENG	105	Composition I	3.0
CHM	166	General Chemistry I	5.0
EGR	100	Engineering Orientation	1.0
EGR	160	Engineering I	3.0
		Credits	**17.0**

Second Semester

MAT	217	Calculus II	5.0
ENG	106	Composition II	3.0
PHY	210	Classical Physics I (Calculus based)	4.0
PHY	211	Classical Physics I Lab	1.0
EGR	165	Engineering II	3.0
		Credits	**16.0**

33.0 Total Semester Hours Required

Pre-Law

Location: Council Bluffs

The Pre-Law University Transfer program of study prepares students for a law career by combining a broad liberal arts education with specific preparation in both law and business. Students may transfer to a four-year university to complete their undergraduate training. Students must complete the curriculum as described and maintain a 3.0 grade point average for graduation. Graduates of this program are awarded an Associate of Arts (A.A.) degree.

Recommended Course Sequence

First Semester

ENG	105	Composition I		3.0
SOC	110	*Introduction to Sociology		3.0
POL	111	*American National Government		3.0
BUS	185	*Business Law I		3.0
		Mathematics/Science Elective		3.0
		Credits		**15.0**

Second Semester

ENG	106	Composition II		3.0
BUS	186	*Business Law II		3.0
POL	201	*The United States Constitution		3.0
		A.A. Mathematics Requirement (MAT 121-227)	3.0	4.0
		General Electives	4.0	5.0
		Credits	**16.0**	**18.0**

Third Semester

CRJ	130	*Criminal Law		3.0
LIT	110	*American Literature to Mid 1800s		3.0
SPC	112	Public Speaking		3.0
		General Elective		3.0
		Humanities Elective		3.0
		Credits		**15.0**

Fourth Semester

PRL	161	*Family Law		3.0
PSY	111	*Introduction to Psychology		3.0
PRL	115	*Legal Research and Writing		4.0
		Philosophy Elective		3.0
		Lab Science Requirement		4.0
		Credits		**17.0**

One elective must also satisfy the diversity requirement.
*Required courses for the program

64.0 Total Semester Hours Required

Pre-Medicine

Location: Clarinda and Council Bluffs

The Pre-Medicine program of study is designed for students who are interested in pursuing the medical profession as a career. The Pre-Medicine curriculum emphasizes study in general education coursework especially in the sciences. It represents a generalized plan of study for continuing into the junior year of college as a pre-medicine major. Graduates of this program are awarded an Associate of Science (A.S.) degree.

Recommended Course Sequence

First Semester

ENG	105	Composition I	3.0
BIO	151	*Nutrition	3.0
CHM	166	*General Chemistry I	5.0
MAT	211	*Calculus I	5.0
		Credits	**16.0**

Second Semester

ENG	106	Composition II	3.0
BIO	168	*Human Anatomy and Physiology I with Labs	4.0
CHM	176	*General Chemistry II	5.0
SPC	112	Public Speaking	3.0
		Credits	**15.0**

Third Semester

BIO	173	*Human Anatomy and Physiology II with Labs	4.0
CHM	263	*Organic Chemistry I	5.0
PSY	111	*Introduction to Psychology	3.0
PHI	101	*Introduction to Philosophy	3.0
		Credits	**15.0**

Fourth Semester

BIO	186	Microbiology	4.0
CHM	273	*Organic Chemistry II	5.0
PSY	241	Abnormal Psychology	3.0
		Humanities Elective	3.0
SOC	110	Introduction to Sociology	3.0
		Credits	**18.0**

One elective must also satisfy the diversity requirement.
*Required courses for the program

64.0 Total Semester Hours Required

Pre-Occupational Therapy

Location: Clarinda and Council Bluffs
The Pre-Occupational Therapy program of study is designed for students who plan to transfer to a four-year institution to complete a bachelor's degree in occupational therapy. The curriculum is contoured to meet the requirements generally expected of students majoring in Pre-Occupational Therapy. Graduates of this program are awarded an Associate of Science (A.S.) degree.

Recommended Course Sequence

First Semester

ENG	105	Composition I	3.0
BIO	157	*Human Biology	4.0
CHM	166	*General Chemistry I	5.0
PSY	111	*Introduction to Psychology	3.0
		Credits	**15.0**

Second Semester

ENG	106	Composition II	3.0
BIO	168	*Human Anatomy and Physiology I with Labs	4.0
CHM	176	*General Chemistry II	5.0
		General Elective	3.0
		Social Science Elective	3.0
		Credits	**18.0**

Third Semester

SPC	112	*Public Speaking	3.0
BIO	173	*Human Anatomy and Physiology II with Labs	4.0
PSY	241	Abnormal Psychology	3.0
BIO	186	Microbiology	4.0
MAT	157	*Statistics	4.0
		Credits	**18.0**

Fourth Semester

MAT	121	*College Algebra	4.0
PSY	121	*Developmental Psychology	3.0
PHI	105	Introduction to Ethics	3.0
SOC	110	Introduction to Sociology	3.0
		Credits	**13.0**

One elective must also satisfy the diversity requirement.
*Required courses for the program

64.0 Total Semester Hours Required

Additional Recommended Courses for the Program:

CHM 263 Organic Chemistry I 5
CSC 110 Introduction to Computers 3
HIS 110 Western Civilization-Ancient to Early Modern 3
HIS 111 Western Civilization-Early Modern to Present 3
PHY 156 General Physics I 4
PHY 157 General Physics I Lab 1
SOC 110 Introduction to Sociology 3
HSC 113 Medical Terminology 2
BIO 209 Kinesiology 3

Pre-Pharmacy

Location: Clarinda and Council Bluffs
The Pre-Pharmacy program of study is designed for students who are interested in pursuing pharmacy as a career choice. The curriculum is structured for transfer to institutions with professional schools of pharmacy. Graduates of this program are awarded an Associate of Science (A.S.) degree.

Recommended Course Sequence

First Semester

ENG	105	Composition I	3.0
BIO	168	*Human Anatomy and Physiology I with Labs	4.0
CHM	166	*General Chemistry I	5.0
MAT	211	*Calculus I	5.0
		Credits	**17.0**

Second Semester

ENG	106	Composition II	3.0
BIO	173	*Human Anatomy and Physiology II with Labs	4.0
CHM	176	*General Chemistry II	5.0
		Humanities Electives	6.0
		Credits	**18.0**

Third Semester

SPC	112	*Public Speaking	3.0
CHM	263	*Organic Chemistry I	5.0
PSY	111	Introduction to Psychology	3.0
		Social Science Elective	3.0
		Credits	**14.0**

Fourth Semester

BIO	186	Microbiology	4.0
CHM	273	*Organic Chemistry II	5.0
		Social Science Elective	3.0
		Distributed Requirement	3.0
		Credits	**15.0**

One elective must also satisfy the diversity requirement.
*Required courses for the program

64.0 Total Semester Hours Required

Additional Recommended Courses for the Program:

BIO 168 Human Anatomy and Physiology I with Labs 4
BIO 173 Human Anatomy and Physiology II with Labs 4
MAT 157 Statistics 4
PHY 156 General Physics I 4
PHY 157 General Physics I Lab 1

Pre-Physical Therapy

Location: Clarinda and Council Bluffs

The Pre-Physical Therapy program of study is designed for students who plan to pursue a career as a physical therapist. The curriculum is transfer-oriented and is contoured to meet the requirements generally expected of students in their first two years of college. Graduates of this program are awarded an Associate of Science (A.S.) degree.

Recommended Course Sequence

First Semester

ENG	105	Composition I	3.0
BIO	157	*Human Biology	4.0
CHM	166	*General Chemistry I	5.0
MAT	121	*College Algebra **	4.0
		Credits	**16.0**

Second Semester

ENG	106	Composition II	3.0
BIO	168	*Human Anatomy and Physiology I with Labs	4.0
CHM	176	*General Chemistry II	5.0
		Social Science/Humanities Electives	6.0
		Credits	**18.0**

Third Semester

SPC	112	*Public Speaking	3.0
BIO	173	*Human Anatomy and Physiology II with Labs	4.0
PSY	121	*Developmental Psychology	3.0
		Distributed Requirement	3.0
		Social Science Elective	3.0
		Credits	**16.0**

Fourth Semester

BIO	186	*Microbiology	4.0
MAT	157	*Statistics **	4.0
		Humanities Elective	3.0
PSY	111	*Introduction to Psychology	3.0
		Credits	**14.0**

One elective must also satisfy the diversity requirement.
*Required courses for the program

64.0 Total Semester Hours Required

**May substitute MAT 211 Calculus I for MAT 121 College Algebra and MAT 157 Statistics.

Additional Recommended Courses for the Program:

PHY 156 General Physics I 4
PHY 157 General Physics I Lab 1

Pre-Physician Assistant

Location: Clarinda and Council Bluffs

The Pre-Physician Assistant program of study is designed for students who plan to pursue a career as a physician assistant. The curriculum is contoured to meet the requirements generally expected of students in their first two years of college. Graduates of this program are awarded an Associate of Science (A.S.) degree.

Recommended Course Sequence

First Semester

ENG	105	Composition I	3.0
BIO	157	*Human Biology	4.0
CHM	166	*General Chemistry I	5.0
MAT	121	*College Algebra	4.0
		Credits	**16.0**

Second Semester

ENG	106	Composition II	3.0
BIO	168	*Human Anatomy and Physiology I with Labs	4.0
CHM	176	*General Chemistry II	5.0
		Social Science Elective	3.0
		General Elective	3.0
		Credits	**18.0**

Third Semester

SPC	112	*Public Speaking	3.0
BIO	173	*Human Anatomy and Physiology II with Labs	4.0
PSY	121	*Developmental Psychology	3.0
PSY	241	*Abnormal Psychology	3.0
		Humanities Elective	3.0
		Credits	**16.0**

Fourth Semester

BIO	186	*Microbiology	4.0
MAT	157	*Statistics	4.0
		Social Science Elective	3.0
		General Elective	3.0
		Credits	**14.0**

One elective must also satisfy the diversity requirement.
*Required courses for the program

64.0 Total Semester Hours Required

Additional Recommended Courses for the Program:

BIO 211 Pathophysiology 3
BIO 209 Kinesiology 3
HSC 113 Medical Terminology 2

Pre-Respiratory Therapy

Location: Council Bluffs

The Pre-Respiratory Therapy program of study is designed for students who plan to pursue a career as a respiratory therapist. Graduates of this program are awarded an Associate of Science (A.S.) degree.

Recommended Course Sequence

First Semester

MAT	121	*College Algebra **OR**		
MAT	211	*Calculus I	4.0	5.0
BIO	157	*Human Biology		4.0
CHM	166	*General Chemistry I		5.0
PSY	111	*Introduction to Psychology		3.0
		General Elective		3.0
		Credits	**19.0**	**20.0**

Second Semester

ENG	105	Composition I		3.0
BIO	168	*Human Anatomy and Physiology I with Labs		4.0
PHY	156	*General Physics I		4.0
PHY	157	*General Physics I Lab		1.0
		Humanities Elective		3.0
		Credits		**15.0**

Third Semester

ENG	106	Composition II		3.0
SPC	112	*Public Speaking		3.0
BIO	173	*Human Anatomy and Physiology II with Labs		4.0
		Social Science Electives		6.0
		Credits		**16.0**

Fourth Semester

BIO	186	*Microbiology		4.0
		Social Science Elective		3.0
		Humanities Elective		3.0
		General Electives		4.0
		Credits		**14.0**

One elective must also satisfy the diversity requirement.
*Required courses for the program

64.0 Total Semester Hours Required

Additional Recommended Courses for the Program:

BIO 113 General Biology II 4
CHM 176 General Chemistry II 5
BIO 211 Pathophysiology 3

Psychology

Location: Council Bluffs and Clarinda

The Psychology program of study prepares students to transfer to four-year colleges and universities to complete undergraduate majors in psychology and/or related fields. Students acquire a broad understanding of human behavior that encompasses adjustment, development, abnormality, counseling, research, and intelligence. The curriculum includes courses which provide both practical and theoretical information. Graduates of this program are awarded an Associate of Arts (A.A.) degree.

Recommended Course Sequence

First Semester

ENG	105	Composition I		3.0
SPC	112	Public Speaking		3.0
PHI	101	Introduction to Philosophy		3.0
PSY	111	Introduction to Psychology		3.0
SOC	110	Introduction to Sociology		3.0
		Credits		**15.0**

Second Semester

ENG	106	Composition II		3.0
LIT	111	American Literature since Mid 1800s		3.0
PSY	293	Issues in Psychology		3.0
PSY	113	Personality and Adjustment		3.0
		A.A. Mathematics Requirement (MAT 121-227)	3.0	4.0
		Credits	**15.0**	**16.0**

Third Semester

		Humanities Elective		3.0
BIO	112	General Biology I		4.0
PSY	121	Developmental Psychology		3.0
		General Electives		7.0
		Credits		**17.0**

Fourth Semester

BIO	113	General Biology II		4.0
PSY	241	Abnormal Psychology		3.0
		General Electives		10.0
		Credits		**17.0**

One elective must also satisfy the diversity requirement.
*Required courses for the program

64.0 Total Semester Hours Required

Must include 12 credits from the following:

PSY 111 Introduction to Psychology 3
PSY 113 Personality and Adjustment 3
PSY 121 Developmental Psychology 3
PSY 224 Adolescent Psychology 3
PSY 241 Abnormal Psychology 3
PSY 251 Social Psychology 3
PSY 261 Human Sexuality 3
PSY 281 Educational Psychology 3
PSY 293 Issues in Psychology 3

Robotics/Automated Systems Technology

Location: Council Bluffs

The Robotics/Automated Systems Technology program of study prepares students for a technical-level career in robotic automation, design, installation and service. Students learn on and with the same robots, controllers, and programming languages used by automated manufacturing companies. Graduates are trained for entry-level jobs in the ever-expanding robotic automation industry. Graduates of this program are awarded an Associate of Applied Science (A.A.S.) degree.

Students must complete the curriculum described below:

Recommended Course Sequence

First Semester

ELT	331	Circuit Analysis I		4.0
ELT	332	Circuit Analysis I Lab		1.0
ELT	313	Digital Circuits I **OR**		
EGT	420	Digital Electronics **OR**		
EGR	420	Digital Electronics		3.0
ELT	314	Digital Circuits I Lab		1.0
MAT	751	Technical Mathematics III **OR**		
MAT	129	Precalculus		5.0
ATR	105	Introduction to Robotics		3.0
		Credits		**17.0**

Second Semester

ELT	523	Electronic Devices		4.0
ELT	524	Electronic Devices Lab		1.0
ELT	158	Industrial Electronics I		4.0
ELT	159	Industrial Electronics I Lab		1.0
EGT	400	Introduction to Engineering Design **OR**		
EGR	400	Introduction to Engineering Design		3.0
EGT	113	Introduction to PLM		3.0
ATR	115	Computers in Industry		2.0
		Credits		**18.0**

Summer

ENG	105	Composition I		3.0
ATR	124	Application Planning and Layout		3.0
		Credits		**6.0**

Third Semester

ELT	160	Advanced Programmable Logic Controller Programming		5.0
PHY	156	General Physics I		4.0
PHY	157	General Physics I Lab		1.0
ATR	133	Fluid Power Systems		2.0
ATR	140	Applied Robotics Lab I		6.0
		Credits		**18.0**

Fourth Semester

ATR	147	Applied Robotics Lab II		6.0
ATR	152	Robot Controller Maintenance		2.0
ATR	165	Advanced Robot Controller Programming		2.0
MGT	195	Workplace Empowerment		3.0
		Social Science/Humanities Elective		3.0
		Credits		**16.0**

75.0 Total Semester Hours Required

Sign Language Interpreting

Location: Council Bluffs

The Sign Language Interpreting program of study prepares students for careers in sign language interpreting and/or related areas. Students develop skills in American Sign Language, the interpreting process, Signing Exact English, Conceptually Accurate Signed English, and the transliterating process. This program provides practicum experience that is individually arranged for each student. Graduates of this program are awarded an Associate of Applied Science (A.A.S.) degree.

Courses that must be completed prior to first semester of Sign Language:

ASL 110 Introduction to American Sign Language 3
ASL 141 American Sign Language I 4
ITP 125 Orientation to Deafness 3
ITP 130 Social Aspects of Deaf Culture 3
ITP 135 Introduction to Language 3
ENG 105 Composition I 3
A.A.S. Mathematics Requirement 3
(MAT 110 or higher)
SPC 112 Public Speaking 3 OR
SPC 122 Interpersonal Communication 3
PSY 111 Introduction to Psychology 3 OR
PSY 121 Developmental Psychology 3

Students must complete the curriculum described below:

Recommended Course Sequence

First Semester

ITP	120	Introduction to Interpreting		3.0
ITP	104	Skills Lab I		2.0
ASL	171	American Sign Language II		4.0
ASL	120	Linguistics of American Sign Language		3.0
		Credits		**12.0**

Second Semester

ASL	245	American Sign Language III		4.0
ITP	105	Skills Lab II		2.0
ITP	139	English Vocabulary/Grammar for Interpreters		3.0
ITP	147	Modalities of Communication		3.0
		Credits		**12.0**

Summer

ITP	149	Signing Exact English		2.0
MGT	195	Workplace Empowerment		3.0
		Credits		**5.0**

Third Semester

ASL	271	American Sign Language IV		3.0
ITP	106	Skills Lab III		2.0
ITP	220	Interpreting I		3.0
ITP	259	Observation and Practicum		3.0
ITP	160	Principles of Educational Interpreting		3.0
		Credits		**14.0**

Fourth Semester

ASL	295	American Sign Language V		3.0
ITP	210	Interpreting Skills Lab		2.0
ITP	941	Practicum		5.0
ITP	223	Interpreting II and Business Practices		3.0
		Credits		**13.0**

84.0 Total Semester Hours Required

Social Sciences

Location: Council Bluffs and Clarinda

The Social Sciences program of study enables students to transfer to four-year institutions to major in social sciences or to pursue a liberal arts education. Students acquire the content information and analytical skills of the social sciences by choosing from courses in economics, history, anthropology, geography, political science, sociology and psychology. Graduates of this program are awarded an Associate of Arts (A.A.) degree.

Recommended Course Sequence

First Semester

ENG	105	Composition I		3.0
SPC	112	Public Speaking		3.0
		Humanities Elective		3.0
		*Social Science Electives		6.0
		Credits		**15.0**

Second Semester

ENG	106	Composition II		3.0
		Mathematics/Science Elective		3.0
		Humanities Elective		3.0
		Social Science Elective		3.0
		Computer Science Elective		3.0
		Credits		**15.0**

Third Semester

		Humanities Elective		3.0
		A.A. Mathematics Requirement (MAT 121-227)	3.0	4.0
		*Social Science Electives		6.0
		General Electives		6.0
		Credits	**18.0**	**19.0**

Fourth Semester

		Social Science Elective		3.0
		Lab Science Requirement		4.0
		General Electives		9.0
		Credits		**16.0**

One elective must also satisfy the diversity requirement.
*Required courses for the program

64.0 Total Semester Hours Required

Sociology

Location: Council Bluffs and Clarinda

The Sociology program of study prepares students to transfer to sociology departments and programs at four-year colleges and universities. The curriculum is designed to teach students the fundamentals of sociological principles, analysis and research skills. Graduates of this program are awarded an Associate of Arts (A.A.) degree.

Recommended Course Sequence

First Semester

ENG	105	Composition I		3.0
SOC	110	*Introduction to Sociology		3.0
SPC	112	Public Speaking		3.0
		Humanities Elective		3.0
		Social Science Elective		3.0
		Credits		**15.0**

Second Semester

ENG	106	Composition II		3.0
SOC	115	Social Problems		3.0
		Mathematics/Science Elective		3.0
		Humanities Elective		3.0
		Social Science Elective		3.0
		Credits		**15.0**

Third Semester

		Sociology Elective		3.0
		Humanities Elective		3.0
		A.A. Mathematics Requirement (MAT 121-227)	3.0	4.0
		General Electives		7.0
		Credits	**16.0**	**17.0**

Fourth Semester

		Sociology Elective		3.0
		Lab Science Requirement		4.0
		General Electives		11.0
		Credits		**18.0**

One elective must also satisfy the diversity requirement.
*Required courses for the program

64.0 Total Semester Hours Required

Must include 12 credits from the following:

SOC 110 Introduction to Sociology 3
SOC 115 Social Problems 3
SOC 120 Marriage and Family 3
SOC 200 Minority Group Relations 3
SOC 210 Men, Women and Society 3
SOC 230 Juvenile Delinquency 3
SOC 235 Gangs 3
SOC 240 Criminology 3
SOC 250 Sociology of Deviance 3

Other Courses Recommended to Meet Program Requirements:

HIS 151 United States History to 1877 3
HIS 152 United States History since 1877 3
POL 111 American National Government 3
POL 112 American State and Local Government 3
PSY 111 Introduction to Psychology 3
PSY 241 Abnormal Psychology 3
PSY 251 Social Psychology 3
PSY 293 Issues in Psychology 3

Spanish

Location: Council Bluffs

The Spanish program of study prepares students to transfer to four-year colleges and universities in order to complete undergraduate majors in Spanish or pursue related fields. Students develop the fundamentals of speaking, writing, literature, and culture after successfully completing these courses. Graduates of this program are awarded an Associate of Arts (A.A.) degree.

Recommended Course Sequence

First Semester

ENG	105	Composition I		3.0
SOC	110	Introduction to Sociology		3.0
CSC	110	Introduction to Computers		3.0
FLS	141	*Elementary Spanish I		4.0
		A.A. Mathematics Requirement (MAT 121-227)	3.0	4.0
		Credits	**16.0**	**17.0**

Second Semester

ENG	106	Composition II	3.0
FLS	142	*Elementary Spanish II	4.0
		Lab Science Requirement	4.0
		Social Science Elective	3.0
		General Elective	3.0
		Credits	**17.0**

Third Semester

SOC	200	Minority Group Relations	3.0
FLS	241	*Intermediate Spanish I	4.0
SPC	112	Public Speaking	3.0
		Mathematics/Science Elective	3.0
		General Elective	3.0
		Credits	**16.0**

Fourth Semester

LIT	134	Multicultural Literature	3.0
FLS	242	*Intermediate Spanish II	4.0
		General Electives	9.0
		Credits	**16.0**

One elective must also satisfy the diversity requirement.
*Required courses for the program

64.0 Total Semester Hours Required

Sports Medicine: General Education

Location: Council Bluffs

The Sports Medicine: General Education Option is designed for students who plan to pursue a career in a sports injury or exercise-related health field. These careers include, but are not limited to, physical therapy, occupational therapy, cardiac rehabilitation, corporate wellness, personal training, exercise science, and other medical professions. The curriculum is transfer-oriented to meet the requirements generally expected of students in their first two years of college. This program is designed as a transfer program. Graduates will receive an Associate of Science (A.S.) degree.

Recommended Course Sequence

First Semester

PEC	230	*Introduction to Sports Medicine	3.0
PEH	142	*First Aid	3.0
CHM	122	*Introduction to General Chemistry	4.0
ENG	105	Composition I	3.0
		Humanities Elective	3.0
		Credits	**16.0**

Second Semester

PET	230	*Care and Prevention of Athletic Injuries		3.0
PEH	170	*Principles of Weight Training		3.0
ENG	106	Composition II		3.0
SPC	112	Public Speaking		3.0
		A.S. Mathematics Requirement (MAT 121-227)	3.0	4.0
		Credits	**15.0**	**16.0**

Third Semester

PET	235	*Athletic Injury Evaluation	3.0
BIO	168	*Human Anatomy and Physiology I with Labs	4.0
PHY	156	*General Physics I	4.0
PHY	157	*General Physics I Lab	1.0
PSY	111	Introduction to Psychology	3.0
		Credits	**15.0**

Fourth Semester

BIO	173	*Human Anatomy and Physiology II with Labs	4.0
PSY	121	Developmental Psychology	3.0
PET	250	*Introduction to Modalities	3.0
PSY	210	*Sport and Exercise Psychology	3.0
PET	240	*Taping and Bracing	2.0
		General Elective	3.0
		Credits	**18.0**

One elective must also satisfy the diversity requirement.
*Required courses for the program

64.0 Total Semester Hours Required

Sterile Processing Certificate

Location: Council Bluffs

The Sterile Processing Certificate program of study prepares graduates to work in health care facility sterile processing departments. Students acquire fundamental knowledge and practical skills in identifying surgical instruments, quality control processes in cleaning and safety, various sterilization techniques and the critical role performed by sterile processing technicians in surgical procedures. Graduates of this program are awarded a certificate and are eligible to write the Surgical Instrument Specialist Certification Exam (CSIS) and the Technician Certification Exam (CSPDT).

Students must complete the curriculum described below:

Recommended Course Sequence

HSC	164	Sterile Processing Techniques		5.0
HSC	167	Sterile Processing Instrumentation		5.0
HSC	113	Medical Terminology		2.0
HSC	126	Anatomy for Allied Health **OR**		
BIO	157	Human Biology		4.0
		Credits		**16.0**

16.0 Total Semester Hours Required

Surgical Technology

Location: Council Bluffs

The Surgical Technology program of study is designed to prepare students to become skilled operating room technicians. The program prepares students to practice under the supervision of a physician or registered nurse and to function as a member of the surgical team. Sterile techniques, operative procedures, anatomy and physiology, and microbiology, as applied to surgery, are studied. Graduates of this program are awarded an Associate of Applied Science (A.A.S.) degree.

Students must complete the curriculum described below:

Recommended Course Sequence

First Semester

BIO	168	Human Anatomy and Physiology I with Labs		4.0
ENG	105	Composition I		3.0
HSC	167	Sterile Processing Instrumentation		5.0
HSC	113	Medical Terminology		2.0
SUR	135	Ethics, Legal Issues and Professionalism in Surgical Technology		2.0
		Credits		**16.0**

Second Semester

PSY	121	Developmental Psychology		3.0
SUR	420	Pharmacology for the Surgical Technologist		2.0
HSC	164	Sterile Processing Techniques		5.0
SPC	122	Interpersonal Communication		3.0
BIO	173	Human Anatomy and Physiology II with Labs		4.0
		Credits		**17.0**

Third Semester

SUR	130	Introduction to Surgical Technology		2.0
SUR	141	Introduction to Basic Surgical Principles		6.0
BIO	186	Microbiology		4.0
MGT	195	Workplace Empowerment		3.0
		Credits		**15.0**

Fourth Semester

SUR	215	Basic Surgical Principles		6.0
SUR	221	Surgical Technology		10.0
		Credits		**16.0**

Summer

SUR	320	Advanced Surgical Technology		7.0
		Credits		**7.0**

71.0 Total Semester Hours Required

Surgical Technology AAS Option

Location: Council Bluffs

The Surgical Technology A.A.S. Option program of study is designed to prepare students to become skilled operating room technicians. The program prepares students to practice under the supervision of a physician or registered nurse and to function as a member of the surgical team. Sterile techniques, operative procedures, anatomy and physiology, and microbiology, as applied to surgery, are studied. Graduates of this program are awarded an Associate of Applied Science (A.A.S.) degree.

Students must complete the curriculum described below:

Recommended Course Sequence

First Semester

BIO	168	Human Anatomy and Physiology I with Labs		4.0
ENG	105	Composition I		3.0
SUR	130	Introduction to Surgical Technology		2.0
HSC	113	Medical Terminology		2.0
SUR	141	Introduction to Basic Surgical Principles		6.0
		Credits		**17.0**

Second Semester

SUR	215	Basic Surgical Principles		6.0
SUR	221	Surgical Technology		10.0
BIO	173	Human Anatomy and Physiology II with Labs		4.0
		Credits		**20.0**

Summer

SUR	320	Advanced Surgical Technology		7.0
BIO	186	Microbiology		4.0
		Credits		**11.0**

Third Semester

MGT	195	Workplace Empowerment		3.0
PSY	121	Developmental Psychology		3.0
SPC	122	Interpersonal Communication		3.0
CSC	110	Introduction to Computers **OR**		
BCA	212	Introduction to Computer Business Applications		3.0
		Credits		**12.0**

65.0 Total Semester Hours Required

Sustainable Energy Technology: Renewable Energy

Location: Council Bluffs

The Sustainable Energy Technology: Renewable Energy program of study is designed to provide the skills and knowledge required for entry-level careers in the manufacture, installation and maintenance of renewable energy systems, with a focus on wind and solar energy systems. Students study core aspects of renewable energy technology and choose to focus on either wind or solar technologies. Graduates of this program are awarded an Associate of Applied Science (A.A.S.) degree.

Students must complete the curriculum described below:

Recommended Course Sequence

First Semester

SER	125	Renewable Energy Workplace Safety		2.0
SER	120	Introduction to Renewable Energy		3.0
SER	150	Electricity I		4.0
WTT	142	Mechanical Power Transmission		4.0
WTT	175	Introduction to Programmable Logic Controllers		3.0
		Credits		**16.0**

Second Semester

SER	130	Introduction to Solar Energy		3.0
SER	135	Introduction to Alternative Fuels		3.0
SER	155	Electricity II		4.0
ENG	105	Composition I		3.0
MAT	743	Technical Mathematics **		3.0
		Credits		**16.0**

Third Semester

ENV	102	Introduction to Sustainability		3.0
SER	140	Geothermal Systems		2.0
WTT	103	Introduction to Wind Energy		3.0
PHY	715	Technical Physics I ***		5.0
		Social Science/Humanities Elective		3.0
		Credits		**16.0**

Fourth Semester

SER	160	Electricity III		3.0
SER	180	Renewable Energy Business Practices		3.0
MGT	195	Workplace Empowerment		3.0
		Renewable Energy Concentration ****		7.0
		Credits		**16.0**

64.0 Total Semester Hours Required

**May substitute with MAT 121 or higher.

***May substitute with General Physics I and General Physics I Lab.

****Students must choose one of the following areas of concentration and take both classes for that area of concentration:

Wind Energy Concentration:
WTT 202 Advanced Wind Energy 4
SER 165 Advanced Programmable Logic Controllers 3
Solar Energy Concentration:
SER 170 Advanced Solar Energy: Thermal 3
SER 175 Advanced Solar Energy: Photovoltaic 4

Sustainable Energy Technology: Renewable Energy Certificate

Location: Council Bluffs

The Renewable Energy Certificate program of study is designed to provide the basic skills and knowledge required for entry-level careers in the manufacture, installation and maintenance of renewable energy systems. Graduates of this program are awarded a certificate.

Students must complete the curriculum described below:

Recommended Course Sequence

SER	120	Introduction to Renewable Energy **OR**		
WTT	103	Introduction to Wind Energy	3.0	
SER	125	Renewable Energy Workplace Safety	2.0	
SER	150	Electricity I	4.0	
WTT	142	Mechanical Power Transmission	4.0	
WTT	175	Introduction to Programmable Logic Controllers	3.0	
		Credits	**16.0**	

16.0 Total Semester Hours Required

Technical Theatre

Location: Council Bluffs

The Technical Theatre program of study prepares students for entry-level technical positions in the entertainment industry. These may include, but are not limited to, stage rigging, stage building, sound engineering, lighting, costume building, makeup design, and scene painting. Graduates will have a strong theoretical background, varied practical experience in the theatrical arts, and an understanding of current technology. Graduates of this program are awarded an Associate of Arts (A.A.) degree.

Recommended Course Sequence

First Semester

DRA	101	*Introduction to Theatre	3.0
DRA	165	*Stagecraft	3.0
DRA	183	*Production Lab I: Stagecraft	1.0
ENG	105	Composition I	3.0
		A.A. Mathematics Requirement (MAT 121-227)	4.0
SPC	112	Public Speaking **OR**	
SPC	122	Interpersonal Communication	3.0
		Credits	**17.0**

Second Semester

DRA	179	*Stage Make-Up	3.0
DRA	177	*Stage and TV Lighting	3.0
ENG	106	Composition II	3.0
		*Theatre Elective **	3.0
		Social Science Elective	3.0
DRA	186	*Production Lab II: Lighting	1.0
		Credits	**16.0**

Third Semester

DRA	178	*Stage Costume	3.0
DRA	189	*Production Lab III: Stage Costume and Make Up	1.0
DRA	167	*Drafting for the Theatre	3.0
		Humanities Elective	3.0
		Social Science Elective	3.0
		Mathematics/Science Elective	3.0
		Credits	**16.0**

Fourth Semester

DRA	194	*Production Lab IV: Production Management	1.0
DRA	157	*Scenic Painting	3.0
DRA	118	*Theatre History	3.0
		Social Science Elective	3.0
		Lab Science Requirement	4.0
		Credits	**14.0**

One elective must also satisfy the diversity requirement.
*Required courses for the program

64.0 Total Semester Hours Required

**Theatre Electives must be selected from the following:

DRA 130 Acting I 3
DRA 138 The Business of Acting 2
DRA 146 Stage Dialects 3
DRA 220 The American Musical 3
DRA 305 Introduction to Audio 3
DRA 930 Devised Theatre Projects 3

Theatre

Location: Council Bluffs

The Theatre program of study prepares students to transfer to four-year colleges and universities in order to pursue undergraduate majors in theatre, speech or related fields in education. Students who complete the degree have both a sound theoretical background and a varied practical experience in the theatrical arts with an improvement in interpersonal and public performance skills in communication. Graduates of this program are awarded an Associate of Arts (A.A.) degree.

Recommended Course Sequence

First Semester

DRA	101	*Introduction to Theatre		3.0
DRA	165	*Stagecraft		3.0
DRA	130	*Acting I		3.0
DRA	183	*Production Lab I: Stagecraft		1.0
ENG	105	Composition I		3.0
		A.A. Mathematics Requirement (MAT 121-227)	3.0	4.0
		Credits	**16.0**	**17.0**

Second Semester

DRA	132	*Acting II	3.0
DRA	179	*Stage Make-Up	3.0
SPC	160	Voice and Diction	3.0
ENG	106	Composition II	3.0
		Social Science Elective	3.0
		Credits	**15.0**

Third Semester

DRA	250	*Directing for the Stage	3.0
DRA	930	*Devised Theatre Projects	3.0
		*Theatre Elective **	3.0
		Social Science Elective	3.0
SPC	112	Public Speaking **OR**	
SPC	122	Interpersonal Communication	3.0
		Credits	**15.0**

Fourth Semester

DRA	118	*Theatre History	3.0
DRA	138	*The Business of Acting	2.0
		Mathematics/Science Elective	3.0
		*Theatre Elective **	3.0
		Lab Science Requirement	4.0
		Social Science Elective	3.0
		Credits	**18.0**

One elective must also satisfy the diversity requirement.
*Required courses for the program

64.0 Total Semester Hours Required

**Theatre Electives must be selected from the following:

DRA 146 Stage Dialects 3
DRA 157 Scenic Painting 3
DRA 167 Drafting for the Theatre 3
DRA 177 Stage and TV Lighting 3
DRA 178 Stage Costume 3
DRA 220 The American Musical 3
DRA 305 Introduction to Audio 3

Veterinary Technology

Location: Council Bluffs

The Veterinary Technology program of study prepares students to become entry-level veterinary technicians who work under the direct supervision of a licensed veterinarian for any purpose except diagnosis, prescription, or surgery. Graduates can find employment in many sectors including small and large private animal practice, animal shelters and humane societies, clinical laboratories, education, zoos, government, research, and the biomedical industry. Graduates of this program are awarded an Associate of Applied Science (A.A.S.) degree. To become a registered professional, a graduate must successfully complete the Veterinary Technician National Exam (VTNE) and the Iowa Veterinary Technician Examination to become a Registered Veterinary Technician (RVT). This program is accredited by the American Veterinary Medical Association (AVMA) under the guidelines set forth by the accrediting body.

Program Prerequisite: A college-level chemistry course of at least three semester hours OR a high school-level chemistry course of at least one semester in length.

Students must complete the curriculum described below:

Recommended Course Sequence

First Semester

AGV	100	Introduction to Veterinary Technology	2.0
AGV	110	Principles of Veterinary Technology I	3.0
AGV	120	Veterinary Medical Terminology	1.0
AGV	122	Principles of Sanitation	3.0
AGV	104	Veterinary Technology Anatomy and Physiology I	3.0
		Credits	**12.0**

Second Semester

AGV	115	Principles of Veterinary Technology II	3.0
AGV	108	Veterinary Technology Anatomy and Physiology II	3.0
AGV	135	Clinical Pathology Lab Techniques I	3.0
AGV	140	Veterinary Pharmacology	3.0
BIO	186	Microbiology	4.0
		Credits	**16.0**

Summer

AGV	142	Mathematics for Veterinary Technicians	3.0
AGV	145	Animal Nutrition	3.0
AGV	805	Veterinary Technology Internship I	2.0
ENG	105	Composition I	3.0
		Credits	**11.0**

Third Semester

AGV	147	Large Animal Care	4.0
AGV	170	Veterinary Anesthesiology	3.0
AGV	136	Clinical Pathology Lab Techniques II	4.0
AGV	150	Office Procedures for Veterinary Technicians	3.0
		Social Science/Humanities Elective **	3.0
		Credits	**17.0**

Fourth Semester

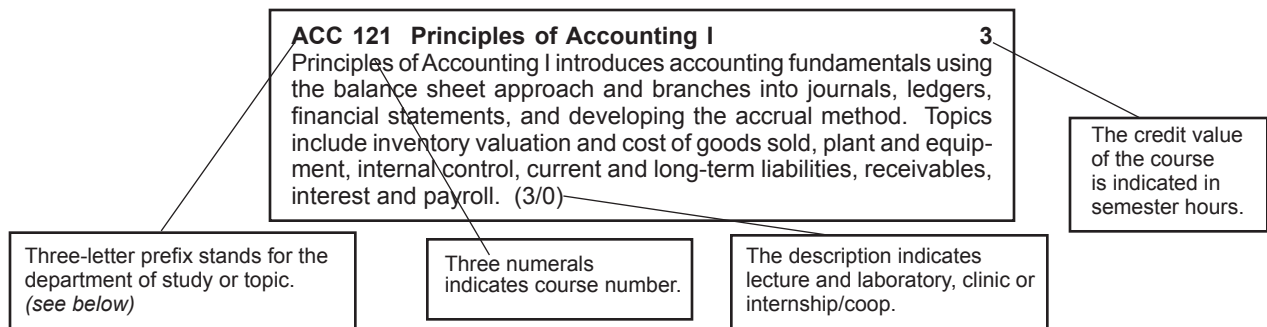|			
AGV	149	Avian, Exotic and Lab Animal Care	3.0
AGV	182	Diagnostic Imaging	3.0
AGV	806	Veterinary Technology Internship II	3.0
AGV	185	Veterinary Surgical Assisting	3.0
MGT	195	Workplace Empowerment	3.0
		Credits	**15.0**

71.0 Total Semester Hours Required

**Social Science/Humanities Elective must be selected from the following:

ECN 120 Principles of Macroeconomics 3
ECN 130 Principles of Microeconomics 3
PHI 105 Introduction to Ethics 3
PHI 142 Ethics in Business 3
PSY 111 Introduction to Psychology 3
PSY 121 Developmental Psychology 3
SOC 110 Introduction to Sociology 3
SOC 120 Marriage and Family 3

Students must earn a "C" or higher in all required courses in order to graduate.

COURSE DESCRIPTIONS
Explanation of Course Catalog Numbering System

> **ACC 121 Principles of Accounting I**   **3**
> Principles of Accounting I introduces accounting fundamentals using the balance sheet approach and branches into journals, ledgers, financial statements, and developing the accrual method. Topics include inventory valuation and cost of goods sold, plant and equipment, internal control, current and long-term liabilities, receivables, interest and payroll. (3/0)

The credit value of the course is indicated in semester hours.

Three-letter prefix stands for the department of study or topic. *(see below)*

Three numerals indicates course number.

The description indicates lecture and laboratory, clinic or internship/coop.

Prerequisites:
Successful completion of a course or other criteria necessary for a student to succeed in a higher level course.

Co-requisites:
Another course that must be taken concurrently with the course.

Recommendation:
A course or other criteria desirable for successful performance in another course.

ACC	Accounting		**FIR**	Fire Science
ADM	Office Administration		**FLS**	Foreign Language - Spanish
ADN	Associate Degree Nursing		**GEO**	Geography
AGA	Agriculture - Agronomy		**GRA**	Graphic Communications
AGB	Agriculture - Farm Management		**HCM**	Hospitality, Culinary and Management
AGC	Agriculture - Comprehensive		**HIS**	History
AGH	Agriculture - Horticulture		**HSC**	Health Science
AGP	Agriculture - Precision Ag		**HSV**	Human Services
AGS	Agriculture - Animal Science		**HUM**	Humanities
AGV	Agriculture - Vet Tech		**ITP**	Interpreting
ANT	Anthropology		**JOU**	Journalism
APP	Apparel Merchandising		**LIT**	Literature
ART	Art		**MAP**	Medical Assistant
ASL	American Sign Language		**MAT**	Mathematics
ATR	Automated Technology and Robotics		**MGT**	Management
AUT	Automotive Technology		**MIL**	Military and ROTC
AVI	Aviation		**MKT**	Marketing
AVM	Aviation Maintenance		**MMS**	Mass Media Studies
BCA	Business Computer Applications		**MUA**	Music - Applied
BIO	Biology		**MUS**	General Music
BUS	Business		**NET**	Computer Networking
CAD	Computer-Aided Drafting		**PEA**	Physical Education Activities
CHM	Chemistry		**PEC**	Coaching Officiating
CIS	Computer Programming		**PEH**	General Physical Education and Health
CLS	Cultural Studies		**PET**	Physical Education Training
CON	Construction		**PEV**	Intercollegiate Physical Education
CRJ	Criminal Justice		**PHI**	Philosophy
CSC	Computer Science		**PHS**	Physical Science
DEA	Dental Assistant		**PHY**	Physics
DHY	Dental Hygiene		**PNN**	Practical Nursing
DRA	Film and Theatre		**POL**	Political Science
DSL	Diesel		**PRL**	Paralegal Studies
ECE	Early Childhood Education		**PSY**	Psychology
ECN	Economics		**PTA**	Physical Therapy Assistant
EDU	Education		**RDG**	Reading
EGR	Engineering		**REL**	Religion
EGT	Engineering Technology		**SDV**	Student Development
ELT	Electronic Engineering Technology		**SER**	Sustainable Energy Resources
EMS	Emergency Medical Services		**SOC**	Sociology
ENG	English Composition/Communication		**SPC**	Speech
ENV	Environmental Science		**SUR**	Surgical Technology
ESL	English Second Language		**WEL**	Welding
FIN	Finance		**WTT**	Wind Energy and Turbine Technology

Accounting

ACC 111 Introduction to Accounting **3.0**
Introduction to Accounting presents a comprehensive understanding of the relationship between assets, liabilities, and owner's equity. The course explains preparation and analysis of the income statement and balance sheet as well as the accounting cycle and such vital functions as journalizing,posting, cash receipts, cash payments, purchases, and adjusting and closing entries. (3/0)

ACC 121 Principles of Accounting I **3.0**
Principles of Accounting I introduces accounting fundamentals using the balance sheet approach and branches into journals, ledgers, financial statements, and developing the accrual method. Topics include inventory valuation and cost of goods sold, plant and equipment, internal control, current and long-term liabilities, receivables, interest, and payroll. (3/0)

ACC 122 Principles of Accounting II **3.0**
Principles of Accounting II emphasizes principles and problems of partnerships, corporations, accounting for manufacturing and departmental costs, budgeting, profit analysis, and financial statements interpretation from the managerial viewpoint. (3/0)
Prerequisite: Principles of Accounting I.

ACC 161 Payroll Accounting **3.0**
Payroll Accounting presents payroll tax laws and records that are required by these laws. It emphasizes a review of both federal and state payroll tax legislation, methods of calculating earnings, payroll deductions, and employer payroll taxes. Students examine the forms that are necessary to complete the needed governmental reports. (3/0)
Prerequisite: Principles of Accounting I.

ACC 211 Intermediate Accounting I **3.0**
Intermediate Accounting I presents the principles and procedures essential to the preparation of adequate financial statements. Special attention centers on the solving of problems that arise in the presentation of cash, receivables, inventories, tangible and intangible assets on the balance sheet and their related effect on the income statement. (3/0)
Prerequisite: Principles of Accounting II.

ACC 221 Cost Accounting **3.0**
Cost Accounting provides a theoretical and procedural basis for understanding job order, process and standard cost accounting with emphasis on details concerning cost factors and budgeting in a manufacturing firm. It enables students to account for cost of materials, labor, and factory overhead using various methods. The course also includes cost analysis for decision-making. A practice set is used. (3/0)
Prerequisite: Principles of Accounting II.

ACC 251 Governmental and Nonprofit Accounting **3.0**
Governmental and Nonprofit Accounting presents the basic concepts and techniques of fund accounting for federal, state and local governments, hospitals, and schools. Students learn to deal with the primary funds and accounting groups, to assist the budget process and to determine variances among the major nonprofit organizations. (3/0)
Prerequisite: Principles of Accounting I.

ACC 261 Income Tax Accounting **3.0**
Income Tax Accounting is the study of federal income tax regulations as they relate to common types of income tax reports required of individuals and sole proprietorship business. Students also examine employer's tax reporting regulations for FICA Tax, Federal Income Tax, and State Income Tax. (3/0)

ACC 311 Computer Accounting **3.0**
Computer Accounting consists of an application of accounting principles and concepts using the microcomputer. Students establish and maintain accounting systems and records for single proprietorship and corporations. (3/0)
Prerequisite: Principles of Accounting I.

ACC 932 Accounting Internship **1.0-8.0**
Accounting Internship gives students work experience in the field of accounting through placement in government offices, public accounting firms and general business. Students apply the skills acquired in the Para-Accounting program to the everyday responsibilities expected of trained Para-Accountants, including summarizing and recording economic events and using effective oral and written communication skills (0/4-32)
Prerequisite: Sophomore standing in the program.

Agribusiness Technology

AGA 115 Principles of Agronomy **4.0**
Principles of Agronomy is a lecture/laboratory foundation course in agronomy, applying crop, soil and environmental sciences in understanding agricultural systems in the world. Includes introductory concepts of plant, soil, tillage, pest, environmental and sustainable aspects of crop production. The laboratory portion of the course will consist of hands-on learning experiences via the college lab, field trips and the utilization of interactive computer based programs. (3/2)

AGA 154 Fundamentals of Soil Science **3.0**
Fundamentals of Soil Science provides an introduction to physical, chemical and biological properties of soils, their formation, classification, and distribution. Use of soil survey and computer databank information in balancing agronomic, economic, and environmental concerns in soil management are covered. (2/2)

AGA 165 Agriculture Fertilizers and Chemicals **3.0**
Agriculture Fertilizers and Chemicals examines the production properties and use of the various agricultural/horticultural fertilizers, soil amendments, pesticides, and additives. Topics include soil fertility management, mixing instructions, weeds, crop insects, diseases, environmental concerns, compatibility, viscosity, drift factors, toxicity, crop sequencing limitations, and restrictions. (3/0)

AGA 212 Grain and Forage Crops **4.0**
Grain and Forage Crops trains students in production and management practices for corn, soybean, small grain, and forage crops common to Midwestern agriculture. Laboratory topics emphasize crop management, growth and development, quality, plant characteristics, and pest management. (3/2)
Prerequisite: Principles of Agronomy.

AGA 284 Pesticide Application Certification **3.0**
Pesticide Application Certification stresses the requirements for the license as outlined in the "core manual" prepared by ISU Extension and prepares students for successful completion of the Iowa Department of Agriculture tests in weed, crop, insect, and disease applicator certification. (3/0)

AGA 376 Integrated Pest Management **3.0**
Integrated Pest Management teaches observation techniques for pest control which includes disease, insect and weed problems as well as techniques for developing and evaluating pest management programs, and procedures involved in integrated pest management. (2/2)

AGB 211 Agricultural Law, Taxation and Records **3.0**
Agricultural Law, Taxation and Records explores the local, state and federal laws and regulations that govern the successful operation of an agriculture-based business, as well as the records needed to comply with those regulations. Topics include agriculture tax law, financial rules and regulations, estate and property transfer laws, and the use of computer-aided record keeping and analysis tools in making informed business decisions to comply with these regulations. (2/2)

AGB 235 Introduction to Agriculture Markets **3.0**
Introduction to Horticulture Markets is an overview of the structure, economics, organization, and function of the world food marketing system. Topics in past, present and future domestic and worldwide market issues are discussed. The course examines how the marketing system is influenced by governmental and private policy and the effects those policies

have on producers, commodity handlers, processors, middlemen, and consumers. Basic marketing and merchandising strategies are also covered. (3/0)

AGB 330 Farm Business Management   **3.0**
Farm Business Management examines the business and economic principles applied to decisionmaking and problem-solving in the management of a farm business. Students learn about cash flow, partial, enterprise, and whole farm budgeting. Additional topics include: information systems for farm accounting, analysis, and control; obtaining and managing land, capital, and labor resources; and alternatives for farm business organization. (2/2)

AGB 331 Entrepreneurship in Agriculture   **3.0**
Entrepreneurship in Agriculture relates specifically to management of agriculture farms and businesses. Course content emphasizes budget planning, record keeping, record analysis, ag finance/credit, and machinery and land management. Management exercises simulating farm activities and decisions are incorporated. Microcomputers are used to aid in the completion of these management exercises. (3/0)

AGB 336 Agricultural Selling   **3.0**
Agricultural Selling examines the sales record-keeping systems used including territory analysis, point of sale records, accounts receivable, and collection procedures. Sales presentation and merchandising techniques for feed, seed, fertilizer, agricultural chemicals, equipment, and supplies are also covered. (3/0)

AGB 437 Commodity Marketing   **3.0**
Commodity Marketing examines basis, fundamental and technical price analysis, commodity futures, futures options, alternative cash contracts, sources and uses of marketing information, and relevant agricultural marketing strategies. (3/0)

AGB 804 Agricultural Internship I   **3.0**
Agricultural Internship provides Agribusiness Technology students with hands-on training at off-campus work sites. (0/12)

AGB 814 Agricultural Internship II   **4.0**
Agricultural Internship II consists of practical experience at a workstation off-campus for Agribusiness Technology students. (0/16)

AGC 215 Career Seminar   **1.0**
Career Seminar is a study of the development of the agricultural industry in the United States and the purposes of higher education within the industry. Outside speakers are used to inform students of career opportunities. (1/0)

Anthropology

ANT 100 Introduction to Anthropology   **3.0**
Introduction to Anthropology introduces the unique holistic approach of anthropology in exploring the biological origins of humanity and the diversity of cultures and societies. Students explore the four sub fields of anthropology: archaeology, ethnology, linguistics, and physical anthropology. Issues concerning evolutionary theory, adaptations, cultural change, and conflict are explored in depth. (3/0)

ANT 105 Cultural Anthropology   **3.0**
Cultural Anthropology provides a cross-cultural examination of past and present human cultures and societies. Students explore cultural variation as reflected in diverse subsistence strategies, economics, kinship, and political systems. Students apply cross-cultural comparisons in examining issues of social stratification, cultural change and conflict. Examining the issues surrounding applied anthropology and introducing students to global social problems are central to this course. (3/0)
Note: Meets diversity requirement for graduation.

Art

ART 101 Art Appreciation   **3.0**
Art Appreciation develops a cultural understanding and appreciation of art from prehistoric to present time. Students survey the vast field of artistic expression through exposure to quality art forms and styles representative of creativity throughout the world. (3/0)

ART 117 Computer Graphic Design   **3.0**
Computer Graphic Design provides students with the opportunity to combine their artistic abilities with computer-based problem/solution projects. (3/0)

ART 124 Computer Art   **3.0**
Computer Art introduces students to the basic language of color principles in design. Using a computer, the student explores color properties, theories, effects and relationships in visual communication. (3/0)

ART 133 Drawing I   **3.0**
Drawing I introduces students to basic skills and techniques employed in observational drawing through traditional approaches to line, form, composition, perspective, and value. (3/0)

ART 134 Drawing II   **3.0**
Drawing II is a continuation of Drawing I, and offers students further development of observational drawing skills through the introduction of more sophisticated subject matter as well as a greater variety of drawing materials and techniques. (3/0)
Prerequisite: Drawing I.

ART 143 Painting I   **3.0**
Painting I introduces students to the basic language of the painting discipline. Students apply the study of color and composition to the creation of paintings using various media. This course explores versatile processes for planning and developing a visual idea. (3/0)

ART 144 Painting II   **3.0**
Painting II introduces students to the basic language of the painting discipline. Students apply the study of color and composition to the creation of paintings using various media. This course explores versatile processes for planning and developing a visual idea. (3/0)
Prerequisite: Painting I.

ART 147 2-D and 3-D Foundations   **3.0**
2-D and 3-D Foundations is an introductory Art and Design course for both art and non-art majors. Topics include an overview of elements, principles, and strategies relevant to the interpretation and execution of two and three dimensional compositions.(3/0)

ART 151 Design I   **3.0**
Design I introduces students to the organization of visual elements and principles while exploring the creative process of two-dimensional design. Students develop conceptual and technical skills through projects and discussions related to the practice of visual communication. (3/0)

ART 152 Design II   **3.0**
Design II is a continuation of the design sequence. Students will design solutions to a variety of challenging problems and then execute those designs in a manner approaching professional quality. (2/2)
Prerequisite: Design I.

ART 184 Photography I   **3.0**
Photography I provides students the basic tools and techniques of photography as a digital medium. Students will learn the operation and function of digital cameras and how to use them technically and creatively. Projects will be completed relating photography as an art form and aesthetic medium. (3/0)

ART 185 Photography II   **3.0**
Photography II is a continuation of the student's exploration of photography, building on the experience of Photography I. Students use a digital camera and photo editing software for photographic problem-solving. (3/0)
Prerequisite: Digital Photography or Photography I.

ART 186 Digital Photography   3.0
Digital Photography introduces students to the use, management and ma-nipulation of photographs as a digital medium. Students utilize a variety of digital editing applications, resources and output methods to explore pho-tography as a digital medium. Content includes the technical concepts of digital image editing and manipulation in the context of historical and con-temporary theories of photography as an art form in the digital age. (3/0)

ART 193 Studio Practices   3.0
Studio Practices addresses processes needed to successfully transfer to a four-year university and/or transition into the contemporary professional art world. Topics include portfolio development, documenting and market-ing work, exhibition opportunities and transfer strategies. Students are ex-pected to develop and complete a substantial body of work in a specific field. This course provides a forum for the critical evaluation of this work and curatorial guidance in preparation for the next stages of students' ca-reers. (3/0)
Pre-requisite: A grade of "C" or higher in Drawing II, Painting II, Design II or Photography II.

ART 908 Cooperative Education   1.0-6.0
Cooperative Education provides cooperative work experience related to art activities. Work experience hours are arranged. (0/4-24)

Automotive

AUT 114 Shop Fundamentals and Minor Service   4.0
Shop Fundamentals and Minor Service is a study of the organizational structure in a dealership/repair facility as it relates to the technician. Stu-dents use service manuals, electronic troubleshooting manuals and ser-vice bulletins. The course also develops competencies in entry level tasks required when working in a dealership or repair facility. (2/4)

AUT 115 Automotive Shop Safety   1.0
Automotive Shop Safety is designed to prepare the student to work in the auto shop in a safe manner. The content introduces the student to safety equipment, safety rules, and common accidents in the automotive service area. (1/0)

AUT 155 Automotive Engine Design and Systems   2.0
Automotive Engine Design and Systems provides an in-depth study of en-gine designing, operations, theory, lubrication and cooling systems. Minor diagnosis and repair operations are presented. (1/2)

AUT 163 Automotive Engine Repair   3.0
Automotive Engine Repair covers automotive engine theory and repair. Students receive classroom/lab instruction on the inspection, diagnosis, disassembly, measurement, reconditioning, and assembly of automotive internal combustion engines. (2/2)

AUT 164 Automotive Engine Repair   4.0
Automotive Engine Repair provides an in-depth study of various opera-tional tests such as compression testing, cylinder leakage testing, vacuum testing, and cylinder balance testing. Also covered are engine overhaul procedures and most related machining operations necessary in success-ful engine overhaul. Emphasis centers on precision measuring, using fac-tory specification manuals and machine operation in rebuilding to factory specifications. (3/2)

AUT 190 Hybrid Fundamentals   2.0
Hybrid Fundamentals familiarizes students with general hybrid history and benefits, basic safety precautions, specific maintenance procedures, loca-tion and description of hybrid components for hybrid vehicles. (2/0)

AUT 200 Automotive Automatic Transmissions/Transaxles   3.0
Automotive Automatic Transmissions/Transaxles covers automatic trans-mission/transaxle theory and repair. Students receive classroom/lab in-struction on the inspection, diagnosis, disassembly, reconditioning, and as-sembly of automatic automotive transmissions/transaxles. Both hydraulic and electronic shift units are covered. (2/2)

AUT 222 Basic Automotive Drive Lines   2.0
Basic Automotive Drive Lines covers principles of operation of clutches, transmissions/transaxles, four-wheel/all-wheel drive systems, drive shafts/half-shafts and final drive assemblies. Minor repairs, on-vehicle service and diagnostic procedures are also covered. (1/2)

AUT 225 Automotive Drivelines and Repair Procedures   4.0
Automotive Drivelines and Repair Procedures provides instruction about principles of manual transmissions, hydraulic power transmission, torque converters, valve bodies, electronically shifted transmissions, differentials, and light truck four-wheel drive systems. Principles of operation and repair procedures are covered in this course. (3/2)

AUT 303 Automotive Manual Drive Train and Axles   3.0
Automotive Manual Drive Train and Axles covers manual transmissions/transaxles, transfer case/4WD/AWD systems, and rear axle theory and re-pair. Students receive classroom/lab instruction on the inspection, diagnosis, disassembly, reconditioning, and assembly of the above components. (2/2)

AUT 404 Automotive Suspension and Steering   4.0
Basic Suspension and Steering provides instruction and hands-on activi-ties on automotive suspension and steering systems and service. Inspec-tion and repair procedures are emphasized and wheel alignment theory and practice is presented. (3/2)

AUT 524 Automotive Brake Systems and Service   4.0
Automotive Brake Systems provides instruction and hands-on activities in automotive braking systems and service. Operation and component infor-mation for various types of braking systems are presented and discussed. Anti-lock brakes and traction/stability controls are introduced. (3/2)

AUT 532 Advanced Brakes and Alignment   3.0
Advanced Brakes and Alignment provides instruction and hands-on activi-ties on advanced automotive braking systems, including Anti-lock brakes, traction/stability controls, and four-wheel alignment. Diagnosis, service, and repair procedures are emphasized. (2/2)

AUT 615 Automotive Electricity/Electronics   4.0
Automotive Electricity/Electronics provides instruction and hands-on ac-tivities in automotive electrical/electronic systems. Topics include safety, electrical/electronic components and circuits, meter use, starting systems, and charging systems. (3/2)

AUT 652 Advanced Automotive Electricity   3.0
Advanced Automotive Electricity provides advanced instruction and hands-on activities in automotive electrical/electronic systems. Topics include lighting systems, microprocessors, and accessory systems. Equipment introduced includes oscilloscopes and basic scan tools. (2/2)

AUT 653 Advanced Automotive Systems   4.0
Advanced Automotive Systems focuses on advanced automotive tech-nologies such as multiplexing, hybrid power plants and 42-volt systems as well as new technologies as they emerge. The only thing constant in automotive service is change. Hands-on activities focus on diagnosis and service of these technologies. (3/2)

AUT 704 Automotive Heating and Air Conditioning   4.0
Automotive Heating and Air Conditioning provides instruction and hands-on activities on automotive heating and air conditioning theory, systems, components, diagnosis and service. Environmental issues, inspection and repair procedures are emphasized. (3/2)

AUT 842 Automotive Computerized Engine Controls   4.0
Automotive Computerized Engine Controls provides instruction in ad-vanced vehicle tune-up and diagnosis, feedback system principles of oper-ation, diagnosis, and service. Emphasis focuses on analysis of drive ability and performance complaints of both computerized and non computerized fuel systems. Students also learn basic operating principles of computer-ized ignition systems. (3/2)

AUT 852 Automotive Engine Performance Diagnosis   4.0
Automotive Engine Performance Diagnosis covers advanced drive ability diagnosis as applied to computer-controlled fuel and ignition systems. Advanced chassis electrical and body computers are included. Also covered are an introduction to basic turbocharging and supercharging and their service and maintenance. (3/2)

AUT 877 Automotive Industry Issues   1.0
Automotive Industry Issues focuses on topics and information with the goal of gaining an awareness of automotive industry issues. Economic, environmental and social concerns are presented. (1/0)

AUT 878 Automotive Lab III   1.5
Automotive Lab III allows students to build production skills, build confidence in their ability to diagnose and repair vehicles, and reinforce skills learned in other courses. Use of a "live lab" environment helps students achieve job entry competency levels. Students perform a wide variety of diagnostic tests, adjustments and overhaul/repairs on customer and college-owned units. (0/4.5)

AUT 880 Automotive Lab VI   2.0
Automotive Lab VI allows students to build production skills, build confidence in their ability to diagnose and repair vehicles, and reinforce skills learned in other courses. Use of a "live lab" environment helps students achieve job entry competency levels. Students perform a wide variety of diagnostic tests, adjustments and overhaul/repairs on customer and college-owned units. (0/6)

AUT 884 Automotive Lab IV   2.0-4.0
Automotive Lab IV allows students to build production skills, build confidence in their ability to diagnose and repair vehicles, and reinforce skills learned in other courses. Use of a "live lab" environment helps students achieve job entry competency levels. Students perform a wide variety of diagnostic tests, adjustments and overhaul/repairs on customer and college-owned units. (0/6-12)

AUT 885 Automotive Lab V   2.0-4.0
Automotive Lab V allows students to build production skills, build confidence in their ability to diagnose and repair vehicles, and reinforce skills learned in other courses. Use of a "live lab" environment helps students achieve job entry competency levels. Students perform a wide variety of diagnostic tests, adjustments and overhaul/repairs on customer and college-owned units. (0/6-12)

AUT 892 Automotive Internship II   2.0-4.0
Automotive Internship II provides work experience related to training received at Iowa Western Community College. This is a partnership between Iowa Western, the work site and the student for qualified students who can benefit from on-the-job training. Internship hours are arranged. Students must meet minimum requirements and complete an application procedure to qualify. All internships must be approved by the student's respective program chair prior to registering for the experience. Entry points are the beginning of the semester (4 cr.) or at midterm (2 cr.). (0/8-16)

AUT 893 Automotive Internship III   2.0-4.0
Automotive Internship III provides work experience related to training received at Iowa Western Community College. This is a partnership between Iowa Western, the work site and the student for qualified students who can benefit from on-the-job training. Internship hours are arranged. Students must meet minimum requirements and complete an application procedure to qualify. All internships must be approved by the student's respective program chair prior to registering for the experience. Entry points are the beginning of the semester (4 cr.) or at midterm (2 cr.). (0/8-16)

AUT 897 Automotive Career Seminar III   0.5
Automotive Career Seminar III incorporates activities and experiences designed to promote active involvement of students in their career development. Improved work ethic and employability are goals of this class. Activities may include: portfolio development, guest speakers, panel discussions, time management, employee conduct, and field trips. (.5/0)

AUT 898 Automotive Career Seminar IV   0.5
Automotive Career Seminar IV incorporates activities and experiences designed to promote active involvement of students in their career development. Improved work ethic and employability are goals of this class. Activities may include: portfolio development, guest speakers, panel discussions, time management, employee conduct, and field trips. (.5/0)

AUT 901 Automotive Internship I   4.0
Automotive Internship I provides work experience related to training at Iowa Western Community College. This is a partnership between Iowa Western, an approved work site and a student who can benefit from on-the-job training. Internship hours are arranged. Students must meet minimum requirements and complete an application procedure. All internships must be approved by the program chair. (0/16)

AUT 903 Automotive Internship II   4.0
Automotive Internship II provides work experience related to training at Iowa Western Community College. This is a partnership between Iowa Western, an approved work site and a student who can benefit from on-the-job training. Internship hours are arranged. Students must meet minimum requirements and complete an application procedure. All internships must be approved by the program chair. (0/16)

AUT 904 Automotive Internship III   2.0
Automotive Internship III provides work experience related to training at Iowa Western Community College. This is a partnership between Iowa Western, an approved work site and a student who can benefit from on-the-job training. Internship hours are arranged. Students must meet minimum requirements and complete an application procedure. All internships must be approved by the program chair. (0/8)

AUT 905 Automotive Internship IV   2.0
Automotive Internship IV provides work experience related to training at Iowa Western Community College. This is a partnership between Iowa Western, an approved work site and a student who can benefit from on-the-job training. Internship hours are arranged. Students must meet minimum requirements and complete an application procedure to qualify. (0/8) Prerequisite: Permission from the program chair.

AUT 918 Automotive Lab I   1.5
Automotive Lab I allows students to build production skills and confidence in their ability to diagnose and repair vehicles, and reinforces skills learned in other courses. Use of a "live lab" environment helps students achieve job entry competency levels. Students perform a wide variety of maintenance procedures, adjustments and minor repairs on customer and college-owned units relating to maintenance and light repair of automobiles and light trucks. (0/4.5)
Prerequisite: Shop Fundamentals and Minor Service and Automotive Shop Safety.

AUT 919 Automotive Lab II   1.5
Automotive Lab II allows students to build production skills and confidence in their ability to diagnose and repair vehicles, and reinforces skills learned in other courses. Use of a "live lab" environment helps students achieve job entry competency levels. Students perform a wide variety of maintenance procedures, adjustments and minor repairs on customer and college-owned units relating to maintenance and light repair of automobiles and light trucks. This builds upon skills from Automotive Lab I. (0/4.5)

AUT 920 Automotive Lab IV   1.5
Automotive Lab IV allows students to build production skills and confidence in their ability to diagnose and repair vehicles, and reinforces skills learned in other courses. Use of a "live lab" environment helps students achieve job entry competency levels. Students perform a wide variety of maintenance procedures, adjustments and minor repairs on customer and college-owned units relating to maintenance and light repair of automobiles and light trucks. This builds upon skills from Automotive Lab III (0/4.5)

AUT 921 Automotive Lab V   4.0
Automotive Lab V allows students to build production skills and confidence in their ability to diagnose and repair vehicles, and reinforces skills learned

in other courses. Use of a "live lab" environment helps students achieve job entry competency levels. Students perform a wide variety of diagnostic tests, adjustments and overhaul/repairs on customer and college-owned units. This builds upon skills from Automotive Lab IV. (0/12)

AUT 922 Automotive Lab VI   **4.0**
Automotive Lab VI allows students to build production skills and confidence in their ability to diagnose and repair vehicles, and reinforces skills learned in other courses. Use of a "live lab" environment helps students achieve job entry competency levels. Students perform a wide variety of diagnostic tests, adjustments and overhaul/repairs on customer and college-owned units. This builds upon skills from Automotive Lab V. (0/12)

AUT 923 Automotive Lab VII   **2.0**
Automotive Lab VII allows students to build production skills and confidence in their ability to diagnose and repair vehicles, and reinforces skills learned in other courses. Use of a "live lab" environment helps students achieve job entry competency levels. Students perform a wide variety of diagnostic tests, adjustments and overhaul/repairs on customer and college-owned units. This builds upon skills from Automotive Lab VI. (0/6)

Aviation

AVI 105 Introduction to Aviation   **3.0**
Introduction to Aviation provides a broad understanding of all aspects of the air transportation and aerospace industries. What has happened in the industry to date with emphasis on present and future developments in air transportation is covered. The course examines the impact of the airline industry on airports and other segments of aviation and aerospace. (3/0)

AVI 110 History of Aviation   **3.0**
History of Aviation presents historical antecedents leading to the conquest of the air and the evolution of aviation progress to the present day. The course is intended as an introductory course for those pursuing a major in aviation or considering aviation as a vocation or wanting to gain a historical perspective of the development of the field of aviation and aerospace. (3/0)

AVI 125 Maintenance for Pilots   **3.0**
Maintenance for Pilots covers the privileges, limitations, and responsibilities of the pilot and repairman with regard to aircraft maintenance, preventive maintenance, and inspection. Students use FAA and manufacturers' publications normally needed to service, inspect, repair, and maintain the airworthiness of aircraft. Acceptable industry practices are used within the laboratory. Students develop the skills necessary to properly record and document their work upon completion. (2/2)

AVI 139 Private Pilot Theory   **3.0**
Private Pilot Theory is designed to prepare those students who want to obtain a Private Pilot Certificate with the information needed to successfully complete the FAA Private Pilot Airmen Knowledge Test. This course covers such items as the fundamentals of flight, aviation weather, airplane performance, and navigation procedures along with flight planning and human factors involved in flying an aircraft. For students not desiring flight training, this course provides valuable insight into a mode of transportation that will be an integral part of their futures. (3/0)

AVI 185 Private Pilot Flight Lab   **1.0**
Private Pilot Flight Lab is conducted under the Federal Aviation Regulations Part 6l for students pursuing the FAA Private Pilot certificate. This course prepares students to solo a single engine aircraft and requires students to complete 10 flight lessons, two hours of computer-based ground simulator training, and all associated flight training requirements for solo flight as specified under 14 CFR Part 6l. Students also study emergency procedures, professional responsibility and cockpit resource management and are introduced to controlling the aircraft by reference only to the aircraft instruments. This course is to be taken with or after Private Pilot Theory. Special fees will be charged by the flight training provider. (.5/1.5)
Prerequisite/Co-requisite: Private Pilot Theory.
Note: Special fees will be charged by the flight training provider.

AVI 186 Private Pilot Certificate   **2.0**
Private Pilot Certificate is designed and conducted to meet the Federal Aviation Regulations Part 6l to prepare students for the FAA practical flight examination. This course continues the flight training of Private Pilot Lab and requires students to successfully complete all FAA certification requirements to obtain a Private Pilot Certificate. Special fees will be charged by the flight training provider. (1/3)
Prerequisites: Private Pilot Theory and Private Pilot Flight Lab.
Note: Special fees will be charged by the flight training provider.

AVI 213 Instrument Flight Theory   **3.0**
Instrument Flight Theory focuses on the theory and federal regulations that must be followed when flying in instrument conditions. This course prepares the student to take the Federal Aviation Administration computerized test for the instrument rating and encompasses instrument flying procedures and instrument navigation processes. There is no flight training required in this course. (3/0)
Prerequisites: Private Pilot Certificate (or hold a valid U.S. Private Pilot Certificate) and Professional Pilot I.

AVI 215 Aviation Safety   **3.0**
Aviation Safety provides a detailed introduction to the aspects of aviation safety as well as the associated components of flight, human factors, aircraft technology, weather related accidents, and accident investigation. (3/0)
Prerequisite: Introduction to Aviation.

AVI 220 Aviation Meteorology   **3.0**
Aviation Meteorology is the study of the basic components of the earth's atmosphere and provides a basic foundation in the meteorological and environmental factors that influence the formation of the various weather patterns found in near and upper atmospheric levels over the continental United States and the Northern Hemisphere. Included is a discussion on how weather influences the basic aerodynamics of an aircraft in-flight and the basic pilot-static instrument system. This course is intended for students who plan careers as professional pilots or careers in aviation operations. (3/0)
Prerequisites: Private Pilot Theory and College Algebra.

AVI 250 Professional Pilot I   **2.0**
Professional Pilot I is designed to meet the 50 hours of pilot-in-command cross-country flight requirement of Title 14 CFR Part 61. Training is to be conducted in single-engine aircraft and a personal computer-assisted training device. Students are required to complete and meet all flight requirements for entry into the Professional Pilot II course. Special fees will be charged by the flight training provider. (1/3)
Prerequisite: Private Pilot Certificate (or hold a valid U.S. Private Pilot Certificate).

AVI 251 Professional Pilot II   **2.0**
Professional Pilot II is a continuation of Professional Pilot I and consists of a minimum of 40 hours of dual flight training in instrument flight procedures. Ten hours can be conducted using the approved personal computer-assisted training device. Students must obtain the instrument rating to successfully complete the course. Special fees will be charged by the flight training provider. (1/3)
Prerequisite: Professional Pilot I. Prerequisite/Co-requisite: Instrument Flight Theory.

AVM 120 Aviation Mechanics General I   **7.0**
Aviation Mechanics General I covers the first part of the subject areas required for aviation maintenance technicians as outlined by the Federal Aviation Administration in Title 14 CFR Part 147. Subject areas are ground operation and servicing, aircraft drawings, cleaning and corrosion control, aircraft weight and balance, fluid lines and fittings, and aircraft materials and processes. (4.5/7.5)

AVM 130 Aviation Mechanics General II   **8.0**
Aviation Mechanics General II covers the last part of the subject areas required for aviation maintenance technicians as outlined by the Federal Aviation Administration in Title 14 CFR Part 147. Subject areas are basic aviation physics, basic aircraft electricity, mechanics privileges and limitations, maintenance publications, and maintenance forms. (6/6)

AVM 181 Aviation Airframe I   **7.5**
Aviation Airframe I covers the subject areas of sheet metal and nonmetallic structures and welding. Students study the techniques and skills required to perform inspection, repair and the fabrication associated with the main structural components of an aircraft's airframe. Students gain the required knowledge of the tools and special tools that are needed in maintaining the structural integrity of the airframe. Students have hands-on experience in the various types of welding processes that are used in the repair of aircraft, and they learn the reasons for various repair techniques. (5/7.5)

AVM 182 Aviation Airframe II   **7.5**
Aviation Airframe II covers six subject areas: wood structures, aircraft coverings, aircraft finishes, assembly and rigging, fire protection systems, and aircraft fuel systems. Students gain knowledge in the inspection, identification and repair of wood structural members, fabric coverings, finish applications, finish defects, and registration markings. Students learn about the assembly and rigging of control systems for both helicopters and airplanes along with the inspection, troubleshooting, servicing and repair of such systems. Students examine different methods of detecting and extinguishing fires as well as the inspection, troubleshooting and repair of various fuel systems and their components. (5/7.5)

AVM 183 Aviation Airframe III   **8.0**
Aviation Airframe III covers three of the FAA's required subject areas in the systems and components sections. They are aircraft electrical systems, hydraulic and pneumatic systems, and ice and rain control systems. The course explores in detail the inspection, checking, servicing, troubleshooting, and repair of the three systems. (6/6)

AVM 184 Aviation Airframe IV   **8.0**
Aviation Airframe IV finishes the airframe subject areas. This course covers the final six required subject areas and also includes a comprehensive airframe review and testing section that helps prepare students to take the FAA written, oral and practical tests. The subject areas covered are: communication and navigation systems, aircraft instrument systems, cabin atmosphere control systems, aircraft landing gear systems, position and warning systems, and airframe inspection. (6/6)

AVM 191 Aviation Powerplant I   **7.0**
Aviation Powerplant I starts the powerplant systems and components subject areas with fuel metering systems, engine fuel systems, engine instrument systems, and propellers. The course focuses on the inspection, checking, servicing, troubleshooting, and repair of these systems. Students learn terminology and operational principles associated with the systems. (4.5/7.5)

AVM 192 Aviation Powerplant II   **7.5**
Aviation Powerplant II covers four systems and components including subject areas of engine lubrication systems, engine electrical systems, engine ignition and starting systems, and engine fire protection systems. In this course, students learn how to perform the inspection, servicing, checking, troubleshooting, and repair of the various components that make up the systems as well as the terminology used in the description and maintenance of the various systems. (5/7.5)

AVM 193 Aviation Powerplant III   **8.5**
Aviation Powerplant III encompasses the following subject areas: engine exhaust and reverser systems, engine cooling systems, induction and engine airflow systems, engine inspection, and onehalf of reciprocating engines and one-third of turbine engines. This course discusses in detail the needs and operation of the covered systems. Aviation Powerplant III also emphasizes the various procedures and methods required to maintain the systems in proper condition. It introduces students to the theory and maintenance of reciprocating and turbine engines, including the inspection, checking, servicing, and repair of such engines and their installation. (6.5/6)

AVM 194 Aviation Powerplant IV   **7.5**
Aviation Powerplant IV investigates the subject areas of unducted fans and auxiliary power units, completes the second half of the subject area of reciprocating engines, and finishes the last two-thirds of the subject area of turbine engines. This course also contains a comprehensive powerplant review and testing section which helps students prepare to take the FAA powerplant written, oral and practical exams for the issuance of a powerplant rating. (5/7.5)

Biological Sciences

BIO 105   Introductory Biology   **4.0**
Introductory Biology is designed for non-science majors or as a refresher course for those wishing to take higher-level biology courses. Topics include the characteristics of life; the molecular and cellular basis of life; cell division, photosynthesis and respiration; genetics, evolution and ecology. Laboratory work complements each topic of study. (3/2)

BIO 112   General Biology I   **4.0**
General Biology I is designed for science majors. Topics include scientific methodology, the molecular and cellular basis of life; cell division, photosynthesis and respiration; genetics, evolution and ecology; classification and taxonomy. Laboratory work complements each topic of study. (3/3)
Prerequisite: A grade of "C" or higher in high school biology, Introductory Biology, or Biotechnology I.

BIO 113   General Biology II   **4.0**
General Biology II is designed for science majors. This class explores the diversity of life by focusing on characteristics in the four eukaryotic kingdoms and prokaryotes. Topics covered include taxonomy, structure, function, ecology and evolution. Laboratory exercises complement each topic. (3/3)
Prerequisite: A grade of "C" or higher in General Biology I.

BIO 125   Plant Biology   **4.0**
Plant Biology is designed for non-science majors interested in plants and plant-like organisms. Topics include classification, plant structure and function, development, metabolism, and heredity. Laboratory work complements each topic of study. (3/2)

BIO 147   Genetics   **4.0**
Genetics explores the science of heredity as it relates to areas of classic Mendelian genetics, population and evolutionary genetics, and molecular genetics. Topics range from bacterial and viral genetics to human genetics, and includes studies on molecular techniques and their applications. Laboratory work complements each topic of study. (3/3)
Prerequisites: A grade of "C" or higher in Introduction to Organic and Biochemistry and General Biology I.

BIO 151   Nutrition   **3.0**
Nutrition is the study of basic nutrients and their relationship to health, which includes the digestion, absorption, and metabolism of carbohydrates, proteins, and fats in the human body. Additional topics are dietary planning for all ages, dietary exchanges and other health related diets, physical fitness, stress management, and food habits involving ethnic groups. (3/0)

BIO 157   Human Biology   **4.0**
Human Biology is designed for non-science majors or as a prerequisite for higher-level anatomy and physiology courses. It focuses on the following areas: the molecular and cellular basis of human life; the integration of humans and the biosphere; the structure and function of human tissues, organs and organ systems; and the principles of genetics and human development. Laboratory work complements each topic of study. (3/2)

BIO 168   Human Anatomy and Physiology I with Labs   **4.0**
Human Anatomy and Physiology I with Labs covers the structure and function of the human body from the cellular level to organ systems. Topics at the cellular level include the fundamental basics of chemistry, cell structure and cellular metabolism, genetics, and histology. The organ systems studied are the skin and integumentary system, the skeletal and muscular systems, the nervous system, and the special senses. Laboratory work complements each topic of study. (3/3)
Prerequisite: A grade of "C" or higher in Human Biology or General Biology I. Or, a grade of "C" or higher in one year of high school anatomy and physiology earned within the last two years.

BIO 173   Human Anatomy and Physiology II with Labs   4.0
Human Anatomy and Physiology II with Labs is a continuation of Human Anatomy and Physiology I with Labs. The following organ systems are covered: endocrine system, blood and the cardiovascular system, the lymphatic system and immunity, the respiratory system, the urinary system, the digestive system including nutrition and metabolism, and the reproductive systems. Other topics included are the body's balance of water, electrolytes, and acids and bases, and an introduction to human growth and development. Laboratory work complements each topic of study. (3/3)
Prerequisite: A grade of "C" or higher in Human Anatomy and Physiology I with Labs.

BIO 186   Microbiology   4.0
Microbiology is the study of microorganisms with special emphasis on the pathogens and the aspects of microbiology that directly affect humans. The course covers the fundamentals of microbiology, a survey of the microbial world, interactions between microbes and hosts, microorganisms and human disease, and environmental and applied microbiology. Laboratory work explores all aspects of microbiology, but emphasizes the culture, handling and identification of bacteria. (3/3)
Prerequisite: A grade of "C" or higher in Human Anatomy and Physiology I with Labs, General Biology I, or General Chemistry I.

BIO 209   Kinesiology   3.0
Kinesiology explores the basics of biomechanical principles to human motion as they relate to skeletal and muscular systems, including nerve innervations and range of motion levers. Torque and gait are studied in relation to balance and normal body movement. (3/0/0)
Prerequisite: A grade of "B" or higher in Human Anatomy and Physiology I with Labs.
Co-requisite: Human Anatomy and Physiology II with Labs.

BIO 211   Pathophysiology   3.0
Pathophysiology examines the etiology and processes of human disease. Content covers the altered structure and function of the body, prevalence, risk factors, signs and symptoms, diagnosis, prognosis, complications, and treatment options for selected diseases. (3/0/0)
Prerequisites: A grade of "B" or higher in Human Anatomy and Physiology I and II with Labs.

BIO 267   Biotechnology I   4.0
Biotechnology I provides a general introduction to the field of biotechnology as it relates to science, medicine, and industry. Topics explore trends and methodologies in biotechnology and its global impact. Laboratory work complements each topic of study. (3/3)

BIO 268   Biotechnology II   5.0
Biotechnology II provides an in-depth exploration of bio¬technology as it relates to science, medicine, and industry. Students will employ scientific theories and applications as it relates to experimental biotechnology. Topics emphasize trends and methodologies in genomics and proteomics. Laboratory work complements each topic of study. (3/4)
Prerequisite: A grade of "C" or higher in Introduction to Organic and Biochemistry, Biotechnology I, or General Biology I.

BIO 272   Biomass to Bioenergy   4.0
Biomass to Bioenergy is an introductory-level biotechnology course emphasizing plant and cropbased resources for the production of biobased products including renewable biofuels. This course is designed to familiarize students with many bioprocessing principles. Topics include biology, microbiology, chemistry, biochemistry. An introductory exploration of agricultural and industrial practices together with the global impact of bioprocessing will be examined. Laboratory work complements each topic of study. (3/3)

BIO 740   Biomedical Occupational Health and Safety   3.0
Biomedical Occupational Health and Safety provides environmental health, safety, and security awareness and training. This course emphasizes biomedical occupational health and safety policies, procedures and standards as they relate to science, medicine, and industry. (3/0)

BIO 908   Cooperative Education   1.0-6.0
Cooperative Education provides cooperative work experience related to the sciences. Work experience hours are arranged. (0/4-24)

BIO 927   Honors Study   2.0
Honors Study explores current scientific topics. In addition to other projects, students research, write, and present a biology review paper. (2/0)
Prerequisite: Nomination by the science faculty and approval of the dean.

Business Administration

BUS 102 Introduction to Business   3.0
Introduction to Business surveys American enterprise and examines the interrelated roles of accounting, economics, finance, management, and marketing as they affect the firm. Students view the firm from both its functional role and its social institutional role. (3/0)

BUS 105 Accounting and Business Professional Development   1.0
Accounting and Business Professional Development introduces students to career fields open to accounting and business majors. Business professionals present various areas of business, including topics in the areas of work attitudes, confidentiality, job promotion, opportunities, ethics, and employer/employee responsibilities. (1/0)
Note: This course is offered on a pass/fail basis only.

BUS 121 Business Communications   3.0
Business Communications develops the art of organizational communication for a business. It emphasizes practical applications in writing business letters, reports, resumes, and other organizational communications. (3/0)

BUS 130 Introduction to Entrepreneurship   3.0
Introduction to Entrepreneurship emphasizes these processes: understanding how to find, analyze, and pursue an opportunity; understanding oneself and personality characteristics of the "entrepreneur"; and examining the environment for entrepreneurship. A case and experiential approach is used throughout. (3/0)

BUS 154 E-business   3.0
E-business covers the unique aspects of creating a business strategy in the e-business environment and focuses on the Internet as a medium for promotion and distribution. E-business discusses how traditional marketing and business arenas can be transformed in this environment. (3/0)

BUS 161 Human Relations   3.0
Human Relations inquires into the nature of human behavior in the workplace. Using the administrative viewpoint, it focuses on human motivation, leadership, organizational structure, and current topics in employment. (3/0)

BUS 185 Business Law I   3.0
Business Law I concentrates on the foundation of business transactions, contracts, and sales. Emphasis focuses on the Uniform Commercial Code where relevant. (3/0)

BUS 186 Business Law II   3.0
Business Law II explores a variety of topics essential to an understanding of the business environment: insurance, agency and employment, business organizations, commercial paper, property, secured transactions, and bankruptcy. (3/0)

BUS 908 Cooperative Education   1.0-6.0
Cooperative Education draws correlation between theory and practice in the student's area of specialization. Variable credit is granted, depending on individual circumstances. (0/4-24)
Prerequisite: Permission from the program chair.

FIN 121 Personal Finance   3.0
Personal Finance provides individuals with the necessary knowledge and ability to comprehend their role as a consumer in the economy. Students learn types of consumer credit, home finance, budgeting, basic financial planning, and principles of insurance and retirement. (3/0)

Business Computer Applications

BCA 115 Internet Basics   **1.0**
Internet Basics is designed to provide introductory information on the Internet, terminology, use of search engines, e-mail capabilities, e-mail functions, and basic web page updating. (1/0)

BCA 129 Basic Word Processing   **2.0**
Basic Word Processing uses Microsoft Word to create, manipulate, and print business documents on a microcomputer. Memorandums, letters, envelopes, and reports are covered. (1/3)

BCA 130 Advanced Word Processing   **2.0**
Advanced Word Processing covers advanced concepts and skill development using Word to format, layout, and design quality documents. (1/3)
Prerequisite: Basic Word Processing.

BCA 134 Word Processing   **3.0**
Word Processing introduces features such as headers/footers, footnotes/endnotes, mail merge, macros, filing techniques, and complex formatting tasks. Students should have some prior word processing experience. (3/0)
Prerequisite: Introduction to Computers and demonstrated typing proficiency.

BCA 142 Spreadsheets   **3.0**
Spreadsheets provides the skills needed for solving business problems using Microsoft Excel software. Students prepare, format, enhance, and insert formulas in a spreadsheet as well as maintain and enhance workbooks which includes moving data within and between workbooks, creating and customizing charts, and working with Web pages. Advanced formatting techniques are used to enhance worksheets, to work with templates and workbooks, include linking and sharing, using advanced functions, and working with lists. (3/0)

BCA 149 Spreadsheets II   **1.0**
Spreadsheets II deals with maintaining workbooks, applying styles and comments, and using templates to create business documents such as invoices. Students create, edit, size, move, delete, and customize chart elements in Excel. Additional instruction includes enhancing the visual appeal to workbooks, saving as Web pages, and inserting hyperlinks. (1/0)
Prerequisite: Spreadsheets or Introduction to Computers.

BCA 152 Comprehensive Spreadsheets   **3.0**
Comprehensive Spreadsheets deals with the command menu, functions, template design, printing, file handling, graphics, database features, and keystroke macros. Students should have some prior spreadsheet experience. (3/0)
Prerequisite: Introduction to Computers.

BCA 153 Spreadsheets III   **1.0**
Spreadsheets III uses advanced formatting techniques, applies custom and conditional formatting, and works with large worksheets. Working with and creating templates for business, linking worksheets and workbooks, and sharing workbooks are also covered. Students use advanced functions and analysis tools, and work with lists to store, manipulate, share, and export data. Recording and editing macros, auditing workbooks, collaborating with workgroups, and importing and exporting data are also covered. (1/0)
Prerequisite: Spreadsheets II.

BCA 155 Introduction to Web Design   **3.0**
Introduction to Web Design is an introductory web design course for non-computer majors. Students will participate in basic webpage and website design including updating of existing webpages and websites. Students will study the process to build their own website for free-lance and/or entrepreneurial purposes. Images, HTML code, and writing content for the web and
copyright laws will also be covered. (3/0)

BCA 184 Comprehensive Web Page Design Software   **3.0**
Comprehensive Web page Design Software teaches students how to develop web pages. Basic design, construction, and maintenance of the web page are covered. Students learn how to set up a web page using current web page design software and tools. (3/0)

BCA 212 Introduction to Computer Business Applications   **3.0**
Introduction to Computer Business Applications provides students an overview of computer hardware and software as business productivity tools. The course includes a hands-on introduction to the computer operating system, e-mail, internet, word processing, spreadsheet, database and presentation applications. (3/0)

BCA 250 Desktop Publishing   **3.0**
Desktop Publishing provides a hands-on introduction to the microcomputer hardware and software used to perform electronic page layout. Students create, modify, and manipulate fliers, brochures and newsletters with page layout and drawing programs. Students should have some prior knowledge or experience with a word processor and familiarity with the keyboard. (3/0)

Chemistry

CHM 122 Introduction to General Chemistry   **4.0**
Introduction to General Chemistry is a one-semester course that covers the fundamentals of inorganic chemistry. Topics include the structure of the atom, properties and states of matter, nomenclature, chemical bonding, stoichiometry, gas laws, solutions, and acid-base chemistry. Laboratory experience provides hands-on exploration of the fundamentals of inorganic chemistry and reinforces lecture concepts. Laboratory is required. (3/3)
Prerequisite: Minimum Math placement score of 40 on COMPASS Algebra or 18 on ACT Math; or minimum Final Prep Math Progress Score of 2.

CHM 132 Introduction to Organic and Biochemistry   **4.0**
Introduction to Organic and Biochemistry covers selected principles of general, organic, and biochemistry for students of health sciences. Basic bonding, molecular structure, acid/base chemistry, and radiological effects are covered from general chemistry. It introduces functional groups, nomenclature, and some main reactions in organic chemistry. The biochemistry emphasizes structure and reactions of molecules in metabolism and the biosynthesis of carbohydrates, lipids and proteins. Additional topics are nucleic acids, protein synthesis, immunology, nutrition, and digestion. Laboratory work complements each topic of study. (3/3)
Prerequisite: Introduction to General Chemistry or a grade of "C" or higher in one year of high school chemistry earned within the last two years.

CHM 166 General Chemistry I   **5.0**
General Chemistry I, first of a two-semester sequence, covers the fundamentals of chemistry. Topics include: structure of the atom, chemical bonding, stoichiometry, and kinetic theory of matter as applied to gases, liquids, and solids. General Chemistry I Lab explores the fundamentals of chemistry, emphasizing laboratory technique, data collection and analysis, and technical writing. Laboratory work complements each topic of study. (3/4)
Prerequisite: Introduction to General Chemistry or a grade of "C" or higher in one year of high school chemistry earned within the last two years, and one of the following: Minimum Math placement score of 53 on COMPASS Algebra; 21 on ACT Math, or; Final Prep Math Progress Score of 3.

CHM 176 General Chemistry II   **5.0**
General Chemistry II, second of a two-semester sequence, covers the fundamentals of chemistry. Topics studied include solutions, acid-base chemistry, kinetics, chemical equilibrium, thermodynamics, electrochemistry, and an introduction to organic chemistry. General Chemistry II Laboratory emphasizes data collection and analysis to explore the topics from lecture. Emphasis is placed on experiment design and technical writing. Laboratory work complements each topic of study. (3/4)
Prerequisite: A grade of "C" or higher in General Chemistry I.

CHM 263 Organic Chemistry I   **5.0**
Organic Chemistry I studies carbon skeletons of aliphatic hydrocarbons and organic functional groups. It emphasizes the nature of bonding, nomenclature, isomerism, and reactions. Laboratory work introduces techniques used in identifying organic compounds and typical reactions. (3/4)
Prerequisite: General Chemistry II.

CHM 273 Organic Chemistry II   **5.0**
Organic Chemistry II continues the study of organic compounds. It emphasizes the nature of alkynes and aromatics and includes the study of organic

groups such as esters, amides, amino acids, and phenols. Laboratory work covers the synthesis of organic compounds. (3/4)
Prerequisite: Organic Chemistry I.

Computer-Aided Drafting

CAD 129 CAD I   **3.0**
CAD I provides instruction in entry-level CAD (computer-aided design) skills. Students learn 2D and 3D representation of objects, and national and international standards for documentation. Students will use Siemens software and teamwork to create drawings. Parametric solid modeling will be introduced. (2/2)
Prerequisite/Co-Requisite: Introduction to PLM

CAD 197 CAD 3D-NX   **4.0**
CAD 3D-NX introduces basic (Unigraphics Solutions) NX® parametric based solid modeling techniques. Exercises include creating and editing solid models using primitive features, form features and sketches. Introduces master modeling technique of drawing creation and editing; file management in a team environment is emphasized.
Prerequisite/Co-Requisite: CAD I; Geometric Dimensioning and Tolerances

CAD 203 Principles of Design   **3.0**
Principles of Design emphasizes further development of geometric dimensioning and tolerancing techniques and the application of tolerances for functionality and manufacturability. Students use Solid Edge® to create solid models, detail, and assembly drawings suitable for manufacturing production. (2/2)
Prerequisite: CAD 3D-NX
Co-Requisite: Component Design

CAD 213 Component Design   **4.0**
Students study the selection, analysis, fatigue and synthesis of machine components. Students explore strength and fatigue considerations for shaft design, threaded fasteners, lubrication and bearings, springs, and fundamentals of gear analysis, including forces, stresses and terminology. (3/2)
Prerequisite: CAD 3D-NX

CAD 222 Advanced CAD 3D-NX   **3.0**
Advanced CAD NX® explores areas of three-dimensional constructions and related features of the Unigraphics CAD system. Participants will construct 3-D models and perform model editing, use a 3-D coordinate system, create and apply surface techniques, and create 2-D drawings based on 3-D models. Students will also learn to transition data to others within the manufacturing process. (3/0)
Prerequisite: CAD 3D-NX

CAD 234 Design Problems   **4.0**
Design Problems offers student the opportunity to use their creativity in designing a specific product from scratch. The process will start with a basic concept as a solution to a problem and progresses through an analytical state involving calculations and layout drawings. The project will include final assembly and detail drawing, and a bill of materials. (1/4)
Prerequisites: Component Design

CAD 238 Design Communications   **3.0**
Design Communication teaches techniques to communicate the design ideas to stake holders. It covers reporting to the client via different graphic methods and perspectives. Students generate presentations, animations and assembly demonstrations. Students prepare data for production. (2/2)
Prerequisites: Component Design and Principles of Design

CAD 933 Design Technology Internship   **6.0**
Design Technology internship provides work experience related to the student's Design training. This course allows the student to integrate theory with practice in the student's area of specialization. Work experience hours are arranged. (0/24)
Prerequisite: A grade of "C" or higher in all first-year Design Technology courses and Precalculus, and permission of program chair.

Computer Networking

NET 142 Network Essentials   **3.0**
Network Essentials introduces the networking field. The course focuses on network terminology and protocols, local area networks (LANs), wide-area networks (WANs), Open System Interconnection (OSI) models, cabling, cabling tools, routers, router programming, Ethernet, Internet Protocol (IP) addressing, and network standards. Instruction and training are provided in the proper care, maintenance, and use of networking software, tools, and equipment and all local, state, and federal safety, building, and environmental codes and regulations. (3/0)

NET 182 WAN Technology   **3.0**
WAN Technology focuses on advanced IP addressing techniques - Network Address Translation (NAT); Port Address Translation (PAT) and DHCP; WAN technology and terminology; PPP; ISDN; DDR; Frame Relay; network management; and introduction to optical networking. Particular emphasis is on students being able to demonstrate the ability to apply knowledge and skills from Networking Essentials, Routers and Switches, and to explain how and why a particular strategy is employed. (3/0)
Prerequisite: Switches or CISCO Switches.

NET 188 Routers 3.0
Routers focuses on initial router configuration, IOS Software management, routing protocol configuration, TCP/IP, and access control lists (ACLs). Students develop skills in configuring a router, managing IOS Software, configuring routing protocol on routers, and setting the access lists to control the access to routers. (3/0)
Prerequisite: Network Essentials, CISCO Networking, or Data Communications.

NET 189 Switches   **3.0**
Switches focuses on advanced IP addressing techniques (Variable Length Subnet Masking - VLSM), intermediate routing protocols (RIP v2, single-area OSPF, EIGRP), command-line interface configuration of switches, Ethernet switching, Virtual LANs (VLANs), Spanning Tree Protocol (STP), and VLAN Trunking Protocol (VTP). Particular emphasis is on students being able to demonstrate the ability to apply skills from Network Essentials and Routers, and to explain how and why a particular strategy is employed. (3/0)
Prerequisite: Routers or CISCO Routers.

NET 207 CCNA Discovery 1   **3.0**
CCNA Discovery 1: Networking for Home and Small Businesses teaches students the skills needed to obtain entry-level home network installation jobs. Students will develop some of the skills needed to become network technicians, computer technicians, cable installers, and help desk technicians. This course will provide a hands-on introduction to networking and the Internet, using tools and hardware commonly found in home and small business environments. Labs include PC installation, Internet connectivity, wireless connectivity, file and print sharing and the installation of game consoles, scanners, and cameras. (3/0)

NET 208 CCNA Discovery 2   **3.0**
CCNA Discovery 2: Working at a Small-to-Medium Business or ISP prepares students for jobs as network technicians. Students will develop additional skills required for computer technicians and help desk technicians. This course provides a basic overview of routing and remote access, addressing, and security. It also familiarizes students with servers that provide e-mail services, web space, and authenticated access. Students also learn about soft skills required for help desk and customer service positions. Network monitoring and basic troubleshooting skills are taught in context. After successfully completing CCNA Discovery 1 and CCNA Discovery 2, students are qualified to sit for the Cisco Certification – Cisco Certified Entry Network Technician (CCENT). (3/0)
Prerequisite: CCNA Discovery 1.

NET 209 CCNA Discovery 3   **3.0**
CCNA Discovery 3: Routing and Switching will familiarize students with the equipment applications and protocols installed in enterprise networks, with a focus on switched networks, IP telephony requirements, and security. This course also introduces advanced routing protocols such as Enhanced

Interior Gateway Routing Protocol (EIGRP) and Open Shortest Path First (OSPF) Protocol. Hands-on exercises include configuration, installation, and troubleshooting of a network. (3/0)
Prerequisite: CCNA Discovery 2.

**NET 210 CCNA Discovery 4							3.0**
CCNA Discovery 4: Designing and Supporting Computer Networks allows learners to progress through a variety of case studies and role-playing exercises, which include gathering requirements, designing basic networks, establishing proof-of-concept, and performing project management tasks. In addition, life cycle services, including upgrades, competitive analyses, and system integration, are presented in the context of pre-sale support. After successfully completing CCNA Discovery 1 through CCNA Discovery 4, students are qualified to take the Cisco Certified Network Associate exam (CCNA). (3/0)
Prerequisite: CCNA Discovery 3.

**NET 212 CISCO Networking							3.0**
CISCO Networking covers the basic concepts of the network model. It explores the fundamentals of network addressing, data modeling and data encapsulation. Network topologies, components and basic network design are explored. (3/0)

**NET 217 CCNA Exploration 1							3.0**
CCNA Exploration 1: Network Fundamentals introduces the architecture, structure, functions, components, and models of the Internet and other computer networks. It uses the OSI and TCP layered models to examine the nature and roles of protocols and services at the application, network, data link, and physical layers. Students build simple LAN topologies by applying basic principles of cabling, performing basic configurations of network devices, including routers and switches, and implement IP addressing schemes. (2/2)

**NET 218 CCNA Exploration 2							3.0**
CCNA Exploration 2: Routing Protocols and Concepts describes the architecture, components, and operation of routers, and explains the principles of routing and routing protocols. Students analyze, configure, verify, and troubleshoot the primary routing protocols RIPv1, RIPv2, EIGRP, and OSPF. Students will be able to recognize and correct common routing issues and problems. (2/2)
Prerequisite: CCNA Exploration 1 or CCNA Discovery 2.

**NET 219 CCNA Exploration 3							3.0**
CCNA Exploration 3: LAN Switching and Wireless provides a comprehensive, theoretical, and practical approach to learning the technologies and protocols needed to design and implement a converged switched network. Students learn about the hierarchical network design model and how to select devices for each layer. The course explains how to configure a switch for basic functionality and how to implement Virtual LANs, VTP, and Inter-VLAN routing in a converged network. The different implementations of Spanning Tree Protocol in a converged network are presented, and students develop the knowledge and skills necessary to implement a WWLAN in a small to medium network. (2/2)
Prerequisite: CCNA Exploration 2.

**NET 220 CCNA Exploration 4							3.0**
CCNA Exploration 4: Accessing the WAN discusses the WAN technologies and network services required by converged applications in Enterprise Networks. The course uses the Cisco Enterprise Composite model (ECM) to introduce integrated network services and explains how to select the appropriate devices and technologies to meet ECM requirements. Students learn how to implement and configure common data link protocols and how to apply WAN security concepts, principles of traffic, access control and addressing services. Students learn how to detect, troubleshoot, and correct common enterprise network implementation issues. After successfully completing CCNA Exploration 1 through CCNA Exploration 4, students are qualified to take the Cisco Certified Network Associate exam (CCNA). (2/2)
Prerequisite: CCNA Exploration 3.

**NET 222 CISCO Routers							3.0**
CISCO Routers covers the basic concepts of router configuration and set-up. Routed and routing protocols are explored. (3/0)
Prerequisite: CISCO Networking.

**NET 232 CISCO Switches							3.0**
CISCO Switches covers the concepts of router configurations. Local Area Network (LAN) switching theory and advanced LAN design are explored. (3/0)
Prerequisite: CISCO Routers.

**NET 242 CISCO Wide Area Networks (WAN)					3.0**
CISCO Wide Area Networks (WAN) covers the concepts of WAN theory and design. WAN technology, PPP, ISDN, and Frame Relay are explored. Network troubleshooting and threaded case studies are integral to the course. (3/0)
Prerequisite: CISCO Routers.

**NET 313 Windows Server							3.0**
Windows Server introduces the managing and maintaining of a Windows Server environment. Students learn how to install, configure, administer and support the primary services in the latest Windows Server operating system. (3/0)
Prerequisite: Operating Systems.

**NET 343 Windows Directory Services						3.0**
Windows Directory Services provides the knowledge and skills necessary to plan, analyze, optimize, and troubleshoot Microsoft Windows NT® Server network operating systems in an enterprise environment. The course includes how to set up, configure, use, and support Transmission Control Protocol/Internet Protocol (TCP/IP). (3/0)
Prerequisite: Windows Server.

**NET 363 Windows Directory Services Design					3.0**
Windows Directory Services Design provides the knowledge and skills necessary to design a directory services infrastructure based upon the needs of a large organization. The skills necessary to design security frameworks for small, medium and large networks are also covered. (3/0)
Prerequisite: Windows Directory Services.

**NET 402 LINUX Network Administration					3.0**
LINUX Network Administration involves a study of an operating system used on a variety of hardware platforms. Topics examine file manipulation, access commands and script language commands. Students learn fundamental command line features of the LINUX environment including file system navigation, file permissions, the vi text editor, command shells, and basic network use. This course covers the basic installation and administration of the LINUX operating system. (2/2)

**NET 412 LINUX System Administration					3.0**
LINUX System Administration introduces the techniques necessary to create and manage users, groups and computers that make up a LINUX network. Students will install and configure a LINUX system and will set up systems, applications and user configuration files. Network configuration files and integrating a LINUX network in a mixed environment are an integral part of the course. (2/2)
Prerequisite: LINUX Network Administration.

**NET 418 LINUX Administration						3.0**
LINUX Administration introduces the techniques necessary to create and manage users, groups, computers, and firewalls that make up a LINUX network. Students install and configure a secure LINUX system, applications, and user configuration files. (2/2)
Prerequisite: Operating Systems.

**NET 478 Information Storage and Management				3.0**
Information Storage and Management provides students with the background to learn how to manage advanced storage systems, protocols, and architectures, including Storage Area Networks (SAN), Network-Attached Storage (NAS), Fibre Channel Networks, Internet Protocol SANs (IPSAN), iSCSI, and Content-Addressable Storage (CAS). (3/0)
Prerequisite: PC Support I.

**NET 495 Virtual Infrastructure						3.0**
Virtual Infrastructure introduces students to the concepts and capabilities of virtual architecture with a focus on the installation, configuration and management of a VMware virtual infrastructure. This course covers fundamentals of virtual network design and implementation, fundamentals of

storage area networks, virtual switching, virtual system management, and engineering for high availability. (3/0)
Prerequisite: Information Storage and Management.

NET 612 Fundamentals of Network Security   3.0
Fundamentals of Network Security provides a fundamental understanding of network security principles and implementation. Students examine the technologies used and principles involved in creating a secure computer networking environment. (3/0)
Prerequisite: Operating Systems.

NET 640 Application Server I   3.0
Application Server I teaches how to set up and manage Web servers, DNS servers, e-mail servers, and FTP servers. Students also learn how to implement interactive web applications and how to implement various web security procedures. (3/0)
Prerequisite: Windows Server.

NET 641 Application Server II   3.0
Application Server II teaches how to set up and manage database servers. Students also learn how to manage user access to information and how to implement various database security procedures. (3/0)
Prerequisite: Windows Server.

NET 730 Computer Forensics and Investigation   3.0
The Computer Forensics and Investigation course prepares students in detecting and analyzing data stored or hidden on computer systems. Students will be introduced to the techniques and tools of computer forensic investigations. (3/0)
Prerequisite: Fundamentals of Network Security and PC Support II.

NET 779 Desktop Application Support   3.0
Desktop Application Support includes the installation and support of desktop applications on computers in a work environment. Students will gain additional experience through participating in a help desk. (2/2)

NET 785 Fundamentals of Desktop Support   3.0
Fundamentals of Desktop Support introduces the concepts of supporting computers and computer users as a career. Students improve their proficiency in providing computer support by troubleshooting real-life scenarios including specification/management considerations and customer service skills. Lab may include students volunteering at not-for-profit organizations upgrading computers and computer peripherals. Students will use troubleshooting tools, the Microsoft Knowledge Base and help desk software. (2/2)

NET 790 PC Support I   3.0
PC Support I introduces computer hardware and software concepts necessary for an entry-level computer repair technician. Students learn to troubleshoot, repair, upgrade, and maintain PC hardware and software. (2/2)

NET 791 PC Support II   3.0
PC Support II is the second in a sequence of two courses focusing on computer software. The course introduces software issues necessary for an entry-level computer technician. Students learn to troubleshoot, repair, upgrade, and maintain PC software. (2/2)

NET 795 Desktop Support Practicum   1.0
Desktop Support Practicum puts the skills learned in the classroom to work as they help staff the Reiver Tech Team's student run help desk. Students learn to provide positive customer service while repairing student and staff personal computers. (0/4)
Co-requisite: Fundamentals of Desktop Support.

NET 810 Computer Internship   1.0-8.0
Computer Internship provides work experience related to the student's computer training. This course allows the student to integrate theory with practice in the student's area of specialization. Work experience hours are arranged. (0/4 32)
Prerequisite: Permission from the program chair.

Computer Programming

CIS 121   Introduction to Programming Logic   3.0
Introduction to Programming Logic covers the basic concepts of flowcharting techniques and introduces program analysis. Students also analyze and flowchart a set of modular programs. (3/0)

CIS 127   Introduction to Programming   3.0
Introduction to Programming uses programming languages to teach the basics of good programming and algorithm development, with emphasis on logic, functions, debugging and graphical user interfaces. (3/0)

CIS 134   Web Design   3.0
Web Design encompasses the design, creation, and maintenance of web pages and websites. Students learn how to critically evaluate website quality, create and maintain quality web pages, assess web design standards, and manipulate images. The course progresses from introductory work on web design to a culminating project in which students design and develop comprehensive websites and publish to a web server. (3/0)
Prerequisite: Fundamentals of Web Programming.

CIS 139   Programming I   3.0
Programming I is a beginning applied programming course that uses object-oriented programming. The course emphasizes the basics of good programming techniques and style. Students will practice implementing and debugging programs. Programs include interactive data types, error handling and web forms. (3/0)
Prerequisite: Introduction to Programming.

CIS 144   Programming II   3.0
Programming II covers the development of interactive data driven web-based applications using the .NET environment. Topics include web controls, custom controls, data connections, application and session state, application cache, security, accessibility, and page design. (3/0)
Prerequisite: Programming I.

CIS 151   Programming III   3.0
Programming III covers the development of mobile-based applications for different mobile devices, as well as the web technologies (HTML5, CSS3, and JavaScript) needed to create mobile web applications. Students will create and consume web services. (3/0)
Prerequisite: Programming II.

CIS 158   Web e-Business   3.0
Web e-Business covers the development of ecommerce websites that are able to sell products and services. Students will learn to create catalogs, shopping carts and processing of multiple payment options. (3/0)
Prerequisites: Programming II and Server Side Web Programming.

CIS 161   C++ Programming   3.0
C++ Programming builds on the basic C programming language to introduce the concepts of object-oriented programming. Students construct programs using classes, abstraction, inheritance, and polymorphism. Students must complete a set of programs. (3/0)

CIS 164   Advanced C++   3.0
Advanced C++ continues C++ Programming. It employs object-oriented software engineering techniques to design and implement programs using arrays, structures, files, lists, matrices, trees, and objects to represent real-world situations. The techniques include dynamic memory allocation and recursion. (3/0)
Prerequisite: C++ Programming.

CIS 171   Java   3.0
Java examines the Java programming language. Students explore interactive web application development using object-oriented development techniques as well as Java language constructs, run-time libraries, and graphics libraries. (3/0)
Prerequisite: Programming I.

CIS 175 Java II   **3.0**
Java II covers advanced client-server application development constructs. Advanced GUI techniques, exception-handlers, threads, Transmission Control Protocol/Internet Protocol (TCP/IP) networking, database connectivity, and debugging are topics covered. (3/0)
Prerequisite: Java.

CIS 187 ASP.NET MVC with C#   **3.0**
ASP.NET MVC with C# provides students with hands-on experience using Visual Studio to create dynamic web applications using the ASP.NET MVC Framework and C#. Students learn how to leverage the power of the Model-View-Controller pattern to separate the layers of a web site into input handling (model), user interface (view) and business/data logic (controller). Students will learn the benefits of using the MVC pattern for web site development while creating model, views and controllers. (3/0)
Prerequisite: Programming II.

CIS 207 Fundamentals of Web Programming   **3.0**
Fundamentals of Web Programming teaches how to create, design, publish, and maintain a web site. Students learn HTML, DHTML and CSS using web site creation software. Design considerations such as usability, download time and aesthetics are emphasized. (3/0)

CIS 213 Advanced Client Side Scripting   **3.0**
Advanced Client Side Scripting teaches current technologies for scripting the web client. Students will create scripts, dashboards and widgets. (3/0)
Prerequisite: Fundamentals of Web Programming.

CIS 215 Server Side Web Programming   **3.0**
Server Side Web Programming introduces several of the most common server-sided scripting languages used in business today. The programming constructs used in these languages are covered. Scripts are designed, programmed, tested, and debugged. (3/0)
Prerequisites: Advanced Client Side Scripting and Web Design.

CIS 227 Advanced Web Design   **3.0**
Advanced Web Design introduces students to more advanced skills by using color and typography creatively and how to achieve effective web page layout by incorporating principles and standards of the web design process in the web environment. Students explore advanced web production skills such as layers and table-free layouts, templates, reusable elements, external Cascading Style Sheets, XML, automation of dynamic HTML, and site management. Students also explore complex websites with more advanced design concepts in web site creation, such as efficient navigation design, portability and accessibility, separating content from presentation for easy site updating and maintenance, planning interactivity, and search engine optimization. (3/0)
Prerequisites: Advanced Client Side Scripting and Web Design.

CIS 332 Database and SQL   **3.0**
Database and SQL introduces students to the techniques and methodologies needed to construct large relational databases. It covers Data Modeling, System Query Language (SQL) and Application Programming Interfaces (API). (3/0)
Prerequisite: Introduction to Information Technology or Introduction to Computers.

CIS 402 Cobol   **3.0**
Cobol introduces the COBOL language through the study of elementary terminology, program format, and language syntax. Programming problems emphasize elementary input-output techniques involving data definition, data movement, beginning arithmetic, and branching verbs. The course includes an introduction to structured program design. (3/0)
Prerequisite: C++ Programming.

CIS 504 Structured Systems Analysis   **3.0**
Structured Systems Analysis studies the phases of investigation, analysis, design, development, implementation, and maintenance of systems. It includes the system development life cycle and the purposes of manage-

ment presentations, programming specification, and documentation. Students develop techniques through case study applications. (3/0)
Prerequisite: Introduction to Information Technology or Network Essentials.

CIS 606 Visual BASIC.NET I   **3.0**
Visual BASIC.NET I introduces Windows and Web programming using Microsoft's .NET (dot net) framework. Students write introductory level programs involving variables, assignment, input, and output using a graphical user interface (GUI), calculation, repetition, and selection between alternatives using the .NET environment. This course includes the object-oriented concepts of encapsulation, single inheritance, and polymorphism. (3/0)

CIS 607 Visual BASIC.NET II   **3.0**
Visual BASIC.NET II presents Windows programming using distributed database and client-server methodologies. Students write programs involving network and applications, distributed objects, and class structures for the Windows operating system and enabled applications. (3/0)
Prerequisite: Visual BASIC.NET I.

CIS 780 Computer Projects   **3.0-6.0**
Computer Projects involves systems from inception to completion. Projects revolve around courses taken in the curriculum with emphasis on systems, hardware, software, languages and databases. (2-4/2-4)
Prerequisite: Permission from the program chair.

Computer Science

CSC 110 Introduction to Computers   **3.0**
Introduction to Computers consists of a hands-on introduction to microcomputer hardware, operating systems and application software. Students enter, modify and manipulate data with word processing, presentation, spreadsheet, and database programs. Students should be familiar with the standard keyboard. (3/0)

CSC 114 Introduction to Information Technology   **3.0**
Introduction to Information Technology examines computer hardware and software, computer networking, and data analysis and communication. Business case problems are used to introduce students to the general concepts of computers and information technology. Students work extensively in teams to collaborate and design solutions to business case problems using case-based problem methodology. (3/0)

CSC 121 Operating Systems   **3.0**
Operating Systems is a hands-on course introducing the concepts of operating systems, including process, memory and storage management, protection, security and distributed systems. Students learn basic command line tools, scripting, file management and commands for several different operating systems. (3/0)

CSC 190 Game Programming 2-D   **3.0**
Game Programming 2-D provides hands-on experience to create simple two-dimensional games utilizing C++ and the Windows environment. Students will use current programmable graphic objects and sound to create several simple games. (3/0)
Prerequisite: Advanced C++.

CSC 192 Flash Animation   **3.0**
Flash Animation will provide hands-on experience necessary to create Flash animation for the World Wide Web and game creation. Students will create objects and animation scripts. Some programming is required. (3/0)
Prerequisite: Fundamentals of Web Programming.

CSC 194 Computer Game Creation   **3.0**
Computer Game Creation will provide hands-on experience necessary to create computer games utilizing game development tools that require no programming. Students will install and use various game development tools while working with pictures and animation. (3/0)

Construction Technology

CON 114 Residential Print Reading   **3.0**
Residential Print Reading presents an introduction to the fundamentals of drafting and blueprint reading applicable to residential construction. Students interpret and translate working drawings and specifications. (3/0)

CON 115 Commercial Print Reading   **3.0**
Commercial Print Reading provides advanced skills in the interpretation of blueprints and construction drawings. Students interpret and translate working drawings and specifications for commercial construction. (3/0)

CON 118   Introduction to Sustainable Construction   **3.0**
Introduction to Sustainable Construction provides students with a working knowledge of sustainable systems and their impact on the construction industry. Students study sustainable principles, materials, methods, and their impact on the environment. (3/0)

CON 119 Construction Materials and Inspection   **3.0**
Construction Materials and Inspection deals with construction materials of the past, present, and future. The course emphasizes the selection, application, and laboratory testing of construction materials. Students become familiar with aspects of a construction inspector's duties, responsibilities, and record keeping. (3/0)

CON 170 Building Construction Techniques I   **6.0**
Building Construction Techniques I provides the practical application of selected construction techniques. It covers preparation and flat concrete work as well as fundamentals of block laying and brick laying techniques as they relate to basic construction. (0/18)

CON 171 Building Construction Techniques II   **6.0**
Building Construction Techniques II provides practical application of selected building techniques. Students learn construction techniques in floor, wall and ceiling systems, stair construction and interior finishing skills. (0/18)

CON 180 Principles of Building Construction I   **3.0**
Principles of Building Construction I provides an introduction to the building construction process. It emphasizes construction safety issues and building code requirements; characteristics, use, and selection of building materials; and selection, care, and use of hand and power tools. (3/0)

CON 181 Principles of Building Construction II   **3.0**
Principles of Building Construction II provides fundamental theory of selected construction techniques. It explains floor systems, wall and ceiling framing, stair construction, and interior finishing techniques. (3/0)

CON 244 Related Trade Applications   **3.0**
Related Trade Applications presents an introduction to the principles of residential wiring, heating, air conditioning, and plumbing. This course addresses basic theory, related codes, techniques, and applications. (3/0)

CON 250 Principles of Commercial Construction I   **3.0**
Principles of Commercial Construction I provides fundamental theory in commercial construction. Students learn advanced skills in concrete (flat form work and tilt-up construction) and site preparation. (3/0)

CON 251 Commercial Construction Techniques I   **6.0**
Commercial Construction Techniques I provides practical applications of selected commercial construction techniques. Students learn construction techniques in concrete, flat work, form work, tilt-up construction, site preparation, and site layout. (0/18)

CON 253 Principles of Commercial Construction II   **3.0**
Principles of Commercial Construction II provides fundamental theory in commercial construction. Students learn advanced skills in superstructure construction (i.e., steel stud framing practices and iron work), exterior finishes and roofing components. (3/0)

CON 254 Commercial Construction Techniques II   **6.0**
Commercial Construction Techniques II provides practical applications of selected commercial construction techniques. Students learn construction techniques in superstructure construction, exterior finishes, and roofing components. (0/18)

CON 316 Sustainable Construction Science   **3.0**
Sustainable Construction Science introduces the students to the principles and applications utilized in residential construction which will improve the operating efficiency of a home. (3/0)

CON 317 Sustainable Building Materials   **3.0**
Sustainable Building Materials provides an introduction on various construction materials that have a positive impact on the environmental design. It emphasizes material characteristics, cost analysis, and recycling compared to traditional products. (3/0)

CON 318 Sustainable Foundations   **3.0**
Sustainable Foundations provides the students with three key issues of an energy efficient home pertaining to a properly designed foundation. The students will cover resource conservation, energy conservation, and moisture control. (3/0)

CON 319 Interior and Exterior Energy Principles   **4.0**
Interior and Exterior Energy Principles introduces the students to designing and building homes that are safe, healthy, durable, comfortable, energy efficient, and environmentally responsible. (4/0)

CON 325 Estimating   **3.0**
Estimating introduces students to the principles and techniques of estimating construction costs, with emphasis on quantity take-off, pricing elements of work, labor, equipment, material, subcontractor cost, and indirect costs. Spreadsheets and scheduling software will be used for computerized estimating. (3/0)

CON 348 Supervision and Leadership in Building Construction   **3.0**
Supervision and Leadership in Building Construction provides skills needed by professional contractors/carpenters. Students participate in eight seminar-style projects conducted by industry professionals. (3/0)

CON 425 Internship   **4.0**
Internship allows students to obtain building trades skills, training at an off-campus construction site. Students practice and acquire fundamental techniques and additional skills. Program chair approval is required. (0/16) **Prerequisite:** Building Construction Techniques II.

Criminal Justice

CRJ 100 Introduction to Criminal Justice   **3.0**
Introduction to Criminal Justice introduces the agencies and processes involved in the apprehension, conviction, and punishment of criminal offenders. Topics include law and the Constitution, the purpose of law enforcement, the role of the police officer, federal and state courts, penal institutions, probation and parole in present day life. (3/0)

CRJ 111 Police and Society   **3.0**
Police and Society provides an overview of the role and activities of police in American society. Students examine the origins of policing, the nature of police organization, work, and personality as well as the patterns of relations between police and the public. Topics include characteristics of the peace officer, police subculture, corruption, recruitment, and legal aspects of policing, such as search and seizure. (3/0)

CRJ 120 Introduction to Corrections   **3.0**
Introduction to Corrections examines the history, philosophy, and evolution of the American correctional process. Topics include the history of punishment, jail and prison systems, community-based corrections, and capital punishment. (3/0)

CRJ 130 Criminal Law   **3.0**
Criminal Law examines the means by which society attempts to use criminal law to prevent harm to society. It examines the acts that are declared criminal and the punishment for committing those acts, as well as current substantive criminal law, English common law, and the United States Constitution. Topics include crimes against the person, such as homicide; crimes against property and habitation, such as burglary; and crimes against public order and morals, such as sodomy. Students also examine defenses against prosecution, such as insanity and entrapment. (3/0)

CRJ 133 Constitutional Criminal Procedures   **3.0**
Constitutional Criminal Procedures examines legal aspects of investigative and arrest processes as well as rules governing the admissibility of evidence in court. It focuses primarily on police and correctional due process, application of the law, and civil liability concerns. Topics include search and seizure, arrest and interrogation, revocation and probation and parole, probable cause, and other timely issues. (3/0)

CRJ 142 Criminalistics   **3.0**
Criminalistics builds on the knowledge gained from Introduction to Forensic Investigation. This course examines the following topics in more depth and detail: the crime laboratory, establishing personal identity, trace evidence, physiological evidence, impression evidence, firearm evidence, and evidence processing. (3/0)
Prerequisite: Introduction to Forensic Investigation.

CRJ 160 Introduction to Forensic Investigation   **3.0**
Introduction to Forensic Investigation introduces various disciplines and techniques in forensic investigation. Topics included are Forensic Anthropology, Forensic Odontology, Forensic Entomology, Forensic Serology, and Criminalistics. (3/0)

CRJ 240 Criminal Investigation   **3.0**
Criminal Investigation covers the basic techniques and procedures utilized in conducting general criminal investigations. Topics include interviews & interrogations, surveillance, use of informants, undercover investigations and more. (3/0)
Prerequisite: Introduction to Criminal Justice.

CRJ 258 Ethical Issues in Criminal Justice   **3.0**
Ethical Issues in Criminal Justice introduces the student to ethical concepts, foundations, dilemmas, and applications, as applied to the police, courts, and correctional components of the Criminal Justice system. (3/0)
Prerequisite: Introduction to Criminal Justice.

CRJ 260 Medicolegal Death Investigation   **3.0**
Medicolegal Death Investigation continues the study of forensic investigation and crime scenes. This course examines the topics of medicolegal investigative systems, cause and manner of death, autopsy procedures and protocol, forensic medicine, crime scene reconstruction, and advanced forensic investigative techniques. (3/0)
Prerequisites: Introduction to Forensic Investigation and Criminalisitcs.

CRJ 290 Criminal Justice Cooperative Education   **3.0**
Criminal Justice Cooperative Education provides cooperative work experience related to criminal justice. Work experience hours are arranged. (0/4-24)
Prerequisite: Permission from the program chair.

CRJ 291 Forensic Investigation Cooperative Education   **3.0**
Forensic Investigation Cooperative Education provides students with work experience related to their career goals. Cooperative Education hours are arranged. (0/4-24)
Prerequisite: Permission from the program chair.

Culinary Arts, Restaurant and Hospitality Management

HCM 100 Sanitation and Safety   **2.0**
Sanitation and Safety presents basic food safety and sanitation requirements as well as employee safety in a food service facility. Emphasis focuses on inherent problems in maintaining a safe food supply and strategies to provide a wholesome product. The course outlines National Institute for the Food Industry (NIFI) standards and state food sanitation regulations. Topics include food spoilage and microbiology; government regulations regarding purchasing, storage, preparation and service of wholesome food; requirements for equipment and physical plant sanitation; and guidelines for employee safety. (2/0)

HCM 111 Principles of Baking I   **2.0**
Principles of Baking I introduces the fundamental principles involved in the baking process. Emphasis centers on ingredients used, conversion of standard recipes, and understanding methods for preparing quick breads, yeast breads, donuts, sweet rolls, roll-in dough, pie dough, pie fillings, cookies, and confectionary items. (2/0)

HCM 112 Principles of Baking II   **2.0**
Principles of Baking II presents instruction in the production of puff paste doughs, Danish rolls, croissants, choux-paste desserts, cheesecake, cooked puddings, cooked desserts, sugar art work with an emphasis in cake assembly and decoration. (2/0)
Prerequisites: Principles of Baking I and Sanitation and Safety.

HCM 113 Culinary Baking   **1.0**
Culinary Baking provides practical application of topics presented in the theory class. Emphasis centers on the use of scaling and baking equipment. Baking projects involve techniques in quick breads, yeast breads, cake donuts, yeast rolls, sweet rolls, coffee cakes, confectionery products, and cookies. (0/3)

HCM 121 Culinary Baking II   **1.0**
Culinary Baking II provides practical application of topics presented in the theory class. Emphasis centers on making up puff-paste desserts, choux-paste desserts, cake baking, Danish rolls, cheese cake, cooked puddings, and croissants. (0/3)
Prerequisites: Principles of Baking I and Sanitation and Safety.

HCM 176 World Cuisine   **2.0**
World Cuisine studies various ethnic cuisines of the world, their cultures, and their histories. Emphasis is on current trends and applications as students gain hands on experience. (2/0)

HCM 186 Culinary Foundations I   **3.0**
Culinary Foundations I introduces students to basic cooking principles. Topics include an overview of kitchen equipment, safety, sanitation, and basic preparation methods that includes soups, salads, sandwiches, breakfast items, vegetables and starches. (3/0)

HCM 187 Culinary Foundations II   **3.0**
Culinary Foundations II emphasizes techniques in stock and sauce preparation, meats, seafood and poultry. Students also identify various foods in international cuisine and the importance of attractive food presentation. (3/0)
Prerequisites: Culinary Foundations I and Sanitation and Safety.

HCM 191 Quantity Food Production I Lab   **4.0**
Quantity Food Production I Lab introduces students to basic skills and techniques of cooking. Students prepare food items in the various stations of the professional kitchen, rotating through the kitchen to practice proper use of equipment, safety and sanitation, and to produce basic quality menu items. Students prepare to serve the customer by practice in catering and dining room service. (0/12)

HCM 192 Quantity Food Production II Lab   **4.0**
Quantity Food Production II Lab continues experiences in the preparation of stocks, sauces, meat, poultry, and seafood items. Students rotate

through the stations of a professional kitchen. As students progress, they prepare more advanced menu items and quantity cooking projects. (0/12) **Prerequisites:** Quantity Food Production I Lab and Sanitation and Safety.

HCM 198 Regional Wine History   3.0
Regional Wine History gives students a strong, solid foundation for understanding wine, as well as wine and food pairing, and comprehending specific food types with their respective food strategies. Students gain knowledge in fundamental wine opening and serving techniques, learn to classify wines according to type, and recognize their distinguishing styles and classification methods. Students also discover the wine philosophies and major wine producing areas around the world leading to the comprehension of different variables needed to arrange and compile an effective wine menu. (3/0)

HCM 200 Dining Service   2.0
Dining Service provides an avenue for personal and professional growth. The areas surveyed include grooming, appearance, attitude, and behavior. Related topics include setting up for service, serving the customer, taking orders, and cashiering that occur in catering functions and gourmet dinners. Students assess how national organizations and global concerns affect careers in the hospitality industry. (1/3)

HCM 214 Culinary Media/Networking   3.0
Culinary Media/Networking explores how the media affects the culinary world through trends, advertising, and business opportunities. It also examines the evolution of the media's development as a tool to reach millions regarding food, food safety, and cooking styles. Students produce a food-related video or audio clip. (3/0)

HCM 216 Pastries   1.0
Pastries provides students an in-depth study of baking emphasizing American and European pastries. Topics include application of different ingredients for fancy cookies, petit fours, puff pastries, pate a choux, meringues, assorted pastes and tarts, icing, fillings, and glazes. (0/3)

HCM 217 Artisan Breads   1.0
Artisan Breads provides students the information, tools, and instruction to gain proficiency in preparation of a variety of artisan breads. Emphasis is placed on learning to mix, ferment, shape, bake, and store hand-crafted breads. Students focus on traditional fermentation, as well as the science of the ingredients. Students learn assembly and speed necessary to increase their proficiency in meeting production deadlines with quality products. (0/3)

HCM 218 Cakes   1.0
Cakes builds upon previously learned baking competencies and students apply those skills with new products to create more elaborate tortes and cakes using complex finishing methods. Glaze application, use of decorative sponges, and building multi-component cakes are emphasized. Topics include comparison of classical and modern preparations; classical cakes; glazed, iced, molded, and cream-filled cakes and bombes. (0/3)

HCM 219 International Breads   1.0
International Breads examines the evaluation of bread and yeast products with their adaptability in world cuisine. Students prepare an assortment of bread products from around the world, including flatbreads, classic French baguettes, and European rye. (0/3)

HCM 220 Chocolate and Sugar   1.0
Chocolate and Sugar focuses on chocolate and confectionery technology, ingredient function, and the production of chocolates and confections in an artisan setting. Vital concepts in both theory and practice include controlling crystallization of fats and sugars, manipulating water and free water in centers, and understanding the mechanics of emulsions. Ingredient function focuses on fats, nutritive sweeteners, dairy products, binding agents, and chocolate. (0/3)

HCM 221 Cake Decorating   1.0
Cake Decorating introduces students to advanced decorating techniques. Students refine their skills with a variety of icings including butter cream, royal icing, and fondant. (0/3)

HCM 222 Convenience Foods   1.0
Convenience Foods studies a variety of convenience items on the market today and teaches students methods for altering these products to improve quality and flavor. This course examines methods of incorporating these items in menus for time saving and consistency. Students evaluate cost and quality compared to scratch baking. (0/3)

HCM 223 Laminated Doughs   1.0
Laminated Doughs provides experience in preparing croissants and Danish. Students learn the techniques for proper handling of laminated dough and learn to recognize quality products. (0/3)

HCM 225 Food Artistry-Styling   2.0
Food Artistry-Styling provides experience in preparing and merchandising restaurant-style plated entrées, soups, salads, sandwiches, and plated desserts. This course includes menu planning, plate layout, garnishment, saucing, and component styling. (2/0)

HCM 230 Nutrition and Wellness   3.0
Nutrition and Wellness introduces the science of nutrition and the nutrient value of foods with emphasis on the role of nutrition in maintaining one's well-being. Topics include computer analysis of meals, diet and recipes, as well as the study of the role of fats, carbohydrates, proteins, water, minerals, and vitamins in the diet and recipes. Emphasis centers on the development of healthy foods. (3/0)

HCM 240 Menu Planning and Design   2.0
Menu Planning and Design introduces the concepts of planning menus for institutional and restaurant food service operations with emphasis on customer expectations and how the menu planner identifies those in establishing a workable menu format. Topics include an overview of menu planning considerations, menu marketing and design, and specific criteria for selected restaurants and institutional menus. (2/0)

HCM 243 Soups and Sauces   1.0
Soups and Sauces introduce students to scratch cookery methods through areas of study which include stocks, thickeners, and roux-based sauces. Topics include the five mother sauces, hot and cold butter sauces, emulsion sauces, salsas, sambas, vinaigrettes, and reductions. Cream, clear, and potage soups are also discussed. (1/0)

HCM 244 Soups and Sauces Lab   2.0
Soups and Sauces Lab provides students hands-on cooking experiences in scratch cookery through small batch assignments. Areas of study include stocks, thickeners, and roux-based sauces to include the five mother sauces. Topics include hot and cold butter sauces, emulsion sauces, salsas, sambas, vinaigrettes, and reductions. Cream, clear, and potage soups are prepared. (0/6)

HCM 245 Design and Layout of Food Service Facilities   3.0
Design and Layout of Food Service Facilities investigates the purchase, installation, operation, and routine maintenance of food service equipment. Related topics of design, atmosphere, space allocation and wise energy management will be addressed. The purpose of this class is to discuss the myriad of decisions a new restaurateur or food service manager will be faced with as they enter the industry. (3/0)

HCM 246 Garde Manger/Charcuterie   1.0
Garde Manger/Charcuterie introduces students to traditional upscale pantry preparation. Students learn techniques for artistic displays of hors d'oeuvres, canapés, pâtés, terrines, and charcuterie. (1/0)

HCM 247 Garde Manger/Charcuterie Lab   2.0
Garde Manger/Charcuterie Lab applies techniques in artistic displays of hors d'oeuvres, canapés, pâtés, terrines, and charcuterie. Students gain practical experience preparing and serving theme buffets for guests. (0/6)

HCM 248 A la Carte Cooking   2.0
A la Carte Cooking identifies a la carte cooking methods and fine dining principles. Students gain an appreciation for the role of the menu as a tool in this process. Projects include research of dishes and plate presentations. (2/0)

HCM 249 A la Carte Cooking Lab   **4.0**
A la Carte Cooking Lab introduces students to line cooking skills for fine dining as well as time budgeting and management. Students work in stations which include salads, broiler, sauté, expeditor, and preparation. Students plan and prepare upscale theme menus. (0/12)

HCM 255 Purchasing   **3.0**
Purchasing is intended to promote an understanding of the managerial aspects of the hospitality purchasing activity. Emphasis is placed on strategic selection and procurement considerations based on item need, value, and supplier information. The purchasing targets are food, beverage, supplies, equipment, services and furnishings. Particular attention will also be given to product identification and to the receiving, storing, and issuing sequence, as well as to the technological applications and concepts in purchasing. (3/0)

HCM 257 Advanced Baking I   **3.0**
Advanced Baking I examines baking methods and principles from a nutritional and chemical/physical point of view. Students conduct experiments (using controlled formulas) on various baking ingredients and products in order to develop a better understanding of baking principles. (3/0)
Prerequisites: Principles of Baking I and Principles of Baking II.

HCM 258 Advanced Baking II   **3.0**
Advanced Baking II is a continuation of Advanced Baking I. Emphasis is on preparation of common products with a variety of ingredients; diets such as vegan, diabetic, and gluten-free; nutritional labels; and preparation of desserts, breads, and cakes for persons with special dietary needs. (3/0)
Prerequisite: Advanced Baking I.

HCM 267 Baking Science   **2.0**
Baking Science takes an in-depth look at how baking works. Students examine ingredients and the role that they play in the overall bake shop product. Students also study chemical reactions and the science behind leaveners and other ingredients. (2/0)
Prerequisite: Principles of Baking I.

HCM 274 Baking Seminar   **2.0**
Baking Seminar gives students a first-hand look at the industry. Industry speakers give presentations and students tour industry facilities. Students discuss current event topics as a primary focus to enhance critical thinking ability as it pertains to the hospitality industry. (2/0)

HCM 278 Cost Control   **2.0**
Cost Control examines the control process applicable to a food service operation. Emphasis is on the principles of controlling food, beverage, and labor costs. Topics include cost and sales controls that can be established for food and beverage operations. Students analyze labor costs and methods to control them. (1/2)

HCM 310 Hospitality Law   **3.0**
Hospitality Law introduces the legal considerations of hospitality property management. The course stresses how to keep legal pitfalls from becoming problems. (3/0)

HCM 330 Hospitality Personnel Management   **3.0**
Hospitality Personnel Management introduces concepts relevant to managing and communicating in the hospitality organization by presenting a perusal of the managerial process. Topics include personnel planning, organizing, staffing, directing, motivating, and problem-solving skills necessary for effective management. Additional topics cover the development of management as a discipline, theories and styles of management as well as contemporary functions of the managerial role. (3/0)

HCM 343 Recipe Costing and Menu Pricing   **2.0**
Recipe Costing and Menu Pricing emphasizes that need to develop standardized recipes for costing and menu pricing purposes. Students calculate the cost of recipes and food products and determine portion costs and meal costs. Students evaluate and apply various theories of menu planning. (1/2)

HCM 512 Culinary Arts Internship   **2.0**
Culinary Arts Internship provides students with work experience related to their area of career interest within the hospitality industry. Work experience may be in baking, culinary arts, supervision, or related areas. Hours are arranged. (0/8)
Prerequisite: Permission from program chair.

HCM 517 Baking Internship   **2.0**
Baking Internship provides students with supervised work experience in the area of baking and pastry art. Students select and secure a position in the industry where they are able to apply knowledge and techniques in the baking field. Hours are arranged. (0/8)
Prerequisite: Permission from program chair.

HCM 525 Baking Capstone   **1.0**
Baking Capstone gives students the opportunity to produce a hot dessert, a cold dessert, a product using choux paste, and a yeast bread item. Students have a four-hour time limit and need to make specified quantities of each product. This class must be taken in the student's final semester. (1/0)
Prerequisite: Permission from the program chair.

HCM 532 Culinary Capstone   **2.0**
Culinary Capstone gives students an opportunity to plan, arrange, direct and coordinate a menu. The student must also perform a mystery basket skills test during finals week. This class must be taken in the student's final semester. (2/0)
Prerequisite: Permission from the program chair.

HCM 598 Hotel Front Office Management   **3.0**
Hotel Front Office Management presents how to perform and manage front office functions and shows how these functions affect the overall operation of a hotel. Emphasis stresses how guest concerns shape management strategies and front office procedures. The course incorporates current technology and discusses the effects of today's multicultural work force, the labor shortage, and the Americans with Disabilities Act. (3/0)

Cultural Studies

CLS 183 Baseball and American Culture   **3.0**
Baseball and American Culture examines the game of baseball and its impact on the reflection of American society. Some of the topics covered include: the Negro Leagues and baseball's eventual integration, the business of baseball involving labor relations, promotions, ball park construction, the evolution of the game and its heroes, and comparison between minor and major league baseball. The course includes visits to major and minor league games and guest speakers. (3/0)

CLS 184 Rock and Roll and American Culture   **3.0**
A major aspect of the American experience since World War II has been the birth and evolution of rock and roll music. This class will focus on the connection between rock and roll music and American culture. We will examine the roots of rock and roll and its origins in folk music, country, and the blues. From its birth in the 1950s, the class will study how rock and roll has evolved and changed over the years as it reflects the ongoing changes of American culture. Some of the genres that rock and roll music has evolved into that will be covered include; doo-wop, surf music, the British invasion, folk rock, Motown, heavy metal, psychedelic rock, funk, glam rock, punk, disco, hip hop, grunge, and new wave. (3/0)

Dental Assistant

DEA 271 Dental Theory I   **6.0**
Dental Theory I provides basic knowledge to build a foundation based on health sciences associated with the practice of dentistry. Topics include microbiology and pathology, which include dental caries, dental nutrition, preventive dentistry, and dental anatomy. (6/0)

DEA 275 Dental Theory II   **5.0**
Dental Theory II is a continuation of Dental Theory I. Emphasis focuses on anesthesia and a basic foundation of pharmacology from the dental per-

spective. Students review recording of data in the dental practice, dental office emergencies, and ethical foundations. (4.5/1)
Prerequisite: Dental Theory I

DEA 314 Radiography I   2.0
Radiography I offers an introduction to scientific principles of oral radiography including production and absorption of radiation, x-ray unit function, imaging systems, quality assurance, radiation biology, and radiographic interpretation. (2/0)
Co-requisite: Dental Theory I.

DEA 320 Radiography II   2.0
Radiography II continues Radiography I with a study of the paralleling and bisecting techniques of exposing radiographs. Emphasis centers on developing a clinical competency in exposing and processing radiographs. (0/6)
Prerequisite: Radiography I.

DEA 403 Dental Materials   3.0
Dental Materials examines the theory of materials utilized at chairside and in chairside-related procedures. Practical application includes preparing impression materials, restorative materials, models, custom trays, occlusal registrations, and temporary restorations. (1/6)

DEA 502 Dental Assisting Principles   4.0
Dental Assisting Principles provides techniques in four-handed dentistry, knowledge of general dental armamentarium, OSHA compliance, infection control protocol, and legal intraoral functions. (3/4)

DEA 582 Dental Assisting Experience I   2.0
Dental Assisting Experience I provides experience in a clinical setting. Emphasis centers on chairside assisting of general dentistry with scheduled rotations through the dental specialties. (0/6)
Prerequisites: Dental Assisting Principles and Dental Materials.

DEA 585 Dental Assisting Experience II   5.0
Dental Assisting Experience II offers additional experience in the dental office setting. The student's role increases in chairside assisting of general dentistry. A specialty rotation is recommended. (0/15)

DEA 602 Dental Specialties   4.5
Dental Specialties emphasizes competence in coronal polish and fluoride application and also develops a foundation in the following specialty areas: periodontics, oral maxillofacial surgery, endodontics, orthodontics, and pediatric dentistry. (4/2)
Prerequisite: Dental Assisting Principles.

DEA 706 Procedures for the Dental Office   2.5
Procedures for the Dental Office introduces office receptionist responsibilities. The course includes resume writing, interviewing techniques, record keeping, insurance forms, telephone techniques, and appointment making. (1.5/3)

DEA 933 Internship Seminar   1.0
Internship Seminar emphasizes group discussion and individual conferences on clinical experiences. The course includes preparation for the National Board examination. (1/0)
Prerequisite: Dental Assisting Experience I.

Dental Hygiene

DHY 114 Dental Hygiene Anatomical Sciences   4.0
Dental Hygiene Anatomical Sciences deals with the fundamental study of head and neck anatomy, oral anatomy, tooth morphology, functions of the teeth, individual tooth identification, and physiology of occlusion. Instruction emphasizes dental nomenclature and the anatomy of the teeth and surrounding structures. (3/3)
Prerequisites: Human Anatomy and Physiology I with Labs and Human Anatomy and Physiology II with Labs.

DHY 120 Oral Histology and Embryology   0.5
Oral Histology and Embryology presents the fundamentals of oral histology and embryology of facial structure and dental tissues. (.5/0)
Prerequisites: Human Anatomy and Physiology I with Labs and Human Anatomy and Physiology II with Labs.

DHY 132 Dental Pharmacology   3.0
Dental Pharmacology studies drugs and their actions on living tissues. This course includes the drugs used as an aid in the diagnosis, treatment, and prevention of disease or to control or improve any physiological or pathological condition. (3/0)
Prerequisites: Human Anatomy and Physiology I with Labs, Human Anatomy and Physiology II with Labs, and Introduction to Organic and Biochemistry.

DHY 141 General and Oral Pathology   3.0
General and Oral Pathology presents the basic concepts of the disease process and the oral manifestations of inflammation, degenerative changes, neoplasms, and developmental anomalies of the oral cavity. (3/0)
Prerequisite: Dental Hygiene Anatomical Sciences.

DHY 153 Dental Emergencies   1.0
Dental Emergencies examines elements of dental hygiene care as they relate to the treatment planning of special patient and medical emergencies in the dental office. A major portion of the course deals with the prevention, recognition and management of medical emergencies which occur in the dental office with specific emphasis on systemic disease processes. (1/0)

DHY 155 Radiology   2.0
Radiology offers an introduction to scientific principles of oral radiography including production and absorption of radiation, x-ray unit function, imaging systems, quality assurance, radiation biology, and radiographic interpretation. (2/0)

DHY 157 Radiology Lab   1.0
Radiology lab experiences develop competence in exposing, processing, mounting, critically evaluating and interpreting dental radiographs. (0/3)

DHY 174 Principles of Dental Hygiene   5.0
Principles of Dental Hygiene introduces basic principles of clinical dental hygiene. The etiology of deposits and the effect on oral tissue and the theory and techniques of instrumentation in removal of deposits are emphasized in the lab portion. (3/6)

DHY 183 Dental Hygiene I Theory   2.0
Dental Hygiene I Theory continues the instrumentation techniques provided via clinical experience in oral prophylaxis techniques. Emphasis centers on comprehensive patient care on the simple patient classifications including patient assessment, treatment planning, patients with special needs, polishing techniques, application of preventive therapies, and radiographic skills. (2/0)

DHY 184 Clinical Dental Hygiene I   3.0
Clinical Dental Hygiene I continues the instrumentation techniques provided via clinical experience in oral prophylaxis techniques, application of preventive therapies, and radiographic skills to beginner level. (0/12)

DHY 211 Periodontology   2.0
Periodontology provides an in-depth study of the pathogenesis of periodontal disease. It presents the clinical characteristics, histopathology, etiology, and risk factors of periodontal diseases. Special emphasis centers on the role of the immune system in the initiation and progression of periodontal disease. (2/0)
Prerequisite: Microbiology.

DHY 213 Periodontology II   1.0
Periodontology II builds on the knowledge base acquired in Periodontology. Based on individualized patient needs, the student explores the rationale and clinical indications of surgical techniques, implant maintenance as well as new products within the field of periodontics. (1/0)
Prerequisite: Periodontology.

DHY 226 Biomaterials for the Dental Hygienist   2.5
Biomaterials for the Dental Hygienist deals with the various materials used in restorative dentistry and other specialty areas in dentistry to fabricate dental appliances and tooth restorations. The course consists of lecture and laboratory components to 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, clinical applications of materials, the need for educating patients regarding these materials, and techniques for placement of the materials in the oral cavity. (2/1.5)

DHY 228 Clinical Preventive Denistry   2.0
Clinical Preventive Dentistry focuses on products and techniques for individualized oral health care instruction. It includes relationship of the saliva and the caries process to oral disease. Emphasis is given to geriatric, pediatric and medically compromised patients' special self care needs. (2/0)
Prerequisite: Dental Hygiene Anatomical Science.

DHY 230 Oral Health Nutrition   2.0
Oral Health Nutrition presents the fundamentals of nutrition and relates them to health and diseases of the oral tissues. Emphasis will be on patient nutrition counseling and applying the information to the clinic setting. (2/0)
Prerequisites: Introduction to Organic and Biochemistry, or General Chemistry I and II.

DHY 241 Dental Ethics   2.0
Dental Ethics surveys baseline knowledge of ethical theories, various models of decision-making, and major contemporary health care issues and dilemmas facing the dental professional, such as the mandatory reporting of adult and child abuse. The course covers legal aspects of health care as well as statutes, rules, and regulations pertaining to the practice of dentistry and dental hygiene in the states of Iowa and Nebraska. (2/0)

DHY 252 Community Dentistry   3.0
Community Dentistry (a two-semester course) includes community site rotations. The course relates the concepts of dental public health and preventive dentistry, including principles of biostatistics, epidemiology, educational instruction, dental manpower, and delivery systems. Students plan, implement, and evaluate a community dental health project. (3/0)

DHY 253 Community Oral Health Rotations   1.0
Community Oral Health Rotations continues the previous semester course in which students apply public health/health education principles through implementing community dental health projects and through participating in extramural rotations outside of the community college and dental school setting. Emphasis centers on students interacting with a variety of patients, including children, the physically and mentally handicapped, indigent populations, and geriatric groups. (0/3)
Prerequisite: Community Dentistry.

DHY 275 Dental Hygiene II Theory   1.0
Dental Hygiene II Theory continues the clinical practices providing further instruction and application of patient education and oral prophylaxis techniques. Emphasis focuses on continued improvement and advancement in patient assessment skills, instrumentation and radiographic skills, and total care on simple and moderate patient classifications. (1/0)
Prerequisite: Dental Hygiene I Theory.

DHY 286 Clinical Dental Hygiene II   2.0-4.0
Clinical Dental Hygiene II continues the clinical practices providing further instruction and application of patient education and oral prophylaxis techniques. Emphasis focuses o continued improvement and advancement in patient assessment skills, instrumentation and radiographic skills, and total care on simple and moderate patient classifications. (0/16)
Prerequisite: Clinical Dental Hygiene I.

DHY 288 Local Anesthesia and Pain Control   1.0
Local Anesthesia and Pain Control builds on the knowledge base of anatomy and physiology. Emphasis focuses on patient pain control, therapies and techniques. (1/0)
Prerequisite: Dental Hygiene Anatomical Science.

DHY 293 Dental Hygiene III Theory   2.0
Dental Hygiene III Theory expands clinical practices providing further instruction and application of patient education skills, nonsurgical periodontal therapy and maintenance, and preventive therapeutics on more complex periodontal patients. Emphasis focuses on developing more advanced instrumentation and radiographic skills, improving efficiency and effectiveness in patient assessment, and providing comprehensive dental hygiene care to simple, moderate, and advanced cases. Topics include but are not limited to advanced periodontal instrumentation, patient education, and occupational hazards. (2/0)
Prerequisite: Dental Hygiene II Theory.

DHY 295 Clinical Dental Hygiene III   2.0-4.0
Clinical Dental Hygiene III expands clinical practices providing further instruction and application of patient education skills, oral prophylaxis techniques, and preventive therapeutics on more complex periodontal patients. Emphasis focuses on developing more advanced instrumentation and radiographic skills, improving efficiency and effectiveness in patient assessment, and providing comprehensive dental hygiene care to simple, moderate and advanced cases. (0/16)
Prerequisite: Clinical Dental Hygiene II.

DHY 303 Dental Hygiene IV Theory   2.0
Dental Hygiene IV Theory continues clinical practices providing the opportunity to synthesize knowledge and skills learned in all first and second year dental hygiene practice courses while rendering comprehensive dental hygiene care to patients at a program exit-level of competence. Students examine basic research principles to facilitate reading/critiquing of professional and scientific literature in order for the dental hygienist to continue to learn about new treatment modalities, scientific discoveries, oral hygiene products on the market, and other appropriate topics that enhance the practice of dental hygiene. (2/0)
Prerequisite: Dental Hygiene III Theory.

DHY 304 Clinical Dental Hygiene IV   4.0
Clinical Dental Hygiene IV continues clinical practices providing the opportunity to synthesize knowledge and skills learned in all first and second year dental hygiene clinical courses while rendering comprehensive dental hygiene care to patients at a program exit-level of competence. (0/16)
Prerequisite: Clinical Dental Hygiene III.

Diesel Technology

DSL 144 Electrical Systems   4.0
Electrical Systems is designed to introduce the electrical system requirements for diesel powered vehicles and equipment. Batteries, starting and charging systems as well as circuitry and basic electronics are covered. (4/0)

DSL 324 Introduction to Diesel   4.0
Introduction to Diesel is designed to introduce the diesel engine. Engine development, history, operation theories, and basic subsystems and component nomenclature are covered. Knowledge of basic repair procedures and use of various tools for testing and measuring in both English and metric systems of measurement are examined. (4/0)

DSL 354 Engines I   4.0
Engines I is designed to cover specific technical repair procedures for various engine manufacturers and models. While all engines are basically the same, this course examines the specifics of certain models and manufacturer-recommended repair procedures. General engine construction and design modifications, including the latest production and service changes, are examined. (4/0)

DSL 364 Engines II   4.0
Engines II is a continuation of Engines I and is also designed to include specific technical repair procedures for various engine manufacturers and models. While all engines are basically the same, this course examines the specifics of certain model and manufacturer recommended repair procedures. General engine construction and design modifications are examined including the latest production and service changes. (4/0)

DSL 444 Fuel Systems   **4.0**
Fuel Systems is designed to provide information about diesel fuel injection systems. Mechanical and electronic injection systems, which are commonly used throughout the diesel industry, are studied. Basic system design, pump operation, and tune-up adjustments are covered. Computer diagnostics and software applications used in relation to the heavy-duty engine maker are covered. (4/0)

DSL 544 Transmissions/Drive Axle   **4.0**
Transmissions/Drive Axle is designed to provide knowledge of in-depth operational theories, diagnosis, and repair procedures of heavy-duty truck transmissions and rear drive axles. Specific operational features and repair procedures of the popular units in use today are presented. Transmissions, air shifting, power dividers, two-speed axles, and other related equipment are covered. (4/0)

DSL 654 Hydraulic/Air Brakes   **4.0**
Hydraulic/Air Brakes is designed to introduce the braking systems of vehicles that use both hydraulic and compressed air actuation. Component operation repair and testing are covered. Basic hydraulics and pneumatic systems, which are in common use on vehicles, are also covered. (4/0)

DSL 674 Chassis/Driveline   **4.0**
Chassis/Driveline is designed to introduce the truck chassis and methods used to integrate various components into the vehicle. Power flow from the clutch, drive shaft and rear axles to the wheels as well as steering and suspension systems are covered. (4/0)

DSL 742 Air Conditioning/Refrigeration   **2.0**
Air Conditioning/Refrigeration is designed to introduce the theories of mechanical refrigeration/heating systems. Application to vehicle climate control and trailer refrigeration/heating and system service procedures are covered. (2/0)

DSL 829 Preventative Maintenance   **2.0**
Preventative Maintenance is designed to introduce the student to the concept and objectives of a complete preventative maintenance inspection and repair program. The inspection, documentation, record keeping and repair procedures will be covered. (2/0)

DSL 846 Diesel Lab I   **6.0**
Diesel Lab I provides a hands-on shop/lab in which students become familiar with the diesel lab/shop facilities and develop the ability to work in a shop environment. The learning experience allows students to apply classroom instruction to develop the skills needed to become productive diesel technicians. Students accomplish training in the diesel shop/lab on diesel trucks and/or related components. (0/18)

DSL 856 Diesel Lab II   **6.0**
Diesel Lab II provides a hands-on shop/lab in which students perform assigned tasks to develop necessary skills for job-entry level. Emphasis centers on student motivation, self-guidance, and the use of reference materials. Students develop concentration on the task and the use of proper procedures because training takes place in the diesel shop/lab on trucks or related equipment. (0/18)

DSL 863 Diesel Lab III   **3.0**
Diesel Lab III consists of a hands-on shop/lab in which students perform assigned tasks on school and/or customer-owned equipment. Student evaluation centers on self-guidance and job completion related to time and accuracy. Training takes place on trucks or related equipment in the diesel shop/lab. (0/9)

DSL 876 Diesel Lab IV   **6.0**
Diesel Lab IV emphasizes the technical skills needed to enter the work environment and the practice of basic skills, such as adjustments and maintenance skills. Training takes place on school and/or customer-owned trucks or related equipment in the diesel shop/lab. (0/18)

DSL 881 Diesel Internship I   **3.0**
Diesel Internship I provides work experience related to diesel technology lab training. Internship hours are schedule on an arranged basis. (0/12)
Prerequisite: Diesel Labs I, II, and III and permission from the program chair.

DSL 883 Diesel Internship II   **6.0**
Diesel Internship II provides work experience related to diesel technology lab training. Internship hours are scheduled on an arranged basis. (0/24)
Prerequisites: Diesel Labs I, II, and III and permission from the program chair.

DSL 886 Diesel Lab V   **6.0**
Diesel Lab V emphasizes the technical skills needed to enter the work environment with an increased emphasis on completing projects in time frames according to industry standards. (0/18)

DSL 893 Diesel Lab VI   **3.0**
Diesel Lab VI emphasizes the technical skills needed to enter the work environment. Students focus on review of pertinent procedures just prior to entering the work force. Students cover specifics, such as tune-up and troubleshooting of various engines. (0/9)

Early Childhood Education

ECE 103 Introduction to Early Childhood Education   **3.0**
Introduction to Early Childhood Education gives students a historical and philosophical foundation of the field of early childhood education. The course includes an overview of assessment and evidence-based practices and addresses the influences of family centered practice, inclusion, culture and language. Students will explore early childhood careers. (3/0)

ECE 120 Communication with Families   **2.0**
Communication with Families includes the interrelationship of the early childhood professional and families. Various types of family constellations are identified and explored. Current trends in the field and rights and responsibilities of professionals and families are highlighted. (2/0)

ECE 125 School Age Child   **2.0**
School Age Child includes the needs that correspond with each developmental level of the child between the ages of six and twelve. Emphasis is on appropriate activities and programming. (2/0)

ECE 133 Child Health, Safety and Nutrition   **3.0**
Child Health, Safety and Nutrition focuses on evidence-based concepts in relationship to the growth and development of the young child ages birth to eight. The course blends current theory with problem-solving, practical applications and assessments. Students will explore collaboration with families and assess the role of culture, language and ability on helath, safety, and nutrition decisions in early childhood settings. (3/0)

ECE 153 Early Childhood Curriculum I with Lab   **4.0**
Early Childhood Curriculum I with Lab focuses on the development, implementation and assessment of appropriate environments and curricula for young children. Students prepare to utilize developmentally appropriate practices in a context of family and culturally sensitive care. Emphasis is on understanding children's developmental stages and developing appropriate learning opportunities, interactions and environments in the following areas: dramatic play, art, music, fine and gross motor play. (3/3)

ECE 156 Early Childhood Curriculum II with Lab   **4.0**
Early Childhood Curriculum II with Lab focuses on the development, implementation and assessment of appropriate environments and curricula for young children ages three through eight. Students prepare to utilize developmentally appropriate evidence-based practices in a context of children's culture, language and abilities. Emphasis is on understanding children's developmental stages and developing appropriate learning opportunities, interactions and environments in the following areas: emergent literacy, math, science, technology and social studies. (2/6)
Prerequisite: Early Childhood Curriculum I with Lab.

ECE 170 Child Growth and Development   **3.0**
Child Growth and Development examines typical and atypical development of children from conception to adolescence in all developmental domains. The course examines interactions between child, family and society within a variety of community and cultural contexts. Students examine theories associated with our understanding of children. (3/0)

ECE 221 Infant/Toddler Care and Education   **3.0**
Infant/Toddler Care and Education focuses on care, education, and assessment of children from birth to thirty-six months. This course prepares students to utilize developmentally appropriate practices including responsive care giving, routines as curriculum, importance of relationships with diverse families and a focus on the whole child in inclusive settings. (3/0)
Prerequisite: Child Growth and Development.

ECE 244 Early Childhood Guidance with Lab   **4.0**
Early Childhood Guidance with Lab focuses on effective approaches and positive guidance strategies for supporting the development of all children. This course emphasizes supportive interactions and developmentally appropriate environments. Students use assessment to analyze and guide behaviors and study the impact of families and diversity on child guidance. (3/3)

ECE 258 Early Childhood Field Practicum   **6.0**
Early Childhood Field Practicum is a culminating experience in the early childhood studies program with direct work-related experience in various early childhood settings. Application of skills acquired in the program to everyday responsibilities by early childhood professionals is included as well as demonstration of leadership abilities through facilitating quality early childhood programming. (1/20)
Prerequisites: A grade of "C" or higher in Early Childhood Field Experience and permission from the program chair.

ECE 268 Early Childhood Field Experience   **4.0**
Early Childhood Field Experience is an application of research and theory in an early childhood setting. Included are planning, leading, and evaluating experiences that demonstrate quality early childhood programming. (1/12)
Prerequisites: Child Health, Safety and Nutrition; Child Growth and Development; Early Childhood Curriculum I and II with Labs; Introduction to Early Childhood Education; Early Childhood Guidance with Lab; and Communication with Families.

ECE 287 Exceptional Learner   **3.0**
Exceptional Learner is an overview of individuals with physical, cognitive, and emotional needs, as well as those who are gifted. Educational strategies for meeting those needs are explored. Federal laws for IEPs and IFSPs are discussed. (3/0)
Note: Co-numbered with EDU 245.

ECE 290 Early Childhood Administration   **3.0**
Early Childhood Administration is an introduction to methods of administering a quality early childhood program. Emphasis is on enrollment, budgeting, staffing, and equipping a program. Management styles are explored as students learn methods for working with staff, families, community, and related professionals. (3/0)

Economics

ECN 120 Principles of Macroeconomics   **3.0**
Principles of Macroeconomics introduces the fundamentals of macroeconomic analysis, emphasizing the underlying principles and concepts of the American economic system. Topics include national income accounting, fiscal policy, Keynesian economics, monetary policy and the Federal Reserve System, supply-side economics, and macroeconomic policy issues, such as inflation, unemployment, and economic growth. (3/0)

ECN 130 Principles of Microeconomics   **3.0**
Principles of Microeconomics introduces the fundamentals of microeconomic analysis. The underlying concepts of scarcity and choice form the foundation for examining individual decisionmaking in the economy and the interaction among consumers, firms, unions, and government. Topics include elasticity, utility, product, and factor markets, business organiza-

tion, antitrust legislation, labor laws, international trade and finance, and microeconomic policy issues. (3/0)

Education

EDU 210 Foundations of Education   **3.0**
Foundations of Education brings students into contact with the numerous facets and issues involved in American elementary and secondary education. Students learn about teaching as a profession, the philosophy of education, education in the historical context, curriculum development, and contemporary issues facing the public and educators. (3/0)

EDU 235 Children's Literature   **3.0**
Children's Literature surveys and evaluates numerous types of literature for children. The course introduces the student to a comprehensive selection of authors and illustrators of children's literature. Students read poetry, learn the technique of story telling, and develop important skills related to literature selection for children. Presentation skills with children are also explored. (3/0)

EDU 240 Educational Psychology   **3.0**
Educational Psychology applies the principles of psychology to classroom contexts. Topics include child/adolescent development, learning, motivation, instructional techniques, and assessment/evaluation. (3/0)
Prerequisite: Child Growth & Development or Developmental Psychology.
Note: Co-numbered with PSY 281

EDU 245 Exceptional Learner   **3.0**
Exceptional Learner is an overview of individuals with physical, cognitive, and emotional needs, as well as those who are gifted. Educational strategies for meeting those needs are explored. Federal laws for IEPs and IFSPs are discussed. (3/0)
Note: Co-numbered with ECE 287.

Electronic Engineering Technology

ELT 109 Electronics Mathematics   **3.0**
Electronics Mathematics prepares potential engineering technology students for the mathematics required for success in the field of electronics. It is calculator-based mathematics that covers numbering systems, roots, powers, fractions, decimals, percents, linear equations, factoring, graphing, simultaneous equations, complex numbers, trigonometry, trigonometric identities, logarithms, and Boolean Algebra. All mathematical topics are covered using electronic applications. (3/0)

ELT 151 Industrial Electricity   **3.0**
Industrial Electricity is an introductory course that provides a basic electricity background. The course covers 3-phase power distribution and circuits related to the operations of motors, generators, and transformers in an industrial setting. Students also examine Ohm's Law and how it is applied to series, parallel and series-parallel circuits using resistors, capacitors and inductors. (2/2)

ELT 157 Industrial Electricity II   **3.0**
Industrial Electricity II expands student knowledge of industrial electrical devices. Programmable logic controllers are used extensively with a variety of input and output devices. (2/2)

ELT 158 Industrial Electronics I   **4.0**
Industrial Electronics I examines ladder logic used in programmable logic controllers, AC motors, DC motors, industrial power supplies, inverters, converters, open-loop feedback systems, photoelectric devices, SCR, TRI-AC, and power transistors. Students also study robotics and the control of robotic motion. (4/0)
Co-requisite: Industrial Electronics I Lab.

ELT 159 Industrial Electronics I Lab   **1.0**
Industrial Electronics I Lab uses hands-on projects in programmable logic control, motor control, and industrial wiring to develop skills in the use of industrial electronic devices in a manufacturing setting (0/2)
Co-requisite: Industrial Electronics I.

ELT 160   Advanced Programmable Logic Controller Programming   5.0
Advanced Programmable Logic Controller Programming builds upon the ladder logic programming in Industrial Electronics I. A full range of peripheral equipment is integrated with the controller's logic programming and related to an industrial setting. Programming of specific programmable logic controllers to perform industrial tasks is emphasized. (5/0)
Prerequisite: Industrial Electronics I.

ELT 313   Digital Circuits I   4.0
Digital Circuits I covers numbering systems to include binary, octal, and hexadecimal that lead into an analysis of logic circuitry. Students explore gating circuits, combinational logic, counters, and registers. (4/0)
Co-requisite: Digital Circuits I Lab.

ELT 314   Digital Circuits I Lab   1.0
Digital Circuits I Lab consists of laboratory experiments involving all digital circuits analyzed in the associated lecture courses. Students build and test experimental circuits and use troubleshooting techniques with digital instrumentation. (0/2)
Co-requisite: Digital Circuits I.

ELT 331   Circuit Analysis I   4.0
Circuit Analysis I introduces the principles of electric circuits. It includes the study of voltage, current, resistance, power, energy, magnetism, electromagnetism, capacitors, inductors, and transformers. Students analyze these devices in series, parallel, series-parallel circuits as well as motors and generators, using AC and DC voltage. (4/0)
Co-requisite: Circuit Analysis I Lab.

ELT 332   Circuit Analysis I Lab   1.0
Circuit Analysis I Lab includes basic experiments in electric circuits. It includes series and parallel circuits, and basic instrumentation. Students conduct experiments involving Ohm's and Kirchoff's Laws and Thevenin's Theorem. Troubleshooting technique for basic electric circuits is also covered. (0/2)
Co-requisite: Circuit Analysis I.

ELT 432   Telecommunications   4.0
Telecommunications provides an introduction to general telecommunication concepts. Students will explore communication methods and mediums while developing an understanding of signal flow and the basic subsystems that make up all communications systems. Knowledge of signal flow and subsystems operation will be used to build troubleshooting skills. (4/0)
Co-requisite: Telecommunications Lab.

ELT 433   Telecommunications Lab   1.0
Telecommunications Lab is an opportunity for students to apply communication principles studied in the co-requisite. Students will use test equipment to assemble, analyze, and troubleshoot a variety of common telecommunication circuits. (0/2)
Co-requisite: Telecommunications.

ELT 440   Data Communications and Networking I   4.0
Data Communications and Networking I is the study of data communications fundamentals, the transmission of data, modem operation, multiplexers, the telephone system, protocols in data communications, networking computer hardware, satellite communications, error control, data security, network, management, and wide area networks. Students concentrate on the hardware aspects of data communications. (4/0)
Co-requisite: Data Communications and Networking I Lab.

ELT 441   Data Communications and Networking I Lab   2.0
Data Communications and Networking I Lab provides hands-on experience in network basics, managing network files, networking printers, embedded and linked objects, modem operations, and the internet. Students build and maintain computer networks in a lab environment. (0/6)
Co-requisite: Data Communications and Networking I.

ELT 442   Data Communications and Networking II   3.0
Data Communications and Networking II includes topics in FCC regulations, data codes, interfaces, data transmission integrity, forward error correction, compression, encryption, transmission bandwidths, network

control, network design considerations, and system implementation. (3/0)
Prerequisite: Completion of AAS in Electronic Engineering Technology or permission from program chair.

ELT 445   Industrial Networking I   4.0
Industrial Networking I is the study of industrial data communications fundamentals, the transmission of data, protocols in industrial data communications, networking of industrial devices, and the management of industrial networks. Students concentrate on the network hardware while developing programming skills required to employ industrial networks. (4/0)
Prerequisite: Industrial Electronics I.

ELT 446   Industrial Networking I Lab   1.0
Industrial Networking I Lab provides hands-on experience in wiring industrial hardware, managing industrial network files, and operation of industrial electronic devices connected to the network. Ladder logic programs will be written to control network devices and manage the industrial network. (0/2)
Co-requisite: Industrial Networking I.

ELT 447   Industrial Networking II   5.0
Industrial Networking II builds upon the programmable logic controller networking in Industrial Networking I. A full range of peripheral equipment is integrated across different programmable logic controller networks and related to an industrial setting. Networking of specific programmable logic controllers to perform industrial tasks is emphasized. (5/0)
Prerequisite: Industrial Networking I.

ELT 523   Electronic Devices   4.0
Electronic Devices includes the study of basic semiconductor theory, the PN junction, decoder applications, special-purpose diodes, optical devices, bipolar junction transistors, power amplifiers, field effect transistors, thyristors, and operational amplifiers. Students develop skills in the analysis and troubleshooting of semiconductor circuits. (4/0)
Co-requisite: Electronic Devices Lab.

ELT 524   Electronic Devices Lab   1.0
Electronic Devices Lab develops skills in building and testing circuits that contain semiconductors in a hands-on environment. Test equipment for troubleshooting and analysis is used extensively. (0/2)
Co-requisite: Electronic Devices.

ELT 525   Electronic Devices II   3.0
Electronic Devices II studies operational amplifiers, their frequency response and stability characteristics, active filters, oscillators discrete voltage regulators, and integrated circuit voltage regulators. (3/0)
Co-requisite: Electronic Devices II Lab.
Prerequisite: Technical Mathematics II.

ELT 526   Electronic Devices II Lab   1.0
Electronic Devices II Lab provides hands-on learning through troubleshooting and analysis of circuits using operational amplifiers and other electronic devices. Students also use computer applications to prototype, build, analyze, and troubleshoot these devices. (0/2)
Co-requisite: Electronic Devices II.

ELT 545   Computer-Aided Circuit Analysis   3.0
Computer-Aided Circuit Analysis studies electronic devices and digital circuit computer applications. The course emphasizes the design and troubleshooting of advanced applications. (2/2)
Prerequisites: Digital Circuits I and Electronic Devices.

ELT 616   Microprocessors I   4.0
Microprocessors I is a study of microprocessor systems theory and service in support of A+ certification. Basic computer operation, troubleshooting, construction, operating systems, input/output, disk drives, peripherals, and advanced architectures are examined. (4/0)
Co-requisite: Microprocessors I Lab.

ELT 617   Microprocessors I Lab   1.0
Microprocessors I Lab consists of experiments in microprocessors designed to support A+ certification. Students build, configure, upgrade, and repair microcomputer systems while using diagnostic programs. (0/2)
Co-requisite: Microprocessors I.

ELT 770 Electronic Computer Applications I   3.0
Electronic Computer Applications I provides potential engineering technology students a basic electronics background. The course covers electric circuits using computer applications to form circuits. Students examine Ohm's law, Kirchhoff's laws, Thevenin equivalent circuits, and Norton equivalent circuits and how they apply to series, parallel, and series-parallel circuits using resistors, capacitors, and inductors. (2/3)

ELT 850 Design Projects Lab   1.0
Design Projects Lab involves solving problems by working as a team on projects that require students to draw on knowledge and resources gained in their electronics coursework. Students manage a project from conception to completion. (0/2)
Prerequisite: Electronic Devices.

Emergency Medical Services

EMS 211 Emergency Medical Technician   6.5
Emergency Medical Technician develops a basic understanding of emergency care in the field. The course provides the student with the necessary skills to assess, treat, and transport patients of medical and traumatic emergencies. This course follows the national standard curriculum for EMTB's. This course involves classroom, practical labs, and clinical field internship settings. (4/4/2)
Prerequisite: Current, valid American Heart Association Health Care Provider CPR or American Red Cross CPR for Professional Rescuer or American Heart Association Basic Life Support (BLS) Instructor certification.

Engineering/Engineering Technology

EGR 100 Engineering Orientation   1.0
Engineering Orientation explores engineering career options and provides direction for choosing a field in engineering. Students learn problem-solving skills and develop an educational plan of study. (1/0)
Prerequisite: Minimum Math placement score of 53 on COMPASS Algebra or 21 on ACT; or Final Prep Math Progress Score of 3.

EGR 160 Engineering I   3.0
Engineering I integrates skills in engineering graphing, computer modeling and engineering design. Students will develop techniques for visualizing, analyzing, and communicating 3-D geometries and will use applications of the design process to create written and oral reports. (2/2)
Prerequisite: Minimum Math placement score of 46 on COMPASS Trigonometry or 27 on ACT Math; or a grade of "C" or higher in College Algebra and Trigonometry; or a grade of "C" or higher in Precalculus.

EGR 165 Engineering II   3.0
Engineering II allows students to develop skills in solving engineering problems with spreadsheet programs and computer languages. Programming and numerical techniques are directly applied to the engineering discipline. (2/2)
Prerequisite: Minimum Math placement score of 46 on COMPASS Trigonometry or 27 on ACT Math; or a grade of "C" or higher in College Algebra and Trigonometry; or a grade of "C" or higher in Precalculus.

EGR 400 Introduction to Engineering Design   3.0
Introduction to Engineering Design teaches students to use a problem-solving model to improve existing products and invent new ones. Using three-dimensional modeling software, students communicate the details of the products. Emphasis is placed on analyzing potential solutions and communicating ideas to others. (3/0)
Note: Co-numbered with EGT 400

EGR 410 Principles of Engineering   3.0
Principles of Engineering explores the wide variety of careers in engineering and technology as well as various technology systems and manufacturing processes. Students learn how engineers and technicians use math, science, technology in an engineering problem-solving process to benefit people. The course also addresses concerns about social and political consequences of technological change. (3/0)
Note: Co-numbered with EGT 410

EGR 420 Digital Electronics   3.0
This course in applied logic encompasses the application of electronic circuits and devices. Students use computer simulation software to design and test digital circuitry prior to the actual construction of circuits and devices. (3/0)
Note: Co-numbered with EGT 420

EGR 430 Aerospace Engineering   3.0
Aerospace Engineering introduces students to aeronautics, flight, engineering design, aerospace information systems, astronautics, rocketry, propulsion, space life sciences, principles of aeronautics, systems engineering and more. Students explore and solve problems through activity-based, project-based, and problem-based learning. (3/0)
Note: Co-numbered with EGT 430

EGR 440 Biotechnical Engineering   3.0
Biotechnical Engineering exposes students to the diverse fields of biotechnology including biomedical engineering and genetics, bio-process engineering, agricultural and environmental engineering. Lessons engage students in engineering design problems that can be accomplished in a high school setting. (3/0)
Note: Co-numbered with EGT 430

EGR 450 Computer Integrated Manufacturing   3.0
Computer Integrated Manufacturing expands prior three dimensional modeling skills. Students use automation, control systems, sensing devices, computer programming and robotics to efficiently mass produce products. Trouble-shooting is emphasized throughout the course. (3/0)
Note: Co-numbered with EGT 450

EGR 460 Civil Engineering and Architecture   3.0
Civil Engineering and Architecture provides an overview of these engineering areas, emphasizing the inter-relationship and mutual dependence of both fields. Students use state-of-the-art software to solve real world problems and apply knowledge to hands-on projects. By the end of the course, students are able to give a complete presentation to the client including three-dimensional renderings of buildings and improvements, zoning and ordinance constraints, infrastructure requirements, and other essential project plans. (3/0)
Note: Co-numbered with EGT 460

EGR 470 Engineering Design and Development   3.0
Engineering Design and Development is a capstone course where teams of students spend the year solving problems of their own choosing. The teams apply principles developed in the four preceding PLTW core courses and are guided by a community mentor. They brainstorm possibilities, research current patents and regulations, construct a working model, test the model in real life situations (or simulation), document their designs, and present and defend the design to a panel of experts. (3/0)
Note: Co-numbered with EGT 470

EGT 113 Introduction to PLM   3.0
Introduction to PLM will provide an overview of the current thinking on the principles, strategies, practices, and applications of Product Lifecycle Management followed by an in-depth look at specific areas of PLM that are the focus of today's innovative organizations. This course will present both the conceptual underpinnings of PLM, along with the newest industry views on PLM applications. There will be a particular emphasis on initiating PLM projects at the beginning of the lifecycle in engineering and manufacturing and its impact on the rest of the organization. The course will also present frameworks to provide economic justifications for PLM projects and explain the pitfalls of a piecemeal approach to PLM. (3/0)

EGT 153 Design Statics   3.0
Design Statics presents an elementary, analytical and practical approach to the principles and physical concepts of the study of forces and their effects on machines. The course uses problem solving related to fundamental industrial technology systems. Students will learn basic laws of energy, force, and mass applied to technology systems including: mechanical power transmission; equipment calibration; heating, ventilation and air conditioning. (3/0)
Prerequisite/Co-Requisite: Precalculus

EGT 167 Geometric Dimensioning and Tolerancing   3.0
Geometric Dimensioning and Tolerancing provides fundamentals of geometric dimensioning and tolerancing (GD&T) per the ASME Y14.5-2009 standard. The development of the technical knowledge of GD&T is the focus of the course. Design requirements for functional gages and other methods used to verify GD&T specifications are also presented (3/0)

EGT 171 Manufacturing Processes   3.0
Manufacturing Processes is a study of selected materials and related processes used in manufacturing, with emphasis on material and process selection for optimum design based on quality, strength, and economic evaluations. Laboratory experiments, demonstrations, and field trips are used. (1/4)
Co-requisite: Design Statics.

EGT 176 Electric Power and Electronics   4.0
Electric Power and Electronics provides students with basic electrical fundamentals including; electrical safety, wiring, 3-phase service, controls, and motors for industrial applications. Planning building electrical systems will also be introduced including electronics to sense, monitor, and control mechanical processes. Students will learn fundamentals of semiconductors, digital logic circuits, and reading of electrical diagrams. (3/2)
Prerequisites/Co-requisites: Design Statics and Precalculus

EGT 184 Strength of Materials   3.0
Strength of Materials introduces the analysis and design of basic structural members (bar, beams, shafts, connectors, and columns) under various loads to determine stress, strain, load limits, required size, and deflection. The course covers selection of appropriate materials for a particular design. Students use standard analytic and computer-based techniques of solving problems related to force and moments. (2/2)
Prerequisite/Co-requisite: Design Statics

EGT 400 Introduction to Engineering Design   3.0
Introduction to Engineering Design teaches students to use a problem-solving model to improve existing products and invent new ones. Using three-dimensional modeling software, students communicate the details of the products. Emphasis is placed on analyzing potential solutions and communicating ideas to others. (3/0)
Note: Co-numbered with EGR 400

EGT 410 Principles of Engineering   3.0
Principles of Engineering explores the wide variety of careers in engineering and technology as well as various technology systems and manufacturing processes. Students learn how engineers and technicians use math, science, technology in an engineering problem-solving process to benefit people. The course also addresses concerns about social and political consequences of technological change. (3/0)
Note: Co-numbered with EGR 410

EGT 420 Digital Electronics   3.0
This course in applied logic encompasses the application of electronic circuits and devices. Students use computer simulation software to design and test digital circuitry prior to the actual construction of circuits and devices. (3/0)
Note: Co-numbered with EGR 420

EGT 430 Aerospace Engineering   3.0
Aerospace Engineering introduces students to aeronautics, flight, engineering design, aerospace information systems, astronautics, rocketry, propulsion, space life sciences, principles of aeronautics, systems engineering and more. Students explore and solve problems through activity-based, project-based, and problem-based learning. (3/0)
Note: Co-numbered with EGR 430

EGT 440 Biotechnical Engineering   3.0
Biotechnical Engineering exposes students to the diverse fields of biotechnology including biomedical engineering and genetics, bio-process engineering, agricultural and environmental engineering. Lessons engage students in engineering design problems that can be accomplished in a high school setting. (3/0)
Note: Co-numbered with EGR 430

EGT 450 Computer Integrated Manufacturing   3.0
Computer Integrated Manufacturing expands prior three dimensional modeling skills. Students use automation, control systems, sensing devices, computer programming and robotics to efficiently mass produce products. Trouble-shooting is emphasized throughout the course. (3/0)
Note: Co-numbered with EGR 450

EGT 460 Civil Engineering and Architecture   3.0
Civil Engineering and Architecture provides an overview of these engineering areas, emphasizing the inter-relationship and mutual dependence of both fields. Students use state-of-the-art software to solve real world problems and apply knowledge to hands-on projects. By the end of the course, students are able to give a complete presentation to the client including three-dimensional renderings of buildings and improvements, zoning and ordinance constraints, infrastructure requirements, and other essential project plans. (3/0)
Note: Co-numbered with EGR 460

EGT 470 Engineering Design and Development   3.0
Engineering Design and Development is a capstone course where teams of students spend the year solving problems of their own choosing. The teams apply principles developed in the four preceding PLTW core courses and are guided by a community mentor. They brainstorm possibilities, research current patents and regulations, construct a working model, test the model in real life situations (or simulation), document their designs, and present and defend the design to a panel of experts. (3/0)
Note: Co-numbered with EGR 470

English as a Second Language (ESL)

ESL 012 ESL Listening/Speaking I   3.0
ESL Listening/Speaking I introduces students to simple common words and learned phrases related to immediate needs. (3/0)
Prerequisite: ESL placement.
Note: This course does not meet associate degree requirements for graduation.

ESL 018 ESL Grammar I   3.0
ESL Grammar I introduces students to simple tenses and plurals. Correct word order in simple sentences as well as simple pronominal references are also covered. (3/0)
Prerequisite: ESL Placement.
Note: This course does not meet associate degree requirements for graduation.

ESL 025 ESL Reading I   3.0
ESL Reading I introduces students to the English alphabet. Common signs and Dulch words, sight phrases and short sentences are also covered. (3/0)
Prerequisite: ESL Placement.
Note: This course does not meet associate degree requirements for graduation.

ESL 031 ESL Reading II   3.0
ESL Reading II covers the use of simple sentences related to everyday needs. Students will learn the use of high-frequency sentence structure, identify topic and main ideas, use decoding context clues, common idioms, colloquial expressions, and vocabulary. (3/0)
Prerequisite: A grade of "C" or higher in ESL Reading I or ESL placement.
Note: This course does not meet associate degree requirements for graduation.

ESL 033 ESL Listening/Speaking II   3.0
ESL Listening/Speaking II familiarizes the student with using English in conversation to ask and answer questions. Common time forms and some question forms are covered. (3/0)
Prerequisite: A grade of "C" or higher in ESL Listening/Speaking I or ESL placement.
Note: This course does not meet associate degree requirements for graduation.

ESL 038 ESL Grammar II   **3.0**
ESL Grammar II introduces students to various sentence structures, correct word order, and additional practice with tenses. Capitalization and punctuation are also presented. (3/0)
Prerequisite: A grade of "C" or higher in ESL Grammar I or ESL placement.
Note: This course does not meet associate degree requirements for graduation.

ESL 045 ESL Reading III   **3.0**
ESL Reading III prepares the student to comprehend prose of several paragraphs, read news items, and academic text excerpts, with the goal of identifying supporting details and expanding vocabulary. Skills such as skimming, scanning and predicting to locate information will be covered. (3/0)
Prerequisite: A grade of "C" or higher in ESL Reading II or ESL placement.
Note: This course does not meet associate degree requirements for graduation.

ESL 056 ESL Listening/Speaking III   **3.0**
ESL Listening/Speaking III continues to emphasize listening skills to include conversations about personal situations, everyday experiences, and basic academic and/or occupational subject matter. (3/0)
Prerequisite: A grade of "C" or higher in ESL Listening/Speaking II or ESL placement.
Note: This course does not meet associate degree requirements for graduation.

ESL 058 ESL Grammar III   **3.0**
ESL Grammar III continues to focus on sentence structure. It emphasizes correct use of verbs, adjectives, conjunctions, and punctuation. Students will recognize and correct grammatical errors, as well as write grammatically correct sentences. (3/0)
Prerequisite: A grade of "C" or higher in ESL Grammar II or ESL placement.
Note: This course does not meet associate degree requirements for graduation.

ESL 065 ESL Reading IV   **3.0**
ESL Reading IV develops the students' skills at distinguishing fact from opinion, author's bias, making inferences, tone and mood, as well as the skill of paraphrasing. College-level vocabulary is also presented. (3/0)
Prerequisite: A grade of "C" or higher in ESL Reading III or ESL placement.
Note: This course does not meet associate degree requirements for graduation.

ESL 074 ESL Listening/Speaking IV   **3.0**
ESL Listening/Speaking IV introduces students to complex discussions. Implications, emotional overtones, style and register are used. (3/0)
Prerequisite: A grade of "C" or higher in ESL Listening/Speaking III or ESL placement.
Note: This course does not meet associate degree requirements for graduation.

ESL 079 ESL Grammar IV   **3.0**
ESL Grammar Level IV allows students to hone their use of English grammar. Formal and informal registers are covered as well as recognition of appropriate language for a given context or situation. Students will move from writing sentences to structured paragraphs. (3/0)
Prerequisite: A grade of "C" or higher in ESL Grammar III or ESL placement.
Note: This course does not meet associate degree requirements for graduation.

English Composition/Communication

ENG 013 Basic Writing   **3.0**
Basic Writing is a fundamental grammar and writing class. Students learn about the writing and editing process in expository writing while composing paragraphs in various rhetorical modes. Informal and personal writing with a clear purpose directed towards an audience is emphasized. Rudimentary parts of speech such as subjects, verbs, prepositions, pronouns are reviewed. Readings in the course will help students enhance their basic critical thinking skills. (2/2)
Note: This course does not meet associate degree requirements for graduation.

ENG 095 Elements of Writing   **3.0**
Elements of Writing is an advanced developmental writing course providing students with continued grammar and composition strategies necessary for college-level writing. The content of the course is directed at the five-paragraph straightforward essay in a personal or formal style, more complicated grammar techniques applicable to composition such as redundancy, sentence combination, point of view, etc. and attention to style, purpose, thesis, and tone. Essays are structured around various rhetorical modes. The course provides readings to ensure more complex critical thinking abilities and developed writing. (3/0)
Prerequisite: A grade of "C" or higher in Basic Writing or Writing placement.
Note: This course does not meet associate degree requirements for graduation.

ENG 105 Composition I   **3.0**
Composition I focuses on complex essays composed in various rhetorical modes of expository writing. Students develop experience using the writing process when composing fully developed, organized, and complicated essays. The emphasis in this course is on the formal or academic style of writing that has a clear and analytical focus. Documentation formatting is introduced with the culmination of a researched essay. Extended readings and discussions in class enhance more mature critical thinking abilities required of any college reader and writer. (3/0)
Prerequisite: A grade of "C" or higher in Elements of Writing or writing placement.

ENG 106 Composition II   **3.0**
Composition II follows Composition I with advanced readings and practice in different kinds of writing, including exposition, argumentation, and critical analysis. The course includes library research and culminates in the presentation of a term paper. (3/0)
Prerequisite: A grade of "C" or higher in Composition I.

ENG 110 Writing For The Workplace   **3.0**
Writing For The Workplace prepares students for the various types of written communication required by professional employers. In this class, students learn how to write clear but brief billing descriptions, estimates, informal, and formal reports, and various types of office communication. This course also includes a review of grammar and usage skills, as well focusing on the appropriate use of language in a professional workplace environment. (3/0)
Prerequisite: A grade of "C" or higher in Elements of Writing or Writing placement.

ENG 111 Technical Writing   **3.0**
Technical Writing introduces students to the planning, preparation and presentation of technical and business communication in professional contexts. The course focuses on the writing of procedures/instructions; analytical, recommendation, and informative reports; proposals and other business correspondence; and the appropriate use of researched material in those documents. In addition, the course addresses oral presentations and reports, while also discussing professional tone, syntax, format, and overall appropriate use of the English language in professional communication. (3/0)
Prerequisite: A grade of "C" or higher in Elements of Writing or Writing placement.

ENG 205 Advanced Composition II Honors Research   **3.0**
Advanced Composition II Honors Research is an honors class that follows Composition I. This course includes challenging readings and extensive writing in various areas including exposition, argumentation, and critical analysis. The course also includes library research and culminates in the presentation of a term paper. Advanced Composition II can be distinguished from Composition II by the more complex levels of reading and writing. (3/0)
Prerequisite: Composition I and nomination by English Department faculty and approval of the dean.

Environmental Science

ENV 102 Introduction to Sustainability　　　**3.0**
Introduction to Sustainability will provide students a working knowledge of sustainable systems and their interactions in the environment, energy, society, culture, economics and public policy. Students will study the primary principle of sustainability: to meet the needs of the present without compromising the future. (3/0)

ENV 111 Environmental Science　　　**4.0**
Environmental Science is designed for students interested in ecology. Topics include: ecological principles and the study of ecosystems; population dynamics; water, air, soil, food, waste and energy resources; and sustaining bio-diversity of species and ecosystems. Laboratory work complements each topic of study. (3/3)
Note: Students must provide their own transportation for off-campus field trips.

Fire Science Technology

FIR 101　Introduction to Fire Protection Technology　　　**3.0**
Introduction to Fire Protection Technology covers the fundamentals of fire protection with emphasis on terminology, fire apparatus, fire laws and regulations, and the basic procedures used in the extinguishing of fires. (3/0)

FIR 131　Codes and Inspection　　　**3.0**
Codes and Inspection encompasses fire protection requirements, including zoning laws and primary access routes for flammable and explosive materials. Students focus on the formulation of zoning and building codes and become familiar with local, state and national codes. (3/0)

FIR 145　Fire Strategy/Tactics　　　**3.0**
Fire Strategy/Tactics demonstrates the effects of fire on structural components and analyzes the strategic areas of concentration in a fire situation. (3/0)

FIR 148　Hydraulics and Pumping Applications　　　**3.0**
Hydraulics and Pumping Applications studies the characteristics of water and the fluid systems which move and utilize water in the science of fire engineering. Topics include water distribution systems, fire service pumps, friction loss calculations, engine and nozzle pressures, standpipe systems, automatic sprinkler systems, and foam systems. (3/0)

FIR 152　Fire Protection Systems　　　**3.0**
Fire Protection Systems presents a study of structural protection systems, personnel protection, and detection systems. It includes commercial and private fire alarm systems: direct, local, and auxiliary. (3/0)

FIR 157　Fire Protection Equipment　　　**3.0**
Fire Protection Equipment examines procedures necessary to evaluate the needs and requirements of various types of fire protection equipment. Students study the writing of specifications used in setting up the criteria for specific equipment. (3/0)

FIR 235　Fire Investigation　　　**3.0**
Fire Investigation focuses on procedures of arson investigations, legal documentation, submittal of evidence, and photographic requirements. Students examine the use of the polygraph as an investigative aid. (3/0)

FIR 270　Survey of Construction　　　**3.0**
Survey of Construction presents an overview of the construction industry and construction methods. This course provides an introduction to terminology, methods, and construction materials. Students learn to evaluate architectural drawings, building codes, building sites, etc. Special emphasis is placed on subject matter as it relates to Fire Science. (3/0)

FIR 320　Essentials of Firefighter I　　　**4.0**
Essentials of Firefighter I is structured for competency based training of the Firefighter I information presented in the IFSTA (International Fire Service Training Association). The Firefighter I will receive knowledge and skills to function as an integral member of a fire fighting team under direct supervision in hazardous conditions. (4/0)

FIR 321　Essentials of Firefighter II　　　**2.0**
Essentials of Firefighter II is structured for competency based training of the Firefighter II information presented in the IFSTA (International Fire Service Training Association). The Firefighter II will receive knowledge and skills to function under general supervision in hazardous conditions. (2/0)
Prerequisite: Essentials of Firefighter I.

Foreign Language

FLS 141　Elementary Spanish I　　　**4.0**
Elementary Spanish I provides the fundamentals of the Spanish language placing emphasis on elements of Spanish grammar and the four basic language skills: listening, speaking, reading, and writing. This course addresses the needs of students who have not previously taken Spanish. (4/0)
Note: Meets diversity requirement for graduation.

FLS 142　Elementary Spanish II　　　**4.0**
Elementary Spanish II continues the study of Spanish grammar including present and past verb tenses with continued emphasis on four communication skills: listening, speaking, reading, and writing. (4/0)
Prerequisite: Elementary Spanish I or demonstrated proficiency.
Note: Meets diversity requirement for graduation.

FLS 241　Intermediate Spanish I　　　**4.0**
Intermediate Spanish I develops increasingly complex oral and written comprehension and fluency in the Spanish language. Students will review and learn new Spanish grammar, as well as utilize selected, authentic readings and compositions in Spanish. (4/0)
Prerequisite: Elementary Spanish II or demonstrated proficiency.
Note: Meets diversity requirement for graduation.

FLS 242　Intermediate Spanish II　　　**4.0**
Intermediate Spanish II provides a course to develop an increasingly complex oral and written comprehension of the Spanish language, while further developing their fluency in writing, speaking, listening, and reading the language. (4/0)
Prerequisite: Intermediate Spanish I.
Note: Meets diversity requirement for graduation.

Geography

GEO 121 World Regional Geography　　　**3.0**
World Regional Geography surveys nations and continents, emphasizing important physical characteristics of the major regions of the world. Attention centers on their economic, political, and cultural development as well as consequent contemporary relationships with each other. (3/0)
Note: Meets diversity requirement for graduation.

Graphic Communications

GRA 112　Introduction to Printing Technologies　　　**3.0**
Introduction to Printing Technologies provides the theory and practical experience of various printing processes. Students tour various printing facilities. Other topics include shop safety. (3/0)

GRA 116　Digital Preflight Production　　　**3.0**
Digital Preflight Production provides necessary skills in preflighting electronic files, inspecting film, file formats, and trapping issues. Students are introduced to a variety of proofing options. (3/0)

GRA 121　Digital Drawing　　　**3.0**
Digital Drawing provides basic instruction in the creation of graphics used for publishing along with the web. Students are introduced to illustration software. The intent of this course is to present the industry's current software package for digital illustration. (2/2)

GRA 137　Digital Design　　　**3.0**
Digital Design provides basic instruction in the software and enhances skills learned from previous courses or software used in relationship to publishing and the web. The intent of this course is to present the industry's current software package for digital design. (2/2)

GRA 140 Digital Imaging   **3.0**
Digital Imaging provides basic instruction of the software used for editing digital images. Scanning and basic digital camera use are addressed in relationship to publishing, web and television. The intent of this course is to present the industry's current software package for digital image editing. (2/2)

GRA 154 Advanced Web Design   **3.0**
Advanced Web Design provides an opportunity to go beyond the mechanics of a web site and focus on design issues and the basics of the most current software used in designing web pages. (2/2)

GRA 165 Digital 3-D   **3.0**
Digital 3-D provides basic instruction in the most popular software used to create 3-D graphics. Emphasis is directed towards web publications and television graphics. The intent of this course is to present the industry's current software package for digital 3-D. (2/2)

GRA 173 Typography   **3.0**
Typography provides instruction in choosing appropriate typefaces, sizes, and styles. Emphasis centers on learning rules for good typography and using type to convey a message. (2/2)

GRA 908 Cooperative Education   **1.0-3.0**
Cooperative Education provides students work experience related to their field of study. Coop hours are scheduled on an arranged basis. (0/4-12)
Prerequisite: Permission from the program chair.

GRA 949 Special Topics   **1.0-3.0**
Special Topics emphasizes and enhances skills learned from previous courses, not limited to graphic communications, to produce a publication, whether it be for print or web. The emphasis is to work with industry and the college to produce a final product. (0/2-6)

Health Science

HSC 105 Introduction to Healthcare Occupations   **1.0**
Introduction to Healthcare Occupations introduces the professional expectations of the healthcare industry. Select health careers will be introduced to explore the clinical realm while comparing today's healthcare with the future of this industry. Behavioral expectations of the industry are emphasized and compared to the academic expectations/experiences in preparation for a future in the industry. (1/0)

HSC 113 Medical Terminology   **2.0**
Medical Terminology studies terms used in medicine. This course gives students a working knowledge of the roots, prefixes and suffixes of commonly used medical terms. Emphasis centers on the correct spelling and pronunciation of the vocabulary. (2/0)

HSC 125 Survey of Anatomy for Allied Health   **2.0**
Survey of Anatomy for Allied Health is a beginning-level study of the structure, organization, and functions of the major organ systems of the human body. (2/0)

HSC 126 Anatomy for Allied Health   **4.0**
Anatomy for Allied Health provides a knowledge base of the organization, structure, function, terminology, and pathology related to the body systems. (4/0)

HSC 164 Sterile Processing Techniques   **5.0**
Sterile Processing Techniques introduces the multiple processes used in sterilization. Topics include aseptic technique, decontamination, sterilization and wrapping of instruments. Biological and chemical parameters of sterilization are introduced, including the unique quality controls of each process. Upon completion of this course, students are eligible to take the Sterile Processing Technician Certification exam offered by The Certification Board for Sterile Processing and Distribution. (4/3/0)

HSC 167 Sterile Processing Instrumentation   **5.0**
Sterile Processing Instrumentation introduces instruments used in various surgeries and the unique cleaning steps for each. Students will prepare, clean and process instruments using approved protocols for types of instruments.

Students will identify select surgical instruments including name and primary function in surgeries. Upon completion of this course, students are eligible to take the Surgical Instrument Specialist Certification Exam (CSIS) offered by the Certification Board for Sterile Processing and Distribution. (4/3/0)

HSC 172 Nurse Aide   **3.0**
Nurse Aide is the 75-hour certified nurse aide (CNA) course. It allows students to meet the training requirements of the Omnibus Budget Reconciliation Act of 1987 (OBRA) for nurse aides working in nursing facilities and skilled nursing facilities. Emphasis in the course is on achieving a basic level of knowledge and demonstrating skills to provide safe and effective resident care. (2/1/2)

HSC 272 Certified Personal Trainer   **3.0**
Certified Personal Trainer provides students with the knowledge needed to work as a Certified Personal Trainer. Students will be eligible to sit for the optional National Personal Training Certification exam upon successful completion of the course. (3/0)

History

HIS 110   Western Civilization Ancient to Early Modern   **3.0**
Western Civilization Ancient to Early Modern encompasses the history of the western world from its earliest beginnings through the mid-17th century. Topics include the Tigris-Euphrates River Valley, the Egyptian Civilization, the rise of Hellenism, the story of Rome, the rise of Christianity as well as the Byzantine Empire, the Medieval world, the Renaissance, the New World, and the Age of Reason. (3/0)

HIS 111   Western Civilization Early Modern to Present   **3.0**
Western Civilization Early Modern to Present studies the history of the western world from the early modern era to the present time. Topics include the Age of Absolutism, the Industrial Revolution and capitalism, the French Revolution and the Napoleonic Era, the rise of Nationalism and the German state, European expansion overseas, World War I, the post war period, Adolph Hitler and fascism, World War II, the Iron Curtain, third world development, and the contemporary period. (3/0)

HIS 151   U.S. History to 1877   **3.0**
U.S. History to 1877 covers the historical development of America. Topics include the Native American background, the Age of Discovery and Exploration, the Colonial Era, the Revolutionary Period, the Federal Era, the Age of Jackson, Manifest Destiny, and the Civil War and Reconstruction. (3/0)

HIS 152   U.S. History Since 1877   **3.0**
U.S. History Since 1877 deals with the historical development of America from the end of Reconstruction to the contemporary period. Topics include the industrialization of America in the late 19th century, the end of the frontier, the Gilded Age, the Progressive Era, World War I, the Roaring Twenties, the Great Depression, World War II, and the contemporary period featuring the Vietnam War and Watergate. (3/0)

HIS 251   U.S. History 1945 to Present   **3.0**
U.S. History 1945 to Present examines major trends and events in American history since the end of World War II. Primary topics include the onset of the Cold War and the Korean War, the baby boom of the 1950s, the JFK presidency and assassination, the Civil Rights movement, the Vietnam War and counterculture, Watergate, the Reagan Revolution, and the United States' growing involvement in the Middle East from the Iranian Hostage Crisis to the War in Iraq. (3/0)

HIS 253   American Indian History and Culture   **3.0**
American Indian History and Culture focuses on aboriginal cultures of North America from their origins to present. Extensive usage of anthropological, archaeological and historical sources will be used. These will be expanded by usage of Native American sources. Special attention will be placed on the interaction of Native American cultures and Colonial and post-Colonial American governmental policies. The cultural exchange between Indian and non-Indian groups as a vital element of the American culture will be highlighted. (3/0)
Note: Meets diversity requirement for graduation.

HIS 257   African American History   **3.0**
African American History deals with the experience of blacks in the history of the United States. Topics include African heritage, the slave trade, slavery in the Antebellum South, the Civil War and emancipation, the Jim Crow era, the Harlem Renaissance, the civil rights struggle, and modern black America. (3/0)
Note: Meets diversity requirement for graduation.

HIS 281   Local History   **3.0**
Local History offers the opportunity to examine and learn more about the history of the Southwest Iowa/Council Bluffs area. Field trips to area sites to study artifacts and meet with local experts and historians are featured. The course follows a chronological development and includes such topics as the area before white settlers, Lewis and Clark, the Mormons, Union Pacific, Victorian era architecture, minority contributions, and others. An additional component of the course is original research using primary sources. (3/0)

Humanities

HUM 122 American Film   **3.0**
American Film is an introductory film course designed to demonstrate the full impact of Hollywood filmmaking as an art form, an economic form, and a cultural indicator. The course looks at the message of genre, the social and psychological effects of the Hollywood film style, and the mutual influence of society and popular culture. Included are discussions of the Hollywood style, the star, the system, the western, the romantic comedy, the combat film, the film noir, and the film school generation. (3/0)

HUM 287 Leadership Development Studies   **3.0**
Leadership Development Studies provides a basic understanding of the concept of leadership theory while developing a personal philosophy of leadership, an awareness of the moral and ethical responsibilities of leadership, and an awareness of one's own ability and style of leadership. The course provides the opportunity to develop essential skills through study, observation, and application. (3/0)

Human Services

HSV 109   Introduction to Human Services   **3.0**
Introduction to Human Services examines the nature and types of social welfare in the United States, including the history of the institution of social welfare stemming from its origins in England and continuing into the contemporary period. It also considers an analysis of the philosophy of public welfare, minorities and welfare, politics and welfare, and the future of social welfare in an industrialized society. (3/0)

HSV 115   Agency and Community Resources   **3.0**
Agency and Community Resources explores and analyzes the federal, state, and local programs available for individuals in need of special services. It reviews the history and the emerging controversies in regard to the nature of assistance for youth, the chemically dependent person, the disabled, and the aged. Students review the human services literature to dispel myths and to help understand contemporary issues related to those in need of agency and community assistance. The course focuses on field visits to local agencies and the development of case management skills. (3/0)
Prerequisite: Fundamentals of Case Management.

HSV 131   Fundamentals of Case Management   **3.0**
Fundamentals of Case Management introduces the basic components of case management, written documentation, and the coordination of services for a client. Students develop interviewing, assessment, record keeping skills, and learn how to develop both treatment and case management plans. This is an experiential learning course and requires students to participate in frequent roleplaying and writing exercises. (3/0)
Prerequisite: Composition I.

HSV 140   Social Work and Social Welfare   **3.0**
Social Work and Social Welfare serves as an introductory course for the student considering a career in social work. It builds and expands on the Introduction to Human Services course by taking a more in-depth look at historical and current issues in social welfare and the importance of the social work profession in facilitating social change. Students focus on values, beliefs, and goals of social services and the basic functions of social work. The course defines social work as a profession that helps people solve personal, family, and community problems through social work practice. (3/0)

HSV 180 Ethics for Human Service Professionals   **1.0**
Ethics for Human Service Professionals provides a comprehensive view of the ethical issues human service workers face today. This course focuses on the Federal and State laws and legal considerations in the human services field. Students study the Iowa Board of Substance Abuse Certification (BSAC) and the American Counseling Association's (ACA) Code of Ethics. Students learn how to apply a code of ethics to numerous case studies and understand the counselor's ethical and legal obligations to the client and society. (1/0)

HSV 190 Youth Care Issues   **3.0**
Youth Care Issues is the study of the relationship between youth care and issues facing today's youth. Students explore the impact social services agencies have on the social and psychological development of youth. Topics include child abuse, adolescence and the family, adoption, foster care, residential treatment, emergency shelters, and homeless youth. Students are involved in community based service-learning projects and visit different youth care agencies. (3/0)

HSV 225 Interviewing and Counseling   **3.0**
Interviewing and Counseling introduces current and past counseling theories and techniques presently employed by counselors in the field. Students learn how to conduct initial interviews and develop skills necessary for intake and assessment procedures. Students work in diads and triads to make maximum effective use of numerous role-play situations and participate in other experiential activities that can be directly applied to client populations. Students focus on the integration of different therapeutic modalities, including Rational-Emotive Therapy, Person-Centered Therapy, and Gestalt Therapy with counseling techniques for effective interviewing. Students examine different kinds of counseling used in human services work. (3/0)

HSV 226 Fundamentals of Family Counseling   **3.0**
Fundamentals of Family Counseling introduces the basic principles and processes of family counseling from the initial interview through termination. Students engage in discussion of different theoretical models such as Virginia Satir's Communications Model, Salvador Minuchin's Structural Model, and Murry Bowen's System Model. Students trace their own families of origin through genograms and other experiential exercises. The course concludes with each student conducting a live family interview. (3/0)

HSV 228 Group Counseling Theories and Practices   **3.0**
Group Counseling Theories and Practices teaches group counseling techniques. Students spend time assigned to diads and triads reviewing, developing, applying, and perfecting group related skills and techniques that can be directly used with a client population. In addition, numerous in-class roleplaying situations make maximum effective use of a variety of experiential activities, including student-led group facilitation. (3/0)
Prerequisite: Interviewing and Counseling.

HSV 259 Introduction to Chemical Dependency   **3.0**
Introduction to Chemical Dependency covers the past, current, and future trends in the chemical dependency field. Students examine the biological, sociological, and psychological theories of addiction, and visit and analyze various drug and alcohol treatment modalities/programs. Other topics include community, school, educational, and self-help prevention programs. Students learn how to present drug and alcohol education classes in addition to learning about the recovery and relapse process. (3/0)

HSV 275 Human Services Capstone   **1.0**
Human Services Capstone is a class where students will demonstrate their understanding of being a human services worker. Students will focus on their motives for being a human services worker and evaluate their readiness to either enter the job market and/or transfer to a four-year institution. (1/0)
Prerequisite: Permission from the program chair.
Co-requisite: Human Services Internship.

HSV 802 Internship   2.0-6.0
Internship provides direct field experience in a human services agency un-der the direct supervision of agency personnel and with on-site visitation, observation, and assessment by a faculty member. (0/8-24)
Prerequisites: Must have 12 credit hours of Human Services courses and permission from the program chair.

Independent Studies

IND 0   Independent Study Courses 1   1.0-2.0
Independent Study Courses expand curriculum offerings by allowing the student, in cooperation with the faculty member, to design and execute a project that enriches the student's understanding of a subject area. In-dependent study projects require approval from the departmental instruc-tional chair and dean. A student may enroll in one independent study each semester after fulfilling prerequisites. (1-2/0)
Prerequisite: 6 hours of completed coursework in the area of study and a minimum of 2.0 G.P.A.

Journalism

JOU 110 Introduction to Mass Media   3.0
Introduction to Mass Media examines the roles, organization, structure, and characteristics of the mass media. The types of mass media and is-sues include: newspapers, magazines, advertising, cable, public relations, broadcasting, mass media law, and cinema. Students also assess the ef-fects of the mass media on society. (3/0)

JOU 211 Ethics in the Media   3.0
Ethics in the Media introduces the judicial, legislative, and administrative policies pertinent to the ethical and legal operation of newspapers and other print media. Emphasis is placed upon First Amendment protection, libel, privacy, free press, fair trial, judicial controls, government regulations, copyright, and ethical standards and practices. Upon completion, students will have an understanding and appreciation of these issues and the ability to analyze the important legal and ethical issues involved. (3/0)
Note: Co-numbered with PHI 211

Literature

LIT 110   American Literature to Mid 1800s   3.0
American Literature to Mid 1800s examines the themes, philosophies, and styles of authors from the early period of American development through the nineteenth century. Students apply several methods of literary analysis to interpret the literature of this time period. (3/0)

LIT 111   American Literature since Mid 1800s   3.0
American Literature since Mid 1800s examines the themes, philosophies and styles of authors from mid-nineteenth century to modern times. Stu-dents apply several methods of literary analysis to interpret the literature of this time period. (3.0)

LIT 130   African American Literature   3.0
African American Literature examines the literary, artistic, and socio-polit-ical traditions of the black experience in America. A variety of fiction and nonfiction works are analyzed with emphases on slave narratives, turn-of-the-century political writings, the Harlem Renaissance, the Black Arts Movement, and contemporary cultural texts. (3/0)
Note: Meets diversity requirement for graduation.

LIT 134   Multicultural Literature   3.0
Multicultural Literature explores through a variety of literary types the cul-tural and ethnic voices that are an undeniable part of modern American life. Students read, discuss, and critique materials by authors representing a wide range of ethnic, racial, and other culturally diverse groups. Emphasis centers on the assessment and appreciation of the strengths and values that cultural diversity brings to contemporary American society. (3/0)
Note: Meets diversity requirement for graduation.

LIT 140   British Literature I   3.0
British Literature I surveys the literature of Britain from the Old English Pe-riod to the eighteenth century with emphasis on the major authors of each century. Students apply several methods of literary analysis to interpret the literature of this time period. (3/0)

LIT 141   British Literature II   3.0
British Literature II surveys the literature of Britain from the Romantic Era to the present with emphasis on the major authors of the past two centuries. Students apply several methods of literary analysis to interpret the litera-ture of this time period. (3/0)

LIT 160   Short Story/Novel   3.0
Short Story/Novel offers an introduction to the novels and short stories of the world with emphasis upon distinguished works by representative authors. Students apply several methods of literary analysis to interpret the works. (3/0)

LIT 169   Science Fiction and Fantasy Literature   3.0
Science Fiction and Fantasy Literature offers an introduction to some of the ground-breaking works in the fields of Fantasy and Science Fiction writing, as well as some modern adaptations of these genres. Students apply sev-eral methods of literary analysis to interpret the works. (3/0)

LIT 170   Poetry/Drama   3.0
Poetry/Drama offers an introduction to some of the finest plays and poems of the western world. This course focuses on both the writing techniques unique to these genres and the subject matter of individual works. Students apply several methods of literary analysis to interpret the works. (3/0)

LIT 190   Women Writers   3.0
Women Writers examines the important contributions women have made to the various literary genres: poetry, short story, essay, drama, and the novel. Students assess inherent problems arising not only from gender, but also from race and class differences in various cultures and centuries. Students apply several methods of literary analysis to interpret the litera-ture written by women. (3/0)
Note: Meets diversity requirement for graduation.

Management and Human Resources

MGT 101 Principles of Management   3.0
Principles of Management provides a general introductory study of the role of management in today's business and industry environment. Historical as well as contemporary theories and influences are presented. The func-tional responsibilities of a manager are discussed, along with evolving is-sues related to e-business. (3/0)

MGT 130 Principles of Supervision   3.0
Principles of Supervision presents an overview of the responsibilities of a first-line supervisor. It covers fundamental supervisory skills. Topics include the role of a supervisor in communications, motivation, job coaching, group dynamics, human relations, performance appraisal, and other relevant issues. (3/0)

MGT 138 Employee Evaluation and Training Techniques   3.0
Employee Evaluation and Training Techniques is an introduction to the planning and development of training programs within an organization. The course covers topics such as training, employee development, evaluation of employee job performance, performance appraisals, discipline, and re-ward systems. (3/0)

MGT 165 Principles of Quality   3.0
Principles of Quality provides a survey of the concept of quality and its role in business and industry. Students examine theories related to process and product improvement and techniques for determining and controlling quality. (3/0)

MGT 170 Human Resource Management   3.0
Human Resource Management details how to create a positive working environment through proper recruitment, selection, training, development, and evaluation. (3/0)

MGT 175 Introduction to Law for Managers and Supervisors   3.0
Introduction to Law for Managers and Supervisors surveys the role of the legal system as a control agency for business practices and techniques in both a traditional and electronic commerce environment. It overviews the court system, administrative agencies related to business operations and employee relations, and other common legal issues. (3/0)

MGT 180 Management and Labor Relations   3.0
Management and Labor Relations is the study of the labor union movement and its present role in the work environment. Topics include applicable laws and regulations, the collective bargaining process, mediation, arbitration, and the grievance process. Current employer/employee issues are discussed. (3/0)

MGT 190 Employee Compensation and Benefits Management   3.0
Employee Compensation and Benefits Management presents a study of employee compensation and benefits systems. Topics include salary survey and planning strategies as well as job analysis and organizational policies. Employee benefit plans including health delivery systems, retirement, investment, and worker's compensation are discussed. (3/0)

MGT 195 Workplace Empowerment   3.0
Workplace Empowerment presents a variety of effective methods to find, secure, and retain quality jobs and careers in a global, multicultural environment, and focuses on 21st Century employability skills. It provides fundamental understanding of economics, diversity, globalization, entrepreneurship, and related topics, and develops skills and knowledge in negotiation, time management, workplace law, business customs and other areas relevant to workplace success. Interview skills are also a prime focus, as is the development of a high quality portfolio in both traditional and electronic formats. (3/0)
Note: Meets diversity requirement for graduation.

MGT 230 Operations Management   3.0
Operations Management provides basic knowledge of those business activities required to produce products efficiently and profitably. It explores basic manufacturing concepts, interrelationships of all manufacturing functions, and the effect of the external environment on the business. (3/0)

MGT 900 Documentation and Evaluation of Experiential Learning   3.0
Documentation and Evaluation of Experiential Learning provides the writing and research skills essential for compiling a personal career portfolio. Students identify transferable learning experiences and prepare descriptions and documentation of learning. Students examine and assess personal, educational, and occupational goals in conjunction with the changing world of work. Students in the Applied Business: Experiential Learning/Portfolio Option must complete this course for prior learning assessment and awarding of experiential learning credit. This program accommodates the awarding of college credit for non-credit educational experiences. The number of credit hours that may be awarded is subject to college policy. One to 30 credit hours may be awarded. Credit applies only to the Applied Business: Experiential Learning/Portfolio Option. (3/0)
Prerequisite: Permission from the program chair.

MGT 932 Internship   1.0-8.0
Internship provides work experience related to the students' career interests. The course allows students to integrate and apply theory to practice. Work experience hours are arranged. (0/4-32)
Prerequisite: Permission from the program chair.

Marketing

APP 150 Clothing Selection   3.0
Clothing Selection analyzes the social and psychological aspects of dress. Students learn to choose clothing to suit their life-style, personality, figure, and wardrobe plan. Emphasis centers on developing the positive aspects of their personalities, developing good grooming habits, and learning business etiquette. (3/0)

APP 210 Apparel Textiles   3.0
Apparel Textiles identifies the natural and man-made fabrics used in the manufacture of textiles. Students also develop the ability to identify and determine the important characteristics of textiles by means of structural analysis using actual textile materials. (3/0)

MKT 101 Marketing Mathematics   3.0
Marketing Mathematics teaches an understanding of the mathematical concepts of retailing, such as terms of purchase, types of markup, inventory valuation, and planning and control functions. (3/0)

MKT 110 Principles of Marketing   3.0
Principles of Marketing concerns the role of marketing in society, consumer behavior, product management, distribution, pricing concepts, strategic planning, and promotional activity within a business environment. (3/0)

MKT 140 Principles of Selling   3.0
Principles of Selling introduces the fundamental principles of selling, including the basic steps of the selling process. Emphasis centers on communication with the customer and a problem-solving approach to sales. (3/0)

MKT 150 Principles of Advertising   3.0
Principles of Advertising explores the communication element of the marketing mix. It covers topics of advertising, personal selling, publicity/public relations, and direct marketing. (3/0)

MKT 154 Visual Merchandising   3.0
Visual Merchandising introduces the specifics of window, interior, point-of-purchase, and exhibition displays. Students make on-site visits to business displays as well as plan and prepare displays. (3/0)

MKT 163 Merchandising   3.0
Merchandising examines the world of retail marketing, the environments of retailing, the retailer's resources, and the evaluation of retail markets. Emphasis centers on decision-making through the use of case problems. (3/0)

MKT 165 Retail Management   3.0
Retail Management covers retail site location, designing, staffing, and organizing the retail store. It encompasses developing the retail offering and getting the merchandise into the store, developing and controlling the merchandise plan, and setting and adjusting retail prices. Emphasis centers on decision-making through the use of case problems. (3/0)

MKT 184 Customer Service   3.0
Customer Service develops the necessary skills required to be successful as a frontline service provider. (3/0)

MKT 185 Marketing Internship I   2.0
Marketing Internship I allows each student to spend 8 hours per week in a retail business to allow him/her to apply classroom skills learned in a practical situation. The training plan is supervised by a teacher-program chair. (0/8)

MKT 189 Marketing Internship II   2.0
Marketing Internship II allows each student to spend 8 hours per week in a retail business to allow him/her to apply classroom skills learned in a practical situation. The training plan is supervised by a teacher-program chair. (0/8)

MKT 190 International Marketing   3.0
International Marketing introduces terms used in international marketing and sources of information on international markets. Development of sensitivity toward foreign business environment and familiarity with operations of multinational corporations are covered. The course is designed to provide experiences in culture, social, economic, and political environment of marketing in a foreign country. (3/0)
Note: Meets diversity requirement for graduation.

MKT 191 Seminar I: Career Options   1.0
Seminar I: Career Options discusses students work experience and provides an opportunity to explore career area options through guest speakers representing various careers. (1/0)

MKT 193 Seminar II: Applications in Management   **1.0**
Seminar II: Applications in Management focuses on realistic situations in five basic retailing components: merchandising, sales promotion, personnel, finance, and control and operations. (1/0)

MKT 196 Seminar III: Professional Development   **1.0**
Seminar III: Professional Development concentrates on those skills which encourage students to become professional employees. Special emphasis stresses communication skills, thinking skills, and functioning in groups. Student's work experience is also discussed. (1/0)

MKT 198 Sports Marketing   **3.0**
Sports Marketing surveys the basic marketing concepts and theories as they apply to sports and sporting events. Students explore the dynamic environment of the sporting industry and apply the elements of the marketing mix to this ever-changing environment. Using a contingency framework to guide the strategic sports marketing process, the course takes a strategic business perspective and a look behind-the-scenes of research, consumer behavior, sponsorship, licensing, event marketing, and implementation of sports marketing plans. (3/0)
Prerequisite: Principles of Marketing.

MKT 200 Marketing Intership III   **2.0**
Marketing Internship II allows each student to spend 8 hours per week in a retail business to allow him/her to apply classroom skills learned in a practical situation. The training plan is supervised by a teacher-program chair. (0/8)

MKT 300 Sports Marketing Internship   **1.0-8.0**
Sports Marketing Internship provides students the opportunity to integrate and apply theory to practice. Students evaluate the job outlook for careers in sports and event marketing and establish networks in the field. This course may be repeated for a maximum of 8 credit hours. (0/4-32)
Prerequisite: Permission from the program chair.

Mathematics

MAT 078 College Preparatory Math I   **3.0**
College Preparatory Math I provides students with the knowledge necessary for success in collegelevel mathematics courses. Students will work at their own pace through a sequence of modules. Using a computer-based delivery system, students will master objectives over whole numbers, integers, fractions, decimals, proportions, percents. Students may also master objectives over real numbers, polynomials, factoring, linear and absolute value equations and inequalities, systems of linear equations and inequalities, rational and radical expressions and equations, and quadratic equations. (3/0)
Prerequisite: Math Placement.
Notes: This course is offered on a pass/no pass basis only. This course does not meet associate degree, diploma, or certificate requirements for graduation.

MAT 086 College Preparatory Math II   **3.0**
College Preparatory Math II allows students to continue mastering the modules unfinished in College Preparatory Math I. Students will work at their own pace using a computer-based delivery system mastering remaining objectives over real numbers, polynomials, factoring, linear and absolute value equations and inequalities, systems of linear equations and inequalities, rational and radical expressions and equations, and quadratic equations. (3/0)
Prerequisite: A grade of "P" in College Preparatory Math I.
Note: This course is offered on a pass/no pass basis only. This course does not meet associate degree, diploma, or certificate requirements for graduation.

MAT 097 College Preparatory Math III   **3.0**
College Preparatory Math III allows students to continue mastering the modules unfinished in College Preparatory Math II. Students will work at their own pace using a computer-based delivery system mastering objectives over factoring, absolute value equations and inequalities, linear inequalities and systems of linear inequalities, rational and radical expres-

sions and equations, and quadratic equations. (3/0)
Prerequisite: A grade of "P" in College Preparatory Math II.
Notes: This course is offered on a pass/no pass basis only. This course does not meet associate degree, diploma, or certificate requirements for graduation.

MAT 110 Math for Liberal Arts   **3.0**
Math for the Liberal Arts is a survey of mathematics with an emphasis on problem solving and applications. Topics will include algebra basics, financial/consumer math, logic, probability, statistics, and set theory. (3/0)
Prerequisite: Minimum Math placement score of 40 on COMPASS Algebra or 18 on ACT Math; or minimum Final Prep Math Progress Score of 2.
Note: This course does not fulfill the A.A. or A.S. math requirement.

MAT 121 College Algebra   **4.0**
College Algebra provides an intensified study of the topics in algebra and prepares students for higher levels of mathematics. Topics include functions, exponents, logarithms, systems of equations, matrices, polynomials, and conic sections. (4/0)
Prerequisite: Minimum Math placement score of 53 on COMPASS Algebra or 21 on ACT; or Final Prep Math Progress Score of 3.
Note: Students cannot receive credit for Precalculus as well as College Algebra and/or Trigonometry.

MAT 129 Precalculus   **5.0**
Precalculus is an intensive review of College Algebra and Trigonometry and prepares students for Calculus. Topics include functions, logarithms, systems of equations, matrices, polynomials, conic sections, trigonometric functions, graphs, identities, equations, complex numbers, and polar coordinates. (5/0)
Prerequisite: Minimum Math placement score of 53 on COMPASS Algebra or 21 on ACT; or Final Prep Math Progress Score of 3.
Note: Students cannot receive credit for Precalculus as well as College Algebra and/or Trigonometry.

MAT 130 Trigonometry   **3.0**
Trigonometry includes trigonometric functions, graphs, identities, solving triangles, vectors, trigonometric equations, complex numbers, and polar coordinates. (3/0)
Prerequisite: Minimum Math placement score of 53 on COMPASS Algebra or 21 on ACT; or Final Prep Math Progress Score of 3.
Note: Students cannot receive credit for Precalculus as well as College Algebra and/or Trigonometry.

MAT 140 Finite Math   **3.0**
Finite Math includes linear functions and methods of solving systems of linear equations and inequalities. Topics include linear programming, matrices, counting techniques, probability, measures of central tendency and variation and mathematics of finance. Applications are emphasized. (3/0)
Prerequisite: Minimum Math placement score of 53 on COMPASS Algebra or 21 on ACT; or Final Prep Math Progress Score of 3.

MAT 157 Statistics   **4.0**
Statistics introduces descriptive and inferential statistics. Topics include the binomial, normal, student-t and chi-square distributions, descriptive measures, probability, hypothesis testing, estimation and linear regression. (4/0)
Prerequisite: Minimum Math placement score of 45 on COMPASS Algebra or 19 on ACT; or Final Prep Math Progress Score of 2.

MAT 211 Calculus I   **5.0**
Calculus I is the first of a three-semester sequence in calculus and analytic geometry. Topics include limits, derivatives, extrema, concavity, curve sketching, and anti-differentiation. Application includes related rates, maxima, and minima. (5/0)
Prerequisite: Minimum Math placement score of 46 on COMPASS Trigonometry or 27 on ACT Math; or a grade of "C" or higher in College Algebra and Trigonometry; or a grade of "C" or higher in Precalculus.

MAT 217 Calculus II   **5.0**
Calculus II continues Calculus I and concentrates on integration. Topics include logarithmic and trigonometric functions, techniques of integration, polar coordinates, conic sections, and sequences. Applications include vol-

ume, arc length, surface area, centroids, and work. (5/0)
Prerequisite: A grade of "C" or higher in Calculus I.

MAT 220 Calculus III   5.0
Calculus III completes the calculus sequence, emphasizing multi variable calculus and includes coverage of vector functions, partial derivatives, multiple integrals, and differential equations. (5/0)
Prerequisite: A grade of "C" or higher in Calculus II.

MAT 225 Differential Equations   3.0
Differential Equations studies elementary theory and application of ordinary differential equations, matrices and solutions of linear equations and Eigenvalue methods for systems of linear differential equations. (3/0)
Prerequisite: A grade of "C" or higher in Calculus II.

MAT 227 Elementary Differential Equations   4.0
          with Laplace Transforms
Elementary Differential Equations with Laplace Transforms covers elementary theory and application of ordinary differential equations, matrices and solutions of linear equations, Eigenvalue methods for systems of linear differential equations, Laplace transforms, and series solutions. (4/0)
Prerequisite: A grade of "C" or higher in Calculus II.

MAT 711 Business and Financial Mathematics   3.0
Business and Financial Mathematics deal with basic mathematical skills used in business operations. Topics include cash and trade discounts, markups, overhead applications, commissions, simple interest, compound interest, annuities, business and consumer loans, depreciation, inventory, payroll, and financial statements. (3/0)
Note: This course does not count toward the A.A. and A.S. science and mathematics requirement.

MAT 743 Technical Mathematics   3.0
Technical Mathematics includes operations with real numbers, use of fractions, ratios, measurement conversion, algebraic equations, functions, geometry, and right angle trigonometry. Applications are designed to the program specific needs that students encounter in industrial settings. (3/0)

MAT 750 Technical Mathematics II   5.0
Technical Mathematics II encompasses a review of arithmetic, geometry, measurement, and algebra and covers equation solving, polynomials, and factoring along with basic right triangle trigonometry. Emphasis centers on applications pertinent to a particular technology. (5/0)
Prerequisite: Technical Mathematics, Circuit Analysis I, Math placement or Final Prep Math Progress score of 1.

MAT 751 Technical Mathematics III 5.0
Technical Mathematics III deals with the trigonometric functions, oblique triangles, advanced algebra, statistics, introductory analytic geometry, and calculus. Emphasis centers on applications for the needs of the student's particular program. (5/0)
Prerequisite: Technical Mathematics II or Math placement.

MAT 752 Technical Mathematics IV   2.0
Technical Mathematics IV presents the LaPlace transform as utilized in electronic circuits and analogous disciplines. (2/0)
Prerequisite: Technical Mathematics III.

MAT 908 Cooperative Education   1.0-6.0
Cooperative Education provides cooperative work experience related to mathematics. Work experience hours are arranged. (0/4-24)
Prerequisite: Permission from the program chair.

Media Studies

MMS 105 Audio Production   3.0
Audio Production introduces students to state of the art audio equipment and software usage. Students learn basic skills in recording and editing of commercials and announcements, including use of the mixing console, microphones, editing software and recording skills. Students will learn proper voice techniques and other production skills. (1/4)

MMS 107 Sports Production I - Visual   3.0
Sports Production I -Visual is designed to allow students hands-on practical experience in creating video sports or other visual formats. Students apply skills learned in previous courses to produce sports packages ready for visual broadcast purposes. (1/4)
Prerequisite: Introduction to Media Production.

MMS 108 Sports Production II - Audio   3.0
Sports Production II – Audio is designed to allow students hands-on practical experience in the production of audio for sporting events. Students apply skills learned in previous courses to produce sports packages for radio broadcast purposes. (1/4)
Prerequisite: Audio Production.

MMS 109 Sports Production III   3.0
Sports Production III is a continuation of the first two production courses. Students work in either visual or audio production based on the student's preference. Leadership skills are emphasized. (1/4)
Prerequisites: Sports Production I and Sports Production II.

MMS 113 Introduction to Media Production   3.0
Introduction to Media Production will introduce students to building skills in all aspects of video production from pre-production to post production. Approximately 75 percent of the course will be devoted to hands-on application producing programs and completing exercises in lab. The remainder of the course will focus on material covered in lecture and reading assignments. Students will be producing both short and long form projects and segments to air on CBTV-17 and to upload to the Web. (1/4)

MMS 114 Media Production II   3.0
Media Production II is designed to enhance a student's production skills by emphasizing strong storytelling techniques through the application of digital editing. Participants will learn to develop story ideas, write scripts, edit segments and packages to meet deadlines and work individually and in teams to supply CBTV-17 and web site content as assigned. Approximately 75 percent of the course will be devoted to hands-on application of material covered in lecture. Students will produce a variety of both short and long form programs. (1/4)
Prerequisite/Co-requisite: Introduction to Media Production.

MMS 123 Electronic Media Performance   3.0
Electronic Media Performance covers both the theoretical and practical applications of announcing. Students learn the organizational aspects of show preparation, use of the voice in delivery of various material, microphone and camera presence, and interviewing styles and techniques. Students have direct experience in the production of various projects. (2/2)

MMS 134 Media Writing   3.0
Media Writing is meant to introduce the student to narrative techniques as they relate to audio/visual images. These relationships will emphasize storytelling concepts and treatments with considerable emphasis on the scripting process. Examples from news, short features and documentaries will be used to illustrate the various techniques used today. Various forms of media content including news stories, photo essays and short features will be developed using the two-column audio/video narrative format. (3/0)
Prerequisite: A grade of "C" or higher in Composition I.

MMS 135 Introduction to Copy Writing   3.0
Introduction to Copy Writing provides the knowledge necessary to critique and write various forms of continuity used in the broadcast industry. Students examine present commercial copy and appraise its value to the consumer and the merchant. In addition, students write a variety of copy, selling products, services, and promotional events. (3/0)
Prerequisite: A grade of "C" or higher in Composition I.

MMS 146 Sports Information and Copywriting   3.0
Sports Information and Copywriting allows students to develop an understanding and hands-on skills in areas such as press releases, gathering and reporting statistics, assembling and presenting team information. Students will work with teams to hone the skills needed in sports information venues. (3/0)

MMS 150 Electronic News Writing   **3.0**
Electronic News Writing introduces students to the techniques and stylistics for writing and reporting for the electronic mass audiences, including radio, television and cable. Students will learn the processes involved in interviewing techniques, gathering and writing news. Students also learn what constitutes news judgment and learn how to develop newscasts. Ethical and legal issues involved with news writing and reporting are also considered. (2/2)
Prerequisites: A "C" or higher in Composition I.

MMS 151 Fall Sports Announcing   **3.0**
Fall Sports Announcing is a course designed to allow students opportunities to learn organizational and performance skills, including play-by-play reporting and research for various athletic events featured during the fall semester, including football, basketball, hockey, soccer and volleyball. (3/0)
Prerequisite: Electronic Media Performance.

MMS 152 Spring Sports Announcing   **3.0**
Spring Sports Announcing is a course designed to allow students opportunities to learn organizational and performance skills, including play-by-play reporting and research for various athletic events featured during the spring semester, including basketball, hockey, baseball, and softball. (3/0)
Prerequisite: Electronic Media Performance.

MMS 153 Summer Sports Announcing   **3.0**
Summer Sports Announcing is a course designed to allow students opportunities to learn organizational and performance skills, including play-by-play reporting and research for various athletic events featured during the summer semester, including football, baseball, and softball. (3/0)
Prerequisite: Electronic Media Performance.

MMS 190 Broadcast Promotions   **3.0**
Broadcast Promotions is designed to teach the integral aspects of promotions within the electronic media, including radio, television and cable. This course allows students to implement creative promotional activities including remote broadcasts, direct mail campaigns, "guerilla warfare" tactics, television promotions, phone-a-thon premium selections, target marketing techniques, and discusses how to implement marketing strategies for a station. Students execute promotional activities via radio station KIWR-FM. (1/4)

MMS 204 New Media Production   **3.0**
New Media Production introduces students to the new media techniques and software applications associated with computers and industry software. Students will work with video clips, photos, music, text and special effects to create features for outputting to the Web or DVDs, mobile phones and other handheld devices. (2/2)

MMS 205 Advanced Audio Production   **3.0**
Advanced Audio Production is designed to facilitate individual growth within the audio production aspect in the broadcasting field. Students learn advanced skills in audio production including, but not limited to, refined use of the voice, digital editing, use of sound effects, complex music editing, interviewing techniques, development of short form production including liners, sweepers, intros, and closings. (1/4)
Prerequisite: Audio Production.

MMS 223 Advanced Radio Performance   **3.0**
Advanced Radio Performance is designed to facilitate individual growth within the performance aspect of radio broadcasting. Students learn advanced skills including, but not limited to, vocal performance, show preparation, use of phones, editing phone calls in the control room, remote performance, character development, and overall operating procedures. Students air check daily and are critiqued on individual levels of progress. (1/4)
Prerequisite: Electronic Media Performance.

MMS 231 Advanced Video Production I   **3.0**
Advanced Video Production I is designed to increase expertise within the video production field, including use of graphics, advanced editing techniques, lighting, sound, and camera work. Although individual students learn advanced production techniques and skills, all students work in teams to learn various job responsibilities within a commercial station/ cable system. (1/4)
Prerequisite: Media Production II.

MMS 232 Advanced Video Production II   **3.0**
Advanced Video Production II advances students' knowledge of non-linear editing techniques and applications associated with computers and industry software. Practical tutorials will focus on integrating 2D and 3-D motion graphics, multitrack audio applications and outputting final products into multiple formats. This course will require the student to produce professional level media projects for sure within the college or for the college's cable channel. In the end these projects will provide the student with a portfolio of production pieces for their individual job searches. (1/4)
Prerequisite: A grade of "C" or higher in Advanced Video Production I.

MMS 260 Electronic Media Sales and Management   **3.0**
Electronic Media Sales and Management examines the various styles of management and sales techniques used in the broadcast industry. Students survey FCC rules and regulations, broadcast operations, and trends in the marketplace. In addition, sales training introduces students to the career opportunities available to account executives. (3/0)
Prerequisites: Introduction to Copy Writing.

MMS 261 Programming for the Electronic Media   **3.0**
Programming for the Electronic Media is a survey course designed to teach various aspects of programming techniques and theories with radio, television, and cable. This course enlightens students in areas concerning selection and placement of programs, understanding demographics and how programming is affected by the target audience demos, FCC regulations pertaining to programming, and implementation of programming. (3/0)

MMS 290 Radio Cooperative Education   **1.0-6.0**
Radio Cooperative Education involves students in the Media Studies program, with an emphasis in radio broadcasting, working directly in the radio industry. Students work under the direct supervision of the media studies program chair, and the supervisors and staff at the work site. (0/4-24)
Prerequisites: Introduction to Copy Writing and Audio Production.

MMS 291 Video Cooperative Education   **1.0-6.0**
Video Cooperative Education entails students in the media studies program, with an emphasis in video/television broadcasting, working directly in the television, cable, or corporate/industrial video industry. Students work under the supervision of the media studies program chair, and the supervisors and staff at the work site. (0/4-24)
Prerequisites: Introduction to Copy Writing and Video Production.

MMS 296 Video Practicum I   **1.0**
Video Practicum I is designed to allow students hands-on practical experience in applying skills learned in video production. Students will be able to use their writing and production skills to assist in producing media programs that will be aired on the cable channel or made available to individual programs within the college. (0/4)
Prerequisite: Introduction to Media Production.

MMS 297 Video Practicum II   **1.0**
Video Practicum II allows advanced students to work with station personnel and faculty to research, plan and execute programs to be aired on the cable channel and to the web. This class is intended to teach students to assemble story ideas and develop sources for stories. This course will expose students to real world production decisions with class members serving as producers for ongoing productions. Students will be able to use their writing and production skills to direct media programs. (0/4)
Prerequisite: A grade of "C" or higher in Video Practicum I.

MMS 301 Video Practicum III   **2.0**
Video Practicum III allows students practical hands-on experience in producing media content that will be aired on the cable channel or uploaded to the Web. Students will be responsible for meeting daily and/or weekly deadlines in the completion of this content. Students will assume supervisory roles in getting stories produced in a timely manner. (0/4)
Prerequisite: Video Practicum II.

MMS 306 Sports Media Practicum I   **1.0**
Sports Media Practicum I gives students an introduction to sports radio broadcasting, video production and print media. Students will learn to operate video and audio equipment, gather information used in writing and reporting, and learn basic editing skills. (0/4)

MMS 307 Sports Media Practicum II **1.0**
Sports Media Practicum II focuses on skill development in sports radio broadcasting, video production, and print media. Students will develop on-air performance, use basic editing techniques, use information and statistics for broadcasts and publications, and write for various types of media. (0/4)
Prerequisite: A grade of "C" or higher in Sports Media Practicum I.

MMS 308 Sports Media Practicum III **1.0**
Sports Media Practicum III focuses on skill development in sports radio broadcasting, video production, and print media. Students will develop on-air performance based on the needs of the target audience, use advanced editing techniques, gather information and statistics for broadcasts and publications, and write for various types of media. (0/4)
Prerequisite: A grade of "C" or higher in Sports Media Practicum II.

MMS 309 Sports Media Practicum IV **1.0**
Sports Media Practicum IV synthesizes student learning from previous Sports Media Practicum courses. Students will create short and long form audio and video projects. Students will use advanced performance and editing techniques to plan, create, and air visual and audio pieces. This course exposes students to leadership roles, deadlines and real world media situations. (0/4)
Prerequisite: A grade of "C" or higher in Sports Media Practicum III.

MMS 340 Radio Practicum I **1.0**
Radio Practicum I is the first practicum students take to learn various aspects of working on-air. Students will learn how to operate production and control room equipment, as well as how to organize and actualize a standard transition. Students are required to attend various station activities and meet station expectations as an on-air staff member. (0/4)

MMS 341 Radio Practicum II **1.0**
Radio Practicum II is designed for those students who wish to continue learning on-air techniques and other station procedures. Students will be critiqued weekly on organizational and performance abilities. Students are required to attend various station activities and meet station expectations as an on-air staff member. (0/4)
Prerequisite: A grade of "C" or higher in Radio Practicum I.

MMS 342 Radio Practicum III **1.0**
Radio Practicum III is designed for those students who wish to continue learning on-air techniques and other station procedures on KIWR. Students are expected to develop an effective on-air personality through the understanding of a target audience. Students will be critiqued weekly on organizational and performance abilities. Students are required to attend various station activities and meet station expectations as an on-air staff member. (0/4)
Prerequisite: A grade of "C" or higher in Radio Practicum II.

MMS 343 Radio Practicum IV **1.0**
Radio Practicum IV is designed for those students who wish to continue learning on-air techniques and other station procedures on KIWR. Students will synthesize learning from previous practicum courses to produce a marketable on-air sound. Students will also incorporate promotional content, show prep and formatics to create professional quality on-air performance. Students will be critiqued weekly on organizational and performance abilities. Students are required to attend various station activities and meet station expectations as an on-air staff member. (0/4)
Prerequisite: A grade of "C" or higher in Radio Practicum III.

MMS 344 Radio Practicum V **1.0**
Radio Practicum V is designed for students who wish to continue on-air at KIWR. Students will synthesize learning from previous practicum courses to produce a marketable on-air sound. Students will also assist Practicum I students in getting on-air. Students will be critiqued weekly on organizational and performance abilities. Students are required to attend various station activities and meet station expectations as an on-air staff member. (0/4)
Prerequisite: A grade of "C" or higher in Radio Practicum IV.

MMS 345 Radio Practicum VI **1.0**
Radio Practicum VI is designed for students who wish to continue on-air at KIWR. Students will synthesize learning from previous practicum courses to produce a marketable on-air sound. Students will also assist Practicum I students in getting on-air and will begin to search for an on-air job in radio broadcasting. Students will be critiqued weekly on organizational and performance abilities. Students are required to attend various station activities and meet station expectations as an on-air staff member. (0/4)
Prerequisite: A grade of "C" or higher in Radio Practicum V.

MMS 930 Sports Media Internship **3.0**
Sports Media Internship is designed to allow students hands-on practical experience in video, audio, and print media with a sports emphasis, according to students' needs. Students apply skills learned in previous coursework. (0/12)
Prerequisite: Permission from the program chair.

Medical Assistant

MAP 124 Administrative Office Procedures **2.0**
Administrative Office Procedures introduces the administrative aspects of the medical office. The course will include experiences in filing, letter composition, scheduling, bookkeeping, medical transcription and job seeking skills. (1.5/1.5)

MAP 128 Introduction to Electronic Health Records **2.0**
Introduction to Electronic Health Records involves the student in the management and application of health records. This includes the implementation and management of electronic schedule, creating patient medical record, management of immunization, transcription and electronic correspondence, and laws and regulation of medical records. (1.5/1.5)

MAP 140 Principles of Medical Insurance **3.0**
Principles of Medical Insurance introduces medical insurance, a basic knowledge of coding systems, and the process of filing claim forms. (3/0)

MAP 215 Medical Laboratory Techniques **4.0**
Medical Laboratory Techniques involves preparation of specimens for laboratory analysis. Techniques include urinalysis, blood counts, simple chemistries, and other routine tests performed in the physician's office as well as a study of normal and diagnostic values of laboratory tests. Techniques of quality control are emphasized. (3/2)
Prerequisites: Anatomy for Allied Health and Fundamentals of Medical Assisting I.

MAP 333 Fundamentals of Medical Assisting I **4.0**
Fundamentals of Medical Assisting I introduces clinical aspects of the physician's practice. It emphasizes the numerous competencies required to assist the physician with his/her clinical medical practice. (2/4)
Prerequisite/Co-requisite: Anatomy for Allied Health.

MAP 338 Fundamentals of Medical Assisting II **4.0**
Fundamentals of Medical Assisting II is an advanced course on the clinical aspects of the physician's practice. Study provides for assisting in specialty areas. (3/2)
Prerequisite: Fundamentals of Medical Assisting I.

MAP 408 Medical Jurisprudence **2.0**
Medical Jurisprudence introduces medical-legal responsibilities. It emphasizes the physician's code of ethics, malpractice, legal authorization, and interpersonal relationships to the patient, the patient's family, and allied agencies. (2/0)

MAP 514 Basics of Pharmacology **3.0**
Basics of Pharmacology, an introductory course, aids the allied health student in gaining an understanding of drug therapy in relation to illness. It explores drug administration procedures and computations. It also emphasizes the student's legal and ethical responsibilities and limitations. (3/0)
Prerequisite: Anatomy for Allied Health or Survey of Anatomy for Allied Health.

MAP 601 Medical Assistant Seminar **1.0**
Medical Assistant Seminar emphasizes group discussion and individual conferences on clinical experiences. The course includes preparation for the certification exam through the use of practice tests. (1/0)
Co-requisite: Medical Assistant Externship.

MAP 612 Medical Assistant Externship   **3.0**
Medical Assistant Externship gives experience in a selected physician's office under the supervision of the office staff. This experience provides students with practical application of theory previously learned in the Medical Assistant program. (0/12)

Military and ROTC

MIL 100   Foundations of the U.S. Air Force I   **1.0**
Foundations of the United States Air Force I introduces students to the U.S. Air Force and Air Force Reserve Officer Training Corps. Featured topics include: mission and organization of the Air Force, officership and professionalism, military customs and courtesies, Air Force officer opportunities, and an introduction to communication skills. (1/0)
Co-requisite: Leadership Laboratory.
Note: This course is offered in partnership with the University of Nebraska at Omaha.

MIL 101   Foundations of the U.S. Air Force II   **1.0**
Foundations of the United States Air Force II introduces students to the U.S. Air Force and Air Force Reserve Officer Training Corps. Featured topics include: mission and organization of the Air Force, officership and professionalism, military customs and courtesies, Air Force officer opportunities, and an introduction to communication skills. (1/0)
Co-requisite: Leadership Laboratory.
Note: This course is offered in partnership with the University of Nebraska at Omaha.

MIL 107   Leadership Laboratory   **0.0**
Leadership Laboratory (LLAB) includes a study of Air Force customs and courtesies, drill and ceremonies, and military commands. The LLAB also includes studying the environment of an Air Force officer and learning about areas of opportunity available to commissioned officers. LLAB also includes interviews, guidance, and information that will increase the understanding, motivation, and performance of other cadets. (0/2)
Note: This course is offered in partnership with the University of Nebraska at Omaha.

MIL 108   Introduction to Officer Professionalism I   **1.0**
Introduction to Officer Professionalism I examines the role of the commissioned officer in the United States Army. Discussion focuses upon officer career opportunities, role of the officer, responsibilities of and basis for the armed forces , and sources of officer commissioning. (1/0)
Co-requisite: Leadership Laboratory I.
Note: This course is offered in partnership with Creighton University.

MIL 109   Introduction to Officer Professionalism II   **1.0**
Introduction to Officer Professionalism II further examines the role of the commissioned officer in the U.S. Army. In addition, the course focuses on customs of the service; role of the Army, Arm Reserve, and Army National Guard; organization of the Army; branches of the Army; and leadership principles for the junior officer. (1/0)
Co-requisite: Leadership Laboratory I.
Note: This course is offered in partnership with Creighton University.

MIL 124   Leadership Laboratory I   **0.0**
Leadership Laboratory I provides initial and advanced military leadership instruction in military courtesy, first aid and practical field training exercises. Functions and responsibilities of leadership positions are developed through cadet command and staff positions. (0/2)
Co-requisite: Introduction to Officer Professionalism I or Introduction to Officer Professionalism II.
Note: This course is offered in partnership with Creighton University.

MIL 200   The Evolution of USAF Air and Space   **1.0**
The Evolution of USAF Air and Space Power I examines general aspects of air and space power through a historical perspective. Utilizing this perspective, the course covers a time period from the first balloons and dirigibles to the space-age global positioning systems of the Persian Gulf War. Historical examples are provided to extrapolate the development of Air Force

capabilities(competencies), and missions (functions) to demonstrate the evolution of what has become today's USAF air and space power. Furthermore, the course examines several fundamental truths associated with the war in the third dimension: e.g. Principles of War and Tenets of Air and Space Power. As a shoe, this course provides students with a knowledge level understanding for the general element and employment of air and space power, from an institutional, doctrinal, and historical perspective. In addition, the students will continue to discuss the importance of the Air Force Core Values with the use of operational examples and historical Air Force Core Values with the use of operational examples and historical Air Force leaders and will continue to develop their communication skills. (1/0) Prerequisites: Foundations of the U.S. Air Force I and Foundations of the U.S. Air Force II.
Co-requisite: Leadership Laboratory.
Note: This course is offered in partnership with the University of Nebraska at Omaha.

MIL 201   The Evolution of USAF Air and Space   **1.0**
The Evolution of USAF Air and Space Power II examines general aspects of air and space power through a historical perspective. Utilizing this perspective, the course covers a time period from the first balloons and dirigibles to the space-age global positioning systems of the Persian Gulf War. Historical examples are provided to extrapolate the development of Air Force capabilities(competencies), and missions (functions) to demonstrate the evolution of what has become today's USAF air and space power. Furthermore, the course examines several fundamental truths associated with the war in the third dimension: e.g. Principles of War and Tenets of Air and Space Power. As a shoe, this course provides students with a knowledge level understanding for the general element and employment of air and space power, from an institutional, doctrinal, and historical perspective. In addition, the students will continue to discuss the importance of the Air Force Core Values with the use of operational examples and historical Air Force Core Values with the use of operational examples and historical Air Force leaders and will continue to develop their communication skills. (1/0) Prerequisites: Foundations of the U.S. Air Force I and Foundations of the U.S. Air Force II.
Co-requisite: Leadership Laboratory.
Note: This course is offered in partnership with the University of Nebraska at Omaha.

MIL 216   Leadership Laboratory II   **0.0**
Leadership Laboratory II is a second-year leadership laboratory that parallels classroom instruction, reinforcing concepts learned in class with practical hands-on training exercises and activities. Training is focused on more advanced individual and collective small unit skills such as small unit leadership and tactics doctrine, land navigation, basic rifle marksmanship, and drill and ceremonies. (0/2)
Co-requisite: Basic Individual Leadership Techniques or Advanced Individual Leadership Techniques
Note: This course is offered in partnership with Creighton University.

MIL 221   Basic Individual Leadership Techniques   **2.0**
Basic Individual Leadership Techniques is designed to develop student leadership and critical individual skills. Training is basic in nature and includes leadership techniques, written and oral communication, rifle marksmanship, fundamentals of land navigation, and physical fitness. (2/0)
Prerequisites: Introduction to Officer Professionalism I and Introduction to Officer Professionalism II.
Co-requisite: Leadership Laboratory II.
Note: This course is offered in partnership with Creighton University.

MIL 222   Advanced Individual Leadership Techniques   **2.0**
Advanced Individual Leadership Techniques continues the development of cadet leadership and critical individual military skills. Training focuses on advanced military skills and includes orienteering, field survival skills, operations, and training. (2/0)
Prerequisite: Basic Individual Leadership Techniques.
Co-requisite: Leadership Laboratory II.
Note: This course is offered in partnership with Creighton University.

Music

MUA 119 Class Piano I   **1.0**
Class Piano I introduces the student to fundamental aspects playing the piano including music reading, appropriate performance technique, and keyboard understanding as it relates to basic melodic and harmonic structures. (1/0)
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music may be counted toward a degree.

MUA 133 Applied Music Composition   **2.0**
Applied Music Composition meets the individual needs based upon the student's background and training. This course requires a weekly 60 minute private lesson, additional student practice, and supervised recitals. (1/2)
Prerequisite: Permission of Instructor.
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music may be counted toward a degree.

MUA 173 Applied Woodwinds   **2.0**
Applied Music meets individual needs based upon the student's background and training. This course requires a weekly 60-minute private lesson, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music may be counted toward a degree.

MUA 185 Applied Music Technology   **2.0**
Applied Music Technology meets individual needs based upon the student's background, training, and interests. This course includes a weekly 30-minute private lesson and student lab work. Course content involves projects chosen and completed by the student as well as discussion of techniques and trade practices in the area of the student's interest. (.5/1.5)
Prerequisite: Permission from the program chair.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Applied Music may be counted toward a degree.

MUA 219 Class Piano II   **1.0**
Class Piano II expands the application of abilities acquired in Class Piano I. Students will be introduced to 4 part music reading, transposition, chord/scale relationship, basic cadences, and create simple harmonic progressions for diatonic melody in major keys. (1/0)
Pre-requisite: Class Piano I
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music may be counted toward a degree.

MUA 225 Class Piano III   **1.0**
Class Piano III expands the application of abilities acquired in Class Piano II. Students will be introduced to simple free textured music reading, transposition to distant keys, forms of minor scales, additional common cadences, and creating free textured harmonic progressions for diatonic melody in major keys. (1/0)
Pre-requisite: Class Piano II
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music may be counted toward a degree.

MUA 235 Class Piano IV   **1.0**
Class Piano IV expands the application of abilities acquired in Class Piano III. Students will be introduced to chord/scale relationships in minor scale forms, transposition of minor keys, specialized scale forms, realization of lead sheet notation, and creating free textured harmonic progressions for melody including minor keys. (1/0)
Pre-requisite: Class Piano III
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music may be counted toward a degree.

MUA 400 Applied Voice I   **2.0**
Applied Voice I meets individual needs based upon the student's background and training. This course requires a weekly 60-minute private lesson, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music courses may be counted toward a degree.

MUA 401 Applied Voice II   **2.0**
Applied Voice II meets individual needs based upon the student's background and training. This course requires a weekly 60-minute private lesson, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)
Prerequisite: A grade of "C" or higher in Applied Voice I.
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music courses may be counted toward a degree.

MUA 402 Applied Voice III   **2.0**
Applied Voice III meets individual needs based upon the student's background and training. This course requires a weekly 60-minute private lesson, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)
Prerequisite: A grade of "C" or higher in Applied Voice II.
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music courses may be counted toward a degree.

MUA 403 Applied Voice IV   **2.0**
Applied Voice IV meets individual needs based upon the student's background and training. This course requires a weekly 60-minute private lesson, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)
Prerequisite: A grade of "C" or higher in Applied Voice III.
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music courses may be counted toward a degree.

MUA 404 Applied Voice V   **2.0**
Applied Voice V meets individual needs based upon the student's background and training. This course requires a weekly 60-minute private lesson, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)
Prerequisite: A grade of "C" or higher in Applied Voice IV.
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music courses may be counted toward a degree.

MUA 405 Applied Voice VI   **2.0**
Applied Voice VI meets individual needs based upon the student's background and training. This course requires a weekly 30-minute private lesson, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)
Prerequisite: A grade of "C" or higher in Applied Voice V.
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music courses may be counted toward a degree.

MUA 410 Applied Piano I   **2.0**
Applied Piano I meets individual needs based upon the student's background and training. This course requires a weekly 60-minute applied lesson, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music courses may be counted towards a degree.

MUA 411 Applied Piano II   **2.0**
Applied Piano II meets individual needs based upon the student's background and training. This course requires a weekly 60-minute applied lesson, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)
Prerequisite: A grade of "C" or higher in Applied Piano I.
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music courses may be counted towards a degree.

MUA 412 Applied Piano III   **2.0**
Applied Piano III meets individual needs based upon the student's background and training. This course requires a weekly 60-minute applied les-

son, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)
Prerequisite: A grade of "C" or higher in Applied Piano II.
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music courses may be counted towards a degree.

MUA 413 Applied Piano IV   **2.0**
Applied Piano IV meets individual needs based upon the student's background and training. This course requires a weekly 60-minute applied lesson, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)
Prerequisite: A grade of "C" or higher in Applied Piano III.
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music courses may be counted towards a degree.

MUA 415 Applied Bassoon I   **2.0**
Applied Bassoon I meets individual needs based upon the student's background and training. This course requires a weekly 60-minute private lesson, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music courses may be counted toward a degree.

MUA 416 Applied Bassoon II   **2.0**
Applied Bassoon II meets individual needs based upon the student's background and training. This course requires a weekly 60-minute private lesson, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)
Prerequisite: A grade of "C" or higher in Applied Bassoon I.
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music courses may be counted toward a degree.

MUA 417 Applied Bassoon III   **2.0**
Applied Bassoon III meets individual needs based upon the student's background and training. This course requires a weekly 60-minute private lesson, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)
Prerequisite: A grade of "C" or higher in Applied Bassoon II.
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music courses may be counted toward a degree.

MUA 418 Applied Bassoon IV   **2.0**
Applied Bassoon IV meets individual needs based upon the student's background and training. This course requires a weekly 60-minute private lesson, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)
Prerequisite: A grade of "C" or higher in Applied Bassoon III.
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music courses may be counted toward a degree.

MUA 420 Applied Guitar I   **2.0**
Applied Guitar I meets individual needs based upon the student's background and training. This course requires a weekly 60-minute private lesson, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music courses may be counted toward a degree.

MUA 421 Applied Guitar II   **2.0**
Applied Guitar II meets individual needs based upon the student's background and training. This course requires a weekly 60-minute private lesson, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)
Prerequisite: A grade of "C" or higher in Applied Guitar I.
Note: Does not meet humanities requirement for graduation; a total

of sixteen credits in Applied Music courses may be counted toward a degree.

MUA 422 Applied Guitar III   **2.0**
Applied Guitar III meets individual needs based upon the student's background and training. This course requires a weekly 60-minute private lesson, additional student practice, a weekly recital hour, and a monthly master class.
Prerequisite: A grade of "C" or higher in Applied Guitar II.
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music courses may be counted toward a degree.

MUA 423 Applied Guitar IV   **2.0**
Applied Guitar IV meets individual needs based upon the student's background and training. This course requires a weekly 60-minute private lesson, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)
Prerequisite: A grade of "C" or higher in Applied Guitar III.
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music courses may be counted toward a degree.

MUA 425 Applied Euphonium I   **2.0**
Applied Euphonium I meets individual needs based upon the student's background and training. This course requires a weekly 60-minute private lesson, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music courses may be counted toward a degree.

MUA 426 Applied Euphonium II   **2.0**
Applied Euphonium II meets individual needs based upon the student's background and training. This course requires a weekly 60-minute private lesson, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)
Prerequisite: A grade of "C" or higher in Applied Euphonium I.
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music courses may be counted toward a degree.

MUA 427 Applied Euphonium III   **2.0**
Applied Euphonium III meets individual needs based upon the student's background and training. This course requires a weekly 60-minute private lesson, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)
Prerequisite: A grade of "C" or higher in Applied Euphonium II.
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music courses may be counted toward a degree.

MUA 428 Applied Euphonium IV   **2.0**
Applied Euphonium IV meets individual needs based upon the student's background and training. This course requires a weekly 60-minute private lesson, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)
Prerequisite: A grade of "C" or higher in Applied Euphonium III.
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music courses may be counted toward a degree.

MUA 430 Applied String Bass I   **2.0**
Applied String Bass I meets individual needs based upon the student's background and training. This course requires a weekly 60-minute private lesson, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music courses may be counted toward a degree.

MUA 431 Applied String Bass II   **2.0**
Applied String Bass II meets individual needs based upon the student's background and training. This course requires a weekly 60-minute private lesson, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)
Prerequisite: A grade of "C" or higher in Applied String Bass I.
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music courses may be counted toward a degree.

MUA 432 Applied String Bass III   **2.0**
Applied String Bass III meets individual needs based upon the student's background and training. This course requires a weekly 60-minute private lesson, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)
Prerequisite: A grade of "C" or higher in Applied String Bass II.
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music courses may be counted toward a degree.

MUA 433 Applied String Bass IV   **2.0**
Applied String Bass IV meets individual needs based upon the student's background and training. This course requires a weekly 60-minute private lesson, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)
Prerequisite: A grade of "C" or higher in Applied String Bass III.
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music courses may be counted toward a degree.

MUA 435 Applied French Horn I   **2.0**
Applied French Horn I meets individual needs based upon the student's background and training. This course requires a weekly 60-minute private lesson, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music courses may be counted toward a degree.

MUA 436 Applied French Horn II   **2.0**
Applied French Horn II meets individual needs based upon the student's background and training. This course requires a weekly 60-minute private lesson, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)
Prerequisite: A grade of "C" or higher in Applied French Horn I.
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music courses may be counted toward a degree.

MUA 437 Applied French Horn III   **2.0**
Applied French Horn III meets individual needs based upon the student's background and training. This course requires a weekly 60-minute private lesson, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)
Prerequisite: A grade of "C" or higher in Applied French Horn II.
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music courses may be counted toward a degree.

MUA 438 Applied French Horn IV   **2.0**
Applied French Horn IV meets individual needs based upon the student's background and training. This course requires a weekly 60-minute private lesson, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)
Prerequisite: A grade of "C" or higher in Applied French Horn III.
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music courses may be counted toward a degree.

MUA 440 Applied Clarinet I   **2.0**
Applied Clarinet I meets individual needs based upon the student's background and training. This course requires a weekly 60-minute private les-

son, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music courses may be counted toward a degree.

MUA 441 Applied Clarinet II   **2.0**
Applied Clarinet II meets individual needs based upon the student's background and training. This course requires a weekly 60-minute private lesson, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)
Prerequisite: A grade of "C" or higher in Applied Clarinet I.
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music courses may be counted toward a degree.

MUA 442 Applied Clarinet III   **2.0**
Applied Clarinet III meets individual needs based upon the student's background and training. This course requires a weekly 60-minute private lesson, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)
Prerequisite: A grade of "C" or higher in Applied Clarinet II.
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music courses may be counted toward a degree.

MUA 443 Applied Clarinet IV   **2.0**
Applied Clarinet IV meets individual needs based upon the student's background and training. This course requires a weekly 60-minute private lesson, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)
Prerequisite: A grade of "C" or higher in Applied Clarinet III.
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music may be counted toward a degree.

MUA 445 Applied Oboe I   **2.0**
Applied Oboe I meets individual needs based upon the student's background and training. This course requires a weekly 60-minute private lesson, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music courses may be counted toward a degree.

MUA 446 Applied Oboe II   **2.0**
Applied Oboe II meets individual needs based upon the student's background and training. This course requires a weekly 60-minute private lesson, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)
Prerequisite: A grade of "C" or higher in Applied Oboe I.
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music courses may be counted toward a degree.

MUA 447 Applied Oboe III   **2.0**
Applied Oboe III meets individual needs based upon the student's background and training. This course requires a weekly 60-minute private lesson, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)
Prerequisite: A grade of "C" or higher in Applied Oboe II.
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music courses may be counted toward a degree.

MUA 448 Applied Oboe IV   **2.0**
Applied Oboe IV meets individual needs based upon the student's background and training. This course requires a weekly 60-minute private lesson, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)
Prerequisite: A grade of "C" or higher in Applied Oboe III.
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music courses may be counted toward a degree.

MUA 450 Applied Flute I   **2.0**
Applied Flute I meets individual needs based upon the student's background and training. This course requires a weekly 60-minute private lesson, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music courses may be counted toward a degree.

MUA 451 Applied Flute II   **2.0**
Applied Flute II meets individual needs based upon the student's background and training. This course requires a weekly 60-minute private lesson, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)
Prerequisite: A grade of "C" or higher in Applied Flute I.
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music courses may be counted toward a degree.

MUA 452 Applied Flute III   **2.0**
Applied Flute III meets individual needs based upon the student's background and training. This course requires a weekly 60-minute private lesson, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)
Prerequisite: A grade of "C" or higher in Applied Flute II.
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music courses may be counted toward a degree.

MUA 453 Applied Flute IV   **2.0**
Applied Flute IV meets individual needs based upon the student's background and training. This course requires a weekly 60-minute private lesson, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)
Prerequisite: A grade of "C" or higher in Applied Flute III.
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music may be counted toward a degree.

MUA 455 Applied Tuba I   **2.0**
Applied Tuba I meets individual needs based upon the student's background and training. This course requires a weekly 60-minute private lesson, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music courses may be counted toward a degree.

MUA 456 Applied Tuba II   **2.0**
Applied Tuba II meets individual needs based upon the student's background and training. This course requires a weekly 60-minute private lesson, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)
Prerequisite: A grade of "C" or higher in Applied Tuba I.
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music courses may be counted toward a degree.

MUA 457 Applied Tuba III   **2.0**
Applied Tuba III meets individual needs based upon the student's background and training. This course requires a weekly 60-minute private lesson, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)
Prerequisite: A grade of "C" or higher in Applied Tuba II.
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music courses may be counted toward a degree.

MUA 458 Applied Tuba IV   **2.0**
Applied Tuba IV meets individual needs based upon the student's background and training. This course requires a weekly 60-minute private lesson, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)

Prerequisite: A grade of "C" or higher in Applied Tuba III.
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music courses may be counted toward a degree.

MUA 460 Applied Saxophone I   **2.0**
Applied Saxophone I meets individual needs based upon the student's background and training. This course requires a weekly 60-minute private lesson, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music courses may be counted toward a degree.

MUA 461 Applied Saxophone II   **2.0**
Applied Saxophone II meets individual needs based upon the student's background and training. This course requires a weekly 60-minute private lesson, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)
Prerequisite: A grade of "C" or higher in Applied Saxophone I.
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music courses may be counted toward a degree.

MUA 462 Applied Saxophone III   **2.0**
Applied Saxophone III meets individual needs based upon the student's background and training. This course requires a weekly 60-minute private lesson, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)
Prerequisite: A grade of "C" or higher in Applied Saxophone II.
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music courses may be counted toward a degree.

MUA 463 Applied Saxophone IV   **2.0**
Applied Saxophone IV meets individual needs based upon the student's background and training.This course requires a weekly 60-minute private lesson, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)
Prerequisite: A grade of "C" or higher in Applied Saxophone III.
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music courses may be counted toward a degree.

MUA 470 Applied Trombone I   **2.0**
Applied Trombone I meets individual needs based upon the student's background and training. This course requires a weekly 60-minute private lesson, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music courses may be counted toward a degree.

MUA 471 Applied Trombone II   **2.0**
Applied Trombone II meets individual needs based upon the student's background and training. This course requires a weekly 60-minute private lesson, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)
Prerequisite: A grade of "C" or higher in Applied Trombone I.
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music courses may be counted toward a degree.

MUA 472 Applied Trombone III   **2.0**
Applied Trombone III meets individual needs based upon the student's background and training.This course requires a weekly 60-minute private lesson, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)
Prerequisite: A grade of "C" or higher in Applied Trombone II.
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music courses may be counted toward a degree.

MUA 473 Applied Trombone IV **2.0**
Applied Trombone IV meets individual needs based upon the student's background and training. This course requires a weekly 60-minute private lesson, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)
Prerequisite: A grade of "C" or higher in Applied Trombone III.
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music courses may be counted toward a degree.

MUA 480 Applied Trumpet I **2.0**
Applied Trumpet I meets individual needs based upon the student's background and training. This course requires a weekly 60-minute private lesson, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music courses may be counted toward a degree.

MUA 481 Applied Trumpet II **2.0**
Applied Trumpet II meets individual needs based upon the student's background and training. This course requires a weekly 60-minute private lesson, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)
Prerequisite: A grade of "C" or higher in Applied Trumpet I.
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music courses may be counted toward a degree.

MUA 482 Applied Trumpet III **2.0**
Applied Trumpet III meets individual needs based upon the student's background and training. This course requires a weekly 60-minute private lesson, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)
Prerequisite: A grade of "C" or higher in Applied Trumpet II.
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music courses may be counted toward a degree.

MUA 483 Applied Trumpet IV **2.0**
Applied Trumpet IV meets individual needs based upon the student's background and training. This course requires a weekly 60-minute private lesson, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)
Prerequisite: A grade of "C" or higher in Applied Trumpet III.
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music courses may be counted toward a degree.

MUA 490 Applied Percussion I **2.0**
Applied Percussion I meets individual needs based upon the student's background and training. This course requires a weekly 60-minute private lesson, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music courses may be counted toward a degree.

MUA 491 Applied Percussion II **2.0**
Applied Percussion II meets individual needs based upon the student's background and training. This course requires a weekly 60-minute private lesson, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)
Prerequisite: A grade of "C" or higher in Applied Percussion I.
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music courses may be counted toward a degree.

MUA 492 Applied Percussion III **2.0**
Applied Percussion III meets individual needs based upon the student's background and training. This course requires a weekly 60-minute private lesson, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)
Prerequisite: A grade of "C" or higher in Applied Percussion II.
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music courses may be counted toward a degree.

MUA 493 Applied Percussion IV **2.0**
Applied Percussion IV meets individual needs based upon the student's background and training. This course requires a weekly 60-minute private lesson, additional student practice, a weekly recital hour, and a monthly master class. (1.5/1)
Prerequisite: A grade of "C" or higher in Applied Percussion III.
Note: Does not meet humanities requirement for graduation; a total of sixteen credits in Applied Music courses may be counted toward a degree.

MUS 100 Music Appreciation **3.0**
Music Appreciation provides the tools for creative listening. This course includes the history and literature of classical music from the Renaissance period to the twentieth century. (3/0)

MUS 101 Jazz Choir I **1.0**
Jazz Choir I introduces the student to jazz literature and provides an opportunity for performances. Course content includes reading jazz literature, learning jazz concepts and harmonies. (0/2)
Prerequisite: Must audition.
Co-requisite: Must be enrolled in another Ensemble Music course.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music courses may be counted toward a degree.

MUS 102 Music Fundamentals **3.0**
Music Fundamentals serves the non-musician who wishes to learn the basic music fundamentals including signs, symbols, key signatures, and note reading in bass and treble clef. It is recommended for elementary education majors and other students who want a working knowledge of music fundamentals. (3/0)

MUS 109 Jazz Combo I **1.0**
Jazz Combo I will introduce the students to jazz improvisation and give them an opportunity for performances. Course content includes learning the standard jazz small group literature and improvisation. (0/3)
Prerequisite: Must audition.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music courses may be counted toward a degree.

MUS 112 Jazz Choir II **1.0**
Jazz Choir II introduces the student to jazz literature and provides an opportunity for performances. Course content includes reading jazz literature, learning jazz concepts and harmonies. (0/2)
Prerequisite: A grade of "C" or higher in Jazz Combo I.
Co-requisite: Must be enrolled in another Ensemble Music course.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music courses may be counted toward a degree.

MUS 113 Vocal Ensemble I **1.0**
Vocal Ensemble I provides an opportunity to perform contemporary literature and utilize choreography in performances at the introductory level. Students must commit to two semesters (one academic year). (0/3)
Prerequisite: Must audition.
Co-requisite: Concert Choir I and Choreography I.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music may be counted toward a degree.

MUS 114 Jazz Combo II **1.0**
Jazz Combo II will introduce the students to jazz improvisation and give them an opportunity for performances. Course content includes learning the standard jazz small group literature and improvisation. (0/3)
Prerequisite: A grade of "C" or higher in Jazz Combo I.
Note: Does not meet humanities requirement for graduation; a total

of eight credits in Ensemble Music courses may be counted toward a degree.

MUS 124 Instrumental Jazz Ensemble I   **1.0**
Instrumental Jazz Ensemble I, through selected literature, introduces students to basic jazz concepts and applications. The principles of jazz rhythmic styles and improvisation are applied through rehearsal and performance. (0/3)
Prerequisite: Must audition.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music courses may be counted toward a degree.

MUS 134 Concert Choir I   **1.0**
Concert Choir I, through selected repertoire, provides a suitable background in the choral art and literature. (0/3)
Prerequisite: Must audition.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music courses may be counted toward a degree.

MUS 137 Concert Band I   **1.0**
Concert Band I provides an opportunity to develop further proficiency on a chosen instrument. (0/3)
Prerequisite: Must audition.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music courses may be counted toward a degree.

MUS 141 Concert Choir II   **1.0**
Concert Choir II, through selected repertoire, provides a suitable background in the choral art and literature. (0/3)
Prerequisite: A grade of "C" or higher in Concert Choir I.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music courses may be counted toward a degree.

MUS 142 Concert Choir III   **1.0**
Concert Choir III, through selected repertoire, provides a suitable background in the choral art and literature. (0/3)
Prerequisite: A grade of "C" or higher in Concert Choir II.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music courses may be counted toward a degree.

MUS 182 Instrumental Jazz Ensemble II   **1.0**
Instrumental Jazz Ensemble II, through selected literature, introduces students to basic jazz concepts and applications. The principles of jazz rhythmic styles and improvisation are applied through rehearsal and performance. (0/3)
Prerequisite: A grade of "C" or higher in Instrumental Jazz Ensemble I.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music courses may be counted toward a degree.

MUS 183 Instrumental Jazz Ensemble III   **1.0**
Instrumental Jazz Ensemble III, through selected literature, introduces students to basic jazz concepts and applications. The principles of jazz rhythmic styles and improvisation are applied through rehearsal and performance. (0/3)
Prerequisite: A grade of "C" or higher in Instrumental Jazz Ensemble II.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music courses may be counted toward a degree.

MUS 184 Instrumental Jazz Ensemble IV   **1.0**
Instrumental Jazz Ensemble IV, through selected literature, introduces students to basic jazz concepts and applications. The principles of jazz rhythmic styles and improvisation are applied through rehearsal and performance. (0/3)
Prerequisite: A grade of "C" or higher in Instrumental Jazz Ensemble III.
Note: Does not meet humanities requirement for graduation; a total

of eight credits in Ensemble Music courses may be counted toward a degree.

MUS 204 History of Rock and Roll   **3.0**
History of Rock and Roll is a study of rock and roll from the mid-1950's to the present. The course is designed to create critical listeners of popular culture music through analysis of song forms, rock band instrumentation, and the political, cultural, and social significance of song lyrics. (3/0)

MUS 213 Men's Ensemble I   **1.0**
Men's Ensemble I will introduce students to four-part men's a cappella literature and give them an opportunity for performances. Course content includes reading four-part literature, learning barbershop concepts and harmonies. (0/2)
Prerequisite: Must audition.
Co-requisite: Must be enrolled in another Ensemble Music course.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music may be counted toward a degree.

MUS 214 Instumental Jazz Ensemble V   **1.0**
Instrumental Jazz Ensemble V, through selected literature, introduces students to basic jazz concepts and applications. The principles of jazz rhythmic styles and improvisation are applied through rehearsal and performance. (0/3)
Prerequisite: A grade of "C" or higher in Instrumental Jazz Ensemble IV.
Co-requisite: Marching Band/Pep Band.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music courses may be counted toward a degree.

MUS 224 Men's Ensemble II   **1.0**
Men's Ensemble II will continue the exploration of the student's understanding of four-part men's a cappella literature and give them an opportunity for performances. Course content includes reading four-part literature, learning barbershop concepts and harmonies. (0/2)
Prerequisite: A grade of "C" or higher in Men's Ensemble I.
Co-requisite: Must be enrolled in another Ensemble Music course.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music may be counted toward a degree.

MUS 228 Instrumental Jazz Ensemble VI   **1.0**
Instrumental Jazz Ensemble VI, through selected literature, introduces students to basic jazz concepts and applications. The principles of jazz rhythmic styles and improvisation are applied through rehearsal and performance. (0/3)
Prerequisite: A grade of "C" or higher in Instrumental Jazz Ensemble V.
Co-requisite: Marching Band/Pep Band.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music courses may be counted toward a degree.

MUS 229 Jazz Choir III   **1.0**
Jazz Choir III introduces the student to jazz literature and provides an opportunity for performances. Course content includes reading jazz literature, learning jazz concepts and harmonies. (0/2)
Prerequisite: A grade of "C" or higher in Jazz Combo II.
Co-requisite: Must be enrolled in another Ensemble Music course.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music courses may be counted toward a degree.

MUS 231 Jazz Choir IV   **1.0**
Jazz Choir IV introduces the student to jazz literature and provides an opportunity for performances. Course content includes reading jazz literature, learning jazz concepts and harmonies. (0/2)
Prerequisite: A grade of "C" or higher in Jazz Combo III.
Co-requisite: Must be enrolled in another Ensemble Music course.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music courses may be counted toward a degree.

MUS 232 Jazz Combo III **1.0**
Jazz Combo III will introduce the students to jazz improvisation and give them an opportunity for performances. Course content includes learning the standard jazz small group literature and improvisation. (0/3)
Prerequisite: A grade of "C" or higher in Jazz Combo II.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music courses may be counted toward a degree.

MUS 234 Jazz Combo IV **1.0**
Jazz Combo IV will introduce the students to jazz improvisation and give them an opportunity for performances. Course content includes learning the standard jazz small group literature and improvisation. (0/3)
Prerequisite: A grade of "C" or higher in Jazz Combo III.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music courses may be counted toward a degree.

MUS 237 Jazz Choir V **1.0**
Jazz Choir V introduces the student to jazz literature and provides an opportunity for performances. Course content includes reading jazz literature, learning jazz concepts and harmonies. (0/2)
Prerequisite: A grade of "C" or higher in Jazz Combo IV.
Co-requisite: Must be enrolled in another ensemble music course.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music courses may be counted toward a degree.

MUS 238 Men's Ensemble III **1.0**
Men's Ensemble III will consist of four-part men's a cappella literature and give students an opportunity for performances. Course content includes reading four-part literature, learning barbershop concepts and harmonies at an intermediate level. (0/2)
Prerequisite: A grade of "C" or higher in Men's Ensemble II.
Co-requisite: Must be enrolled in another Ensemble Music course.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music may be counted toward a degree.

MUS 239 Jazz Combo IV **1.0**
Jazz Combo IV will introduce the students to jazz improvisation and give them an opportunity for performances. Course content includes learning the standard jazz small group literature and improvisation. 0/3)
Prerequisite: A grade of "C" or higher in Jazz Combo III.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music courses may be counted toward a degree.

MUS 240 Concert Choir IV **1.0**
Concert Choir IV, through selected repertoire, provides a suitable background in the choral art and literature. (0/3)
Prerequisite: A grade of "C" or higher in Concert Choir III.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music courses may be counted toward a degree.

MUS 241 Concert Choir V **1.0**
Concert Choir V, through selected repertoire, provides a suitable background in the choral art and literature. (0/3)
Prerequisite: A grade of "C" or higher in Concert Choir IV.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music courses may be counted toward a degree.

MUS 242 Concert Choir VI **1.0**
Concert Choir VI, through selected repertoire, provides a suitable background in the choral art and literature. (0/3)
Prerequisite: A grade of "C" or higher in Concert Choir V.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music courses may be counted toward a degree.

MUS 243 Jazz Choir VI **1.0**
Jazz Combo VI will introduce the students to jazz improvisation and give them an opportunity for performances. Course content includes learning the standard jazz small group literature and improvisation. (0/3)
Prerequisite: A grade of "C" or higher in Jazz Combo V.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music courses may be counted toward a degree.

MUS 245 Concert Band II 1.0
Concert Band II provides an opportunity to develop further proficiency on a chosen instrument. (0/3)
Prerequisite: A grade of "C" or higher in Concert Band I.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music courses may be counted toward a degree.

MUS 246 Jazz Combo VI **1.0**
Jazz Combo VI will introduce the students to jazz improvisation and give them an opportunity for performances. Course content includes learning the standard jazz small group literature and improvisation. (0/3)
Prerequisite: A grade of "C" or higher in Jazz Combo V.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music courses may be counted toward a degree.

MUS 247 Choreography I **1.0**
Choreography I provides detailed instruction in dance steps and body movement to enhance choral performance. Students learn choreography to complete a musical show. (0/2)
Prerequisite: Permission from the instructor.
Co-requisite: Vocal Ensemble I.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music may be counted toward a degree.

MUS 248 Men's Ensemble IV **1.0**
Men's Ensemble IV will consist of four-part men's a cappella literature and give students an opportunity for performances. Course content includes reading four-part literature, learning barbershop concepts and harmonies at an advanced level. (0/2)
Prerequisite: A grade of "C" or higher in Men's Ensemble III.
Co-requisite: Must be enrolled in another Ensemble Music course.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music may be counted toward a degree.

MUS 252 Vocal Ensemble II **1.0**
Vocal Ensemble II provides an opportunity to perform contemporary literature and utilize choreography in performances while exploring vocal technique. Students must commit to two semesters (one academic year). (0/3)
Prerequisite: A grade of "C" or higher in Vocal Ensemble I.
Co-requisite: Concert Choir II.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music may be counted toward a degree.

MUS 253 Vocal Ensemble III **1.0**
Vocal Ensemble III provides an opportunity to perform contemporary literature and utilize choreography in performances at an intermediate level. Students must commit to two semesters (one academic year). (0/3)
Prerequisite: A grade of "C" or higher in Vocal Ensemble II.
Co-requisite: Concert Choir III and Choreography II.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music may be counted toward a degree.

MUS 254 Vocal Ensemble IV **1.0**
Vocal Ensemble IV provides an opportunity to perform contemporary literature and utilize choreography in performances at an advanced level. Students must commit to two semesters (one academic year). (0/3)
Prerequisite: A grade of "C" or higher in Vocal Ensemble III.
Co-requisite: Concert Choir IV.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music may be counted toward a degree.

MUS 255 Vocal Ensemble V   **1.0**
Vocal Ensemble V provides an opportunity to perform contemporary literature and utilize choreography in performances while demonstrating advanced vocal techniques and evaluating rehearsals. Students must commit to two semesters (one academic year). (0/3)
Prerequisite: A grade of "C" or higher in Vocal Ensemble IV.
Co-requisite: Concert Choir V and Choreography III.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music may be counted toward a degree.

MUS 256 Vocal Ensemble VI   **1.0**
Vocal Ensemble VI provides an opportunity to perform contemporary literature and utilize choreography in performances while demonstrating advanced vocal techniques and evaluating performances. Students must commit to two semesters (one academic year). (0/3)
Prerequisite: A grade of "C" or higher in Vocal Ensemble V.
Co-requisite: Concert Choir VI.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music may be counted toward a degree.

MUS 257 Men's Ensemble V   **1.0**
Men's Ensemble V will gain an advanced level of understanding four-part men's a cappella literature while evaluating rehearsals. Course content includes reading four-part literature, learning barbershop concepts and harmonies. (0/2)
Prerequisite: A grade of "C" or higher in Men's Ensemble IV.
Co-requisite: Must be enrolled in another Ensemble Music course.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music may be counted toward a degree.

MUS 264 Choreography II   **1.0**
Choreography II provides detailed instruction in dance steps and body movement to enhance choral performance at an intermediate level. Students learn choreography to complete a musical show. (0/2)
Prerequisite: A grade of "C" or higher in Choreography I.
Co-requisite: Vocal Ensemble II.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music may be counted toward a degree.

MUS 265 Musical Instrument Digital Interface   **3.0**
Musical Instrument Digital Interface introduces students to the world of electronic music through the use of MIDI (Musical Instrument Digital Interface) technology. Instruction will cover the basics of the MIDI protocol, the processes of sequencing MIDI data using a digital audio workstation (DAW) and music notation software, and using a variety of virtual instruments. (2/2)
Prerequisite: A grade of "C" or higher in Digital Audio Production II; A grade of "C" or higher in Music Theory and Practice I.

MUS 266 Men's Ensemble VI   **1.0**
Men's Ensemble VI will gain an advanced level of understanding four-part men's a cappella literature while evaluating performances. Course content includes reading four-part literature, learning barbershop concepts and harmonies. (0/2)
Prerequisite: A grade of "C" or higher in Men's Ensemble V.
Co-requisite: Must be enrolled in another Ensemble Music course.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music may be counted toward a degree.

MUS 276 Choreography III   **1.0**
Choreography III provides detailed instruction in dance steps and body movement to enhance choral performance at an advanced level. Students learn choreography to complete a musical show. (0/2)
Prerequisite: A grade of "C" or higher in Choreography II.
Co-requisite: Vocal Ensemble III.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music may be counted toward a degree.

MUS 277 Jazz Lab Band   **1.0**
The Jazz Lab Band will introduce the student to a working band atmosphere and give them an opportunity for performances. Course content includes learning the standard dance band repertoire.
A total of four credits may be counted toward a degree. (0/3)
Prerequisite: Must audition.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music may be counted toward a degree.

MUS 305 Introduction to Audio   **3.0**
Introduction to Audio introduces students to basic audio theory as well as how to assemble and operate a live analog sound reinforcement system. Instruction covers the basic audio theories behind and standard operation of audio cables, microphones, mixing consoles, power amplifiers, loudspeakers, and signal processing. (3/0)
Note: Co-numbered with DRA 305.

MUS 306 Digital Audio Production I   **3.0**
Digital Audio Production I introduces students to basic theories and techniques of digital audio recording, editing, and mixing. Instruction utilizes current industry software digital audio workstation and cover the fundamentals of the operation of the software, as well as audio and MIDI recording and editing. This course provides students with real-world examples and frequent hands-on assignments that will provide a solid foundation in all aspects of audio production. (3/0)

MUS 307 Digital Audio Production II   **3.0**
Digital Audio Production II builds upon student skills navigating and using industry softwares digital audio workstation. Instruction covers working with expanded hardware and software configurations, developing versatile tools for manipulating and editing both audio and MIDI data, and implementing a range of techniques that encompass larger, more sophisticated production scenarios. This course provides real-world examples and frequent hands-on assignments designed to enhance abilities in all aspects of audio production. (3/0)
Prerequisite: A grade of "C" or higher in Digital Audio Production I.

MUS 310 Recording Project I   **1.0**
Recording Project I provides students with the opportunity to be involved, at the introductory level, in the complete cycle of an audio recording project. In Recording Project I, students perform as a singer/songwriter/ musician and perform additional tasks according to their current skill level. Students assist in producing a two to four track album. (0/2)
Prerequisites: A grade of "C" or higher in Introduction to Audio and Digital Audio Production I.

MUS 311 Recording Project II   **1.0**
Recording Project II provides students with the opportunity to be involved in the complete cycle of an audio recording project. Students in Recording Project II are in charge of all equipment used in the recording project and assume the role of studio musician and perform additional tasks according to their current skill level. Students assist in producing a two to four track album. (0/2)
Prerequisite: A grade of "C" or higher in Recording Project I.

MUS 312 Recording Project III   **1.0**
Recording Project III provides students with the opportunity to be involved in the complete cycle of an audio recording project. Students in Recording Project III apply basic recording techniques in tracking a session for a recording project and assume the role of studio musician and perform additional tasks according to their current skill level. Students assist in producing a two to four track album. (0/2)
Prerequisite: A grade of "C" or higher in Recording Project II.

MUS 313 Recording Project IV   **1.0**
Recording Project IV provides students with the opportunity to be involved in the complete cycle of an audio recording project. Students in Recording Project IV learn to organize and mix a project recording session and assume the role of studio musician and perform additional tasks according to their current skill level. Students assist in producing a two to four track album. (0/2)
Prerequisite: A grade of "C" or higher in Recording Project III.

MUS 314 Recording Project V   **1.0**
Recording Project V provides students with the opportunity to be involved in the complete cycle of an audio recording project. Students in Recording Project V complete the mastering of recording project sessions and assume the role of studio musician and perform additional tasks according to their current skill level. Students assist in producing a two to four track album. (0/2)
Prerequisite: A grade of "C" or higher in Recording Project IV.

MUS 315 Recording Project VI   **1.0**
Recording Project VI provides students with the opportunity to be involved in the complete cycle of an audio recording project. Students in Recording VI act as the project manager and producer for the recording project and assume the role of studio musician and perform additional tasks according to their current skill level. Students assist in producing a two to four track album. (0/2)
Prerequisite: A grade of "C" or higher in Recording Project V.

MUS 320 Technical Music Practicum I   **1.0**
Technical Music Practicum I is designed for Technical Music majors to learn basic aspects of working as audio technician support and apply concepts learned from other courses at various campus activities and events that may require audio reinforcement. Students learn how to properly setup and operate equipment in a variety of settings. Students are required to attend various campus-wide activities that require audio reinforcement and meet staff expectations as an audio technician assistant. (0/2)
Co-requisite: Introduction to Audio.

MUS 321 Technical Music Practicum II   **1.0**
Technical Music Practicum II students work as mobile recording engineers, providing recording and audio archival services for various campus activities and events that require audio recording services. Students apply knowledge learned in other Technical Music courses to properly set up and operate the necessary equipment in a variety of settings. Students are required to attend various campus-wide activities that require audio reinforcement and meet staff expectations as a mobile recording engineer. (0/2)
Prerequisite: A grade of "C" or higher in Technical Music Practicum I.

MUS 322 Technical Music Practicum III   **1.0**
Technical Music Practicum III students act as music technology lab assistants. Students will be required to use skills learned in other Technical Music courses to assist faculty and students in the use and maintenance of the laboratory equipment during classes held in the laboratory. Students also begin to create a resume and professional portfolio of past work to use during the job application process. (0/2)
Prerequisite: A grade of "C" or higher in Technical Music Practicum II.

MUS 323 Technical Music Practicum IV   **1.0**
Technical Music Practicum IV students will act as operations engineers in the technical music recording studio. Students use skills learned in other Technical Music courses to assist other students and faculty in the use of the studio including microphone setup, studio signal flow, control surface operation, as well as studio policies and procedures. Students also develop a finalized, professional resume and portfolio of past work to use during the job application process. (0/2)
Prerequisite: A grade of "C" or higher in Technical Music Practicum III.

MUS 325 Mix Listening I   **3.0**
Mix Listening I provides students with an introduction to the mixing process and develops the ability to hear and identify the key features of a well-balanced, professional-sounding mix. Through regular ear-training drills, analysis of recordings, and comparative studies of different styles of mixing. Students learn to identify mix width and depth, frequency range, dynamics and the different approaches used in various musical genres as well as mixing techniques including panning, reverb, delay, compression, chorus, and distortion. The course also explores various types of instruments and arrangements as well as the basic acoustic theory that will help turn a normal listening space into a more critical listening environment. (3/0)
Prerequisites: A grade of "C" or higher in Introduction to Audio and Digital Audio Production I.

MUS 326 Mix Listening II   **3.0**
Mix Listening II continues to build listening skills and aural awareness while expanding students' palette of production techniques and vocabulary. Students learn how to identify and determine key mix frequencies for instruments across different musical genres and cultures. Students also learn to identify finer parameters of natural and artificial reverb, delay, and compression settings, and their effect on mixes and what we hear. Students are provided with in-depth comparisons of microphones, mic pre-amps, and amplifiers, as well as stereo mic configurations. Throughout the course, students analyze professional recordings and strengthen listening skills through ear- training drills. (3/0)
Prerequisite: A grade of "C" or higher in Mix Listening I.

MUS 328 Virtual Instrument and Processing Plug-Ins   **3.0**
Virtual Instrument and Processing Plug-Ins explores how to fully utilize all of the available audio processing plug-ins and virtual instruments that are included with current industry software digital audio workstation. The course covers the properties of each parameter in every instrument and how those parameters work together to create a more interesting sound or cohesive mix. The course also covers how to design sounds based on those parameters, how to be more creative with the effects and instruments, and how to improve the overall sound of musical productions. (2/2)
Prerequisite: A grade of "C" or higher in Digital Audio Production I.

MUS 330 Audio Mixing I   **3.0**
Audio Mixing I expands upon understanding of the production process by introducing new mixing techniques such as parallel compression, providing thorough explorations of reverb and delay parameters and use of those effects in the mixing process. The course introduces the subject of audio mastering and the use of compression at the mastering stage. Students listen to, compare, and discuss mixes as a class. (3/0)
Prerequisite: A grade of "C" or higher in Mix Listening I or Digital Audio Production II.

MUS 331 Audio Mixing II   **3.0**
Audio Mixing II is an advanced course that provides a deeper understanding of mixing and mastering tools and techniques that can be applied to a wide variety of styles including jazz, pop/rock, and electronica. The course explores the use of several mixing procedures including utilizing advanced techniques with processors such as EQ, compression, reverb, delays, and tempo maps. Each of these concepts is applied to various genres of recorded music. The course also covers the use of EQ, limiting, and multi-band compression in the mastering process. (3/0)
Prerequisite: A grade of "C" or higher in Audio Mixing I.

MUS 333 Popular Music Analysis   **3.0**
Popular Music Analysis provides a step-by-step approach to identifying the essential elements of successful recorded tracks and albums. Students gain an understanding of the most fundamental part of the songwriting and recording process - the emotional effectiveness of music. Students also learn arrangement and direction techniques designed to assist talent in contributing substantially to a recording instead of simply performing a part. Students learn the differences between producing and engineering in order to transform their approach to mixing an album so that it may reach its full artistic potential. (3/0)
Prerequisite: A grade of "C" or higher in Mix Listening I.

MUS 335 Audio Mastering   **3.0**
Audio Mastering focuses on the final part of the music production process. Students are provided with an advanced discussion of acoustics, monitoring, and the digital audio fundamentals unique to the art of mastering audio. Students learn the specific tools used to modify, enhance, and correct the sound of a recording. Course topics include applying signal processing to enhance audio material, noise reduction techniques, advanced editing techniques such as album sequencing and manual gain riding. Students also learn about the importance of quality control, and compare disc and electronic delivery preparation methods. (3/0)
Prerequisite: A grade of "C" or higher in Audio Mixing I.

MUS 345 Concert Band III   **1.0**
Concert Band III provides an opportunity to develop further proficiency on a chosen instrument. (0/3)
Prerequisite: A grade of "C" or higher in Concert Band II.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music courses may be counted toward a degree.

MUS 350 Percussion Ensemble I   **1.0**
Percussion Ensemble I introduces students to percussion ensemble literature and gives them an opportunity for performance. Course content includes reading percussion music and learning percussion techniques and concepts. Open to all students. (0/2)
Prerequisite: Must audition.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music may be counted toward a degree.

MUS 351 Percussion Ensemble II   **1.0**
Percussion Ensemble II advances students' knowledge of percussion ensemble literature and gives them an opportunity for performance. Course content includes reading percussion music and learning percussion techniques and concepts. Open to all students. (0/2)
Prerequisite: A grade of "C" or higher in Percussion Ensemble I.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music may be counted toward a degree.

MUS 352 Percussion Ensemble III   **1.0**
Percussion Ensemble III builds upon skills learned in previous levels. Students learn percussion ensemble literature and have performance opportunities. Course content includes reading percussion music and learning percussion techniques and concepts. Open to all students. (0/2)
Prerequisite: A grade of "C" or higher in Percussion Ensemble II.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music may be counted toward a degree.

MUS 353 Percussion Ensemble IV   **1.0**
Percussion Ensemble IV refines the skills learned in previous levels. Students learn percussion ensemble literature and have performance opportunities. Course content includes reading percussion music and learning percussion techniques and concepts. Open to all students. (0/2)
Prerequisite: A grade of "C" or higher in Percussion Ensemble III.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music may be counted toward a degree.

MUS 354 Percussion Ensemble V   **1.0**
Percussion Ensemble V is designed for students experienced with percussion ensemble literature and gives them an opportunity for performance. Course content includes reading percussion music and learning percussion techniques and concepts. Open to all students. (0/2)
Prerequisite: A grade of "C" or higher in Percussion Ensemble IV.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music may be counted toward a degree.

MUS 355 Percussion Ensemble VI   **1.0**
Percussion Ensemble VI facilitates the growth of the experienced student through leadership roles. Students learn percussion ensemble literature and have performance opportunities. Course content includes reading percussion music and learning percussion techniques and concepts. Open to all students. (0/2)
Prerequisite: A grade of "C" or higher in Percussion Ensemble V.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music may be counted toward a degree.

MUS 360 Women's Ensemble I   **1.0**
Women's Ensemble I introduces students to four-part women's a cappella literature and gives them an opportunity for performance. Course content includes reading four-part literature and learning barbershop concepts and harmonies. (0/2)
Prerequisite: Must audition.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music may be counted toward a degree.

MUS 361 Women's Ensemble II   **1.0**
Women's Ensemble II advances students' knowledge of four-part women's a cappella literature and gives them an opportunity for performance. Course content includes reading four-part literature and learning barbershop concepts and harmonies. (0/2)
Prerequisite: A grade of "C" or higher in Women's Ensemble I.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music may be counted toward a degree.

MUS 362 Women's Ensemble III   **1.0**
Women's Ensemble III builds upon the skills learned in previous levels. Students learn four-part women's a cappella literature and have performance opportunities. Course content includes reading four-part literature and learning barbershop concepts and harmonies. (0/2)
Prerequisite: A grade of "C" or higher in Women's Ensemble II.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music may be counted toward a degree.

MUS 363 Women's Ensemble IV   **1.0**
Women's Ensemble IV refines the skills learned in previous levels. Students learn four-part women's a cappella literature and have performance opportunities. Course content includes reading four-part literature and learning barbershop concepts and harmonies. (0/2)
Prerequisite: A grade of "C" or higher in Women's Ensemble III.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music may be counted toward a degree.

MUS 364 Women's Ensemble V   **1.0**
Women's Ensemble V is designed for students experienced with four-part women's a cappella literature and gives them opportunities for performance. Course content includes reading four-part literature and learning barbershop concepts and harmonies. (0/2)
Prerequisite: A grade of "C" or higher in Women's Ensemble IV.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music may be counted toward a degree.

MUS 365 Women's Ensemble VI   **1.0**
Women's Ensemble VI facilitates the growth of the student experienced with four-part women's a cappella literature through leadership roles and performance opportunities. Course content includes reading four-part literature and learning barbershop concepts and harmonies. (0/2)
Prerequisite: A grade of "C" or higher in Women's Ensemble V.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music may be counted toward a degree.

MUS 370 Marching Band I   **1.0**
Marching Band I introduces students to basic musical concepts and applications. Principles of notereading, intonation, and rhythm are applied through rehearsal and performance. Color Guard introduces students to the basic movement and equipment-use of color guard. Students are required to perform at a number of events (some evenings and weekends) to be determined in the course syllabus. (0/5)
Prerequisite: Must audition.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music courses may be counted toward a degree.

MUS 371 Marching Band II   **1.0**
Marching Band II builds upon the skills learned in the previous level. Principles of note-reading, intonation, and rhythm are applied through rehearsal and performance. Color Guard builds upon the skills learned in the previous level. Students refine movement and equipment-use. Students are required to perform at a number of events (some evenings and weekends) to be determined in the course syllabus. (0/5)
Prerequisite: A grade of "C" or higher in Marching Band I.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music courses may be counted toward a degree.

MUS 372 Marching Band III   **1.0**
Marching Band III is designed for the student experienced in Marching Band. Principles of notereading, intonation, and rhythm are applied through

rehearsal and performance. Color Guard builds upon the skills learned in the previous level. Students master movement and equipment-use. Students are required to perform at a number of events (some evenings and weekends) to be determined in the course syllabus. (0/5)
Prerequisite: A grade of "C" or higher in Marching Band II.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music courses may be counted toward a degree.

MUS 375 Fall Pep Band I   **0.5**
Fall Pep Band I introduces students to Pep Band. Open to all students, Pep Band provides enthusiastic support at Fall sporting events and other performances through musical performance, chants, cheers, and other choreography. Students are required to perform at a number of events (some evenings and weekends) to be determined in the course syllabus. (0/1)
Prerequisite: Must audition.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music may be counted toward a degree.

MUS 376 Fall Pep Band II   **0.5**
Fall Pep Band II builds upon the skills learned in the previous level. Open to all students, Pep Band provides enthusiastic support at Fall sporting events and other performances through musical performance, chants, cheers, and other choreography. Students are required to perform at a number of events (some evenings and weekends) to be determined in the course syllabus. (0/1)
Prerequisite: A grade of "C" or higher in Fall Pep Band I.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music may be counted toward a degree.

MUS 377 Fall Pep Band III   **0.5**
Fall Pep Band III is designed for the student experienced in Pep Band. Open to all students, Pep Band provides enthusiastic support at Fall sporting events and other performances through musical performance, chants, cheers, and other choreography. Students are required to perform at a number of events (some evenings and weekends) to be determined in the course syllabus. (0/1)
Prerequisite: A grade of "C" or higher in Fall Pep Band II.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music may be counted toward a degree.

MUS 380 Spring Pep Band I   **0.5**
Spring Pep Band I introduces students to Pep Band. Open to all students, Pep Band provides enthusiastic support at Spring sporting events and other performances through musical performance, chants, cheers, and other choreography. Students are required to perform at a number of events (some evenings and weekends) to be determined in the course syllabus. (0/1)
Prerequisite: Must audition.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music may be counted toward a degree.

MUS 381 Spring Pep Band II   **0.5**
Spring Pep Band II builds upon the skills learned in the previous level. Open to all students, Pep Band provides enthusiastic support at Spring sporting events and other performances through musical performance, chants, cheers, and other choreography. Students are required to perform at a number of events (some evenings and weekends) to be determined in the course syllabus. (0/1)
Prerequisite: A grade of "C" or higher in Spring Pep Band I.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music may be counted toward a degree.

MUS 382 Spring Pep Band III   **0.5**
Spring Pep Band III is designed for the student experienced in Pep Band. Open to all students, Pep Band provides enthusiastic support at Spring sporting events and other performances through musical performance, chants, cheers, and other choreography. Students are required to perform at a number of events (some evenings and weekends) to be determined in the course syllabus. (0/1)
Prerequisite: A grade of "C" or higher in Spring Pep Band II.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music may be counted toward a degree.

MUS 385 Winter Guard I   **1.0**
Winter Guard I introduces students to basic movement and equipment-use of color guard and gives them opportunities to perform at various events. This course emphasizes team-building, physical conditioning, and practicing guard techniques through the use of flags, rifles, sabers, and other props for performances. (0/3)
Prerequisite: Must audition.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music may be counted toward a degree.

MUS 386 Winter Guard II   **1.0**
Winter Guard II builds upon the skills learned in the previous level. Students refine movement and equipment-use of winter guard and perform at various events. This course emphasizes teambuilding, physical conditioning, and practicing guard techniques through the use of flags, rifles, sabers, and other props for performances. (0/3)
Prerequisite: A grade of "C" or higher in Winter Guard I.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music may be counted toward a degree.

MUS 387 Winter Guard III   **1.0**
Winter Guard III is designed for the student experienced in winter guard. Students master movement and equipment-use of winter guard and perform at various events. This course emphasizes team-building, physical conditioning, and practicing guard techniques through the use of flags, rifles, sabers, and other props for performances. (0/3)
Prerequisite: A grade of "C" or higher in Winter Guard II.
Note: Does not meet humanities requirement for graduation; a total of eight credits in Ensemble Music may be counted toward a degree.

MUS 400 Music in Theory and Practice I   **3.0**
Music in Theory and Practice I is grounded in the basic tonal functions of the common practice period. This course covers the basics of rhythm, pitch, and notational practices. Students study rhythmic figures in simple and compound meters, as well as scales, key signatures, and diatonic chords in major and minor keys. (3/0)
Prerequisite: Must audition.
Co-requisite: Ear Training and Sight Singing I.
Note: This course is for Music and Technical Music majors only.

MUS 401 Music in Theory and Practice II   **3.0**
Music in Theory and Practice II continues the study of tonal functions of the common practice period. Melodic, harmonic, and rhythmic elements of music are combined in the study of chord functions and chord progressions, phrase and cadence structure, and part-writing ranging from two to four voices. (3/0)
Prerequisite: A grade of "C" or higher in Music in Theory and Practice I .
Co-requisite: Ear and Training and Sight Singing II.

MUS 402 Music in Theory and Practice III   **3.0**
Music in Theory and Practice III continues the study of tonal functions of the common practice period. Students examine musical form, phrase structure, and motivic structure, focusing on patterns and transformations. Knowledge of harmony is expanded through the treatment secondary chords and key modulations. (3/0)
Prerequisite: A grade of "C" or higher in Music in Theory and Practice II.
Co-requisite: Ear Training and Sight Singing III.

MUS 403 Music in Theory and Practice IV   **3.0**
Music in Theory and Practice IV continues the study of tonal functions of the common practice period. Students continue the examination of form, focusing on more complex structures. Melodic and harmonic elements incorporate chromatic compositional devices. (3/0)
Prerequisite: A grade of "C" or higher in Music in Theory and Practice III.
Co-requisite: Ear Training and Sight Singing IV.

MUS 410 Ear Training and Sight Singing I   **1.0**
Ear Training and Sight Singing I covers the basic tools and processes used to sight read rhythms and pitches of written music. Musical examples will be in simple meter and will contain stepwise melodies in some major keys. The course also includes the transcription of melodies through dictation of musical examples. (1/0)
Co-requisite: Music in Theory and Practice I.

MUS 411 Ear Training and Sight Singing II 1.0
Ear Training and Sight Singing II builds on the skills learned in Ear Training and Sight Singing I by encountering more advanced musical material in performance and transcription. Musical examples will be in both simple and compound meters, and melodies will contain steps, skips, and leaps of tonic triad pitches in all major keys. (1/0)
Prerequisite: A grade of "C" or higher in Ear Training and Sight Singing I.
Co-requisite: Music in Theory and Practice II.

MUS 412 Ear Training and Sight Singing III 1.0
Ear Training and Sight Singing III builds on the skills learned in Ear Training and Sight Singing II by encountering more advanced musical material in performance and transcription. Musical examples will include dotted rhythms and ties in both simple and compound meters, and melodies will contain steps, skips, and leaps of diatonic triad pitches in all major and minor keys. (1/0)
Prerequisite: A grade of "C" or higher in Ear Training and Sight Singing II.
Co-requisite: Music in Theory and Practice III.

MUS 413 Ear Training and Sight Singing IV 1.0
Ear Training and Sight Singing IV builds on the skills learned in Ear Training and Sight Singing III by encountering more advanced musical material in performance and transcription. Musical examples will include smaller beat divisions in both simple and compound meters, and melodies will contain steps, skips, and leaps of seventh chord pitches in all major and minor keys. (1/0)
Prerequisite: A grade of "C" or higher in Ear Training and Sight Singing III .
Co-requisite: Music in Theory and Practice IV.

MUS 935 Technical Music Internship 3.0
Technical Music Internship is designed to allow students to gain hands-on practical experience in a professional audio production emphasis, according to students' needs. Students apply skills learned in previous coursework. (0/12)
Prerequisite: Permission from the program chair.

Nursing

ADN 131 Bridging LPN to ADN, Theory and Laboratory 2.0
Bridging LPN to ADN, Theory and Laboratory introduces the LPN to the philosophy and organizing framework of the Iowa Western nursing program. The learner is exposed to the concepts of health patterns, nursing process, and nursing roles. The laboratory component focuses on the enhancement of nursing skills. (1.5/1.5)
Prerequisite: Current licensure as practical nurse.

ADN 132 Professional Topics III 1.0
Professional Topics III introduces the learner to the roles and responsibilities of the associate degree nurse. This course compares and contrasts functions of nurses educated at different levels and discusses the legal responsibilities of the registered nurse. (1/0)
Prerequisite: Practical Nursing license, or a grade of "C" or higher in all first-semester Practical Nursing program courses and application for NCLEX-PN.

ADN 133 Health Assessment Across the Life Span 1.5
Health Assessment Across the Life Span provides the learner with the knowledge and skills to perform a health assessment and develop nursing diagnoses. The course includes interviewing techniques, health history-taking, physical, cultural, psychosocial, and mental status assessments in clients across the life span. (1/1.5)
Prerequisite: Current standing as ADN student.
Prerequisite/Co-requisite: Introduction to Psychology.

ADN 222 Pharmacology 3.0
Pharmacology expands the learner's knowledge of drug classification, therapeutic actions, side effects, and drug interactions. The course assists the learner to understand the role of pharmacological agents in relation to health needs and stresses health teaching. (3/0)
Prerequisites: Practical Nursing license, or a grade of "C" or higher in all first-semester Practical Nursing program courses and application for NCLEX-PN.

ADN 320 Professional Topics IV 1.0
Professional Topics IV explores the education, employment, political, and societal aspects of professional nursing. It introduces research in nursing. (1/0)
Prerequisites: Nursing Care Through the Lifespan III and Professional Topics III.
Co-requisite: Nursing Care Through the Lifespan IV.

ADN 330 Professional Topics V 1.0
Professional Topics V applies best practice aspects of patient care from theory in Professional Topics III and IV as students develop an evidenced-based project identifying cultural, financial, therapeutic communication skills, patient management, ethical and legal components. (1/0)
Prerequisites: Nursing Care through the Lifespan IV and Professional Topics IV.
Co-requisite: Nursing Care through the Lifespan V.

ADN 631 Nursing Care Through the Life Span III 4.0
Nursing Care Through the Life Span III provides content organized under selected health patterns. The learner focuses on identifying variables within the environment that impact the delivery of nursing care to meet the health needs of clients in variable health care settings. In clinical, the learner assumes the roles of the provider of care, communicator, teacher, manager of care, and member of the profession. The clinical focuses on delivery of care to clients across the life span with variable normal and abnormal responses to health and illness. (2/6)
Prerequisite: Practical Nursing license, or a grade of "C" or higher in all first-semester Practical Nursing program courses and application for NCLEX-PN.

ADN 632 Nursing Care Through the Life Span IV 8.5
Nursing Care Through the Life Span IV consists of selected health patterns. In both theory and clinical, the learner focuses on applying foundational assessment skills while integrating the nursing process and theory concepts during the planning and implementation of care to groups of assigned clients while functioning in the roles of the provider of care, communicator, teacher, manager of care, and member of the profession. The learner provides care to groups of assigned clients across the life span in variable health care settings with the ultimate goal of health maintenance and/or health restoration. In clinical, the learner assumes the roles of the provider of care, communicator, teacher, manager of care, and member of the profession. (4/13.5)
Prerequisites: Nursing Care Through the Life Span III and licensed practical nurse.
Prerequisite/Co-requisite: Microbiology and Nutrition.

ADN 633 Nursing Care Through the Life Span V 10.0
Nursing Care Through the Life Span V provides selected health patterns. The learner focuses on the refinement and analysis of assessment data while utilizing related concepts to formulate, implement, and evaluate nursing decisions related to the health care needs of groups of clients and significant others across the life span. In clinical, the learner analyzes data, plans, modifies, and evaluates care while functioning in the roles of the provider of care, communicator, teacher, manager of care, and member of the profession. The learner assists the individual(s) to achieve an optimal level of health that integrates principles of health maintenance, health restoration, and/or health promotion. (5/15)
Prerequisites: Nursing Care Through the Life Span IV, Health Assessment Across the Life Span, Microbiology, and Pharmacology.
Prerequisite/Co-requisite: Introduction to Sociology.

PNN 167 Foundations of Nursing 5.0
Foundations of Nursing introduces Gordon's patterns as a data collection system and focuses on the tasks a beginning nurse is responsible for along with the scientific rationale for each task. Beginning nursing skills are integrated from classroom to clinical laboratory. Critical thinking will be incorporated into task completion. This course introduces the student to the first of a two-part nursing course sequence completed in the first semester of nursing. (4.5/.5)

PNN 168 Practical Nursing I 5.0
Practical Nursing I allows the practical nursing students to implement nursing care through the lifespan while focusing on musculoskeletal, mental

health, sensory, cardiovascular, respiratory, obstetrical, and communicable conditions. This is the second of a two-part nursing course sequence completed in the first semester of nursing. (3/6)
Prerequisites: A grade of "C" or higher in Foundations of Nursing and Introduction to Math and Medications.

PNN 177 Practical Nursing II   4.5
Practical Nursing II allows the practical nursing student to implement nursing care for individuals through the lifespan while focusing on the theoretical concepts of obstetrical and mental health nursing, cancer, and the gastrointestinal and reproductive body systems. This is the first of a two-part nursing course sequence completed in the second semester of nursing. (2.5/6)
Prerequisite: A grade of "C" or higher in all first-semester nursing courses.

PNN 178 Practical Nursing III   4.5
Practical Nursing III allows the practical nursing student to implement nursing care for individuals through the lifespan while focusing on the genitourinary, respiratory, neurological and cardiovascular body systems. This is the second of a two-part nursing course sequence completed in the second semester of nursing. (2.5/6)
Prerequisite: A grade of "C" or higher in Practical Nursing II.

PNN 201 Introduction to Math and Medications   1.0
Introduction to Math and Medications introduces the concepts of medication administration. It includes legal implications and mathematical computations specific to pharmacology. (.5/1.5)

PNN 205 Practical Nursing Pharmacology   1.0
Practical Nursing Pharmacology assists the student in identification of drugs by classification, therapeutic action, and adverse effects for clients across the life span. General nursing interventions related to drug classification are emphasized. (1/0)
Prerequisite: A grade of "C" or higher in all first-semester nursing courses.

PNN 321 Professional Topics I   1.0
Professional Topics I introduces the learner to the art of nursing. The learner examines the concepts of health patterns, nursing process, and nursing roles utilized in the care of clients with common health needs across the life span. Legal and ethical roles are emphasized. (1/0)
Prerequisites: Composition I and Public Speaking.

PNN 322 Professional Topics II   1.0
Professional Topics II emphasizes the management concepts, communication skills, legal, and ethical responsibilities the learner incorporates into the role of the graduate practical nurse. (1/0)
Prerequisite: A grade of "C" or higher in all first-semester nursing courses.

PNN 425 Perinatal Mood Disorders   1.0
Perinatal mood disorders focuses on conditions, such as postpartum depression and its effect on mothers, children and the community. Students will discuss signs and symptoms, risk factors and available interventions. The importance of screening and use of the Edinburgh Postnatal Depression scale are included. The innovative process of listening visits will be discussed. (1/0)

PNN 452 Gerontological Nursing   2.0
Gerontological Nursing is the science of caring for the physical and psychological needs of older adults. The focus is on issues related to the provision of holistic nursing care of the aging population. There is an emphasis on maximizing the functional abilities, as well as promoting, maintaining, and/or restoring the physical and mental health of older adults. (2/0)

Paralegal and Legal Studies

PRL 101 Paralegal Studies Orientation   3.0
Paralegal Studies Orientation surveys the paralegal profession with special emphasis on the major roles and responsibilities of the legal assistant. The course explores the knowledge base required to be a legal assistant and considers the history of the profession. (3/0)

PRL 115 Legal Research and Writing   4.0
Legal Research and Writing explores methods and techniques regarding issue recognition, finding sources of the law, applying the law to specific situations, and creating documentary work products. Students utilize computer-aided legal research. Course work includes basic legal documents as well as completion of major research and writing projects. (4/0)
Prerequisite: Composition I.

PRL 126 Evidence   3.0
Evidence covers the basic concepts of relevancy, competency, materiality, privilege, hearsay, and the difference between direct and circumstantial evidence. It also examines pretrial and trial techniques and meeting the burden of proof in both civil and criminal cases. (3/0)
Prerequisite: Permission from the program chair.

PRL 131 Torts and Litigation I   3.0
Torts and Litigation I introduces the basic laws relating to personal and property damage. Topics include intentional tort, negligence, and strict liability. Principles of trial practice including case evaluation, basic discovery methods, and basic pleadings are emphasized. (3/0)

PRL 161 Family Law   3.0
Family Law considers domestic relationships: marriage, annulment, divorce, adoption, child custody, abuse, and the growing concern of care for elderly relatives. (3/0)

PRL 168 Property/Probate   3.0
Property/Probate encompasses real and personal property subject matter including the acquisition, transfer and destruction of such property. This course provides an overview of common property issues including common transfers such as sale and disposition at death. (3/0)
Prerequisite: Paralegal Studies Orientation.

PRL 281 Legal Ethics   2.0
Legal Ethics examines the roles and duties of the paralegal within the limitations of the Code of Professional Responsibility. The course covers client interviewing and note taking techniques in order to avoid the unauthorized practice of law. Emphasis centers on the preservation of client confidentiality and the recognition of conflicts of interest. (2/0)
Prerequisite: Paralegal Studies Orientation.

PRL 933 Internship   3.0
Internship provides direct work-related experience in various legal environments. Students apply skills acquired in the program to everyday responsibilities encountered by legal assistants. The internship is directly supervised by attorneys in conjunction with the program chair. (0/12)
Prerequisites: Paralegal Studies Orientation; Legal Research and Writing; and permission from the program chair.
Prerequisite/Co-requisite: Legal Ethics.

Philosophy

PHI 101   Introduction to Philosophy   3.0
Introduction to Philosophy is an analytical approach to problems such as the nature of man, the existence of a creator, the question of freedom, and the challenge of change. Students deepen their understanding of these problems and their own responses by studying the thoughts of philosophers such as Socrates, Plato, Aristotle, St. Thomas Aquinas, Descartes, Locke, Hegel, Kant, Kierkegaard, Sartre, Nietzsche, James, Russell, and Kuhn. (3/0)

PHI 105   Introduction to Ethics   3.0
Introduction to Ethics examines the Kantian, Utilitarian, and Virtue principles of moral decisionmaking. Those principles are then used to analyze such issues as hunger, poverty, drugs, environmental problems, racism, abortion, euthanasia, and the economic and criminal justice systems. (3/0)

PHI 111   Basic Reasoning   3.0
Basic Reasoning is designed to assist students in developing reasoning and critical thinking skills. Students will learn to identify and analyze ideas and arguments, use inductive and deductive reasoning, and practice evaluating reasoning found in variety of contexts including media, internet, and culture. (3/0)

PHI 142   Ethics in Business   3.0
Ethics in Business addresses moral issues that confront the contemporary business community. Traditional ethical systems provide a framework with which to analyze issues in areas of corporate responsibility and the rights and obligations of employers and employees. (3/0)

PHI 211   Ethics in the Media   3.0
Ethics in the Media introduces the judicial, legislative, and administrative policies pertinent to the ethical and legal operation of newspapers and other print media. Emphasis is placed upon First Amendment protection, libel, privacy, free press, fair trial, judicial controls, government regulations, copyright, and ethical standards and practices. Upon completion, students will have an understanding and appreciation of these issues and the ability to analyze the important legal and ethical issues involved. (3/0)
Note: Co-numbered with JOU 211

Physical Education and Wellness

PEA 162 Speed and Conditioning I   1.0
Speed and Conditioning I is an activity course that will focus on the coordination of muscular movements for sport-specific performance. (0/2)
Prerequisite: Permission from the instructor.

PEA 177 Speed and Conditioning II   1.0
Speed and Conditioning II is an activity course that will focus on the speed of muscular movements for sport-specific performance. (0/2)
Prerequisite: Speed and Conditioning I.

PEA 180 Speed and Conditioning III   1.0
Speed and Conditioning III is an activity course that will focus on the endurance of muscular movements for sport-specific performance. (0/2)
Prerequisite: Speed and Conditioning II.

PEA 187 Weight Training I   1.0
Weight Training I provides basic fundamental instruction in the performance of weight training exercises focusing on safety. (0/2)

PEA 287 Weight Training II   1.0
Weight Training II provides advanced fundamental instruction in the performance of weight training exercises with emphasis on singular muscle movement. (0/2)
Prerequisite: Weight Training I.

PEA 294 Weight Training III   1.0
Weight Training III provides consistent routine instruction in the performance of weight training exercises with emphasis on complex biomechanics of lifting. (0/2)
Prerequisite: Weight Training II.

PEC 101 Introduction to Coaching   3.0
Introduction to Coaching consists of a four-part course that includes coaching theory, sports medicine, sports psychology, and sports physiology. It leads to coaching authorization for the State of Iowa as a junior high or senior high school coach. (3/0)

PEC 155 Theory of Coaching I   3.0
Theory of Coaching I is designed to give students an overall impression of coaching at all skill levels. This course is intended to be the first step in preparing the student for a career in coaching. Basic coaching subjects will be discussed. (3/0)
Prerequisite: Introduction to Coaching.

PEC 157 Theory of Coaching II   3.0
Theory of Coaching II is designed to give students more advanced theories of coaching. Details of practice plans, game plans, rules, officiating, and athletic psychology will be discussed along with other aspects of coaching careers at different skill levels. (3/0)
Prerequisite: Theory of Coaching I.

PEC 230 Introduction to Sports Medicine   3.0
Introduction to Sports Medicine provides an overview of current sports medicine topics. It introduces the care and treatment for today's sport and exercise participant. This course is designed for both the sports science and non-sports science emphasis. (3/0)

PEH 102 Health   3.0
Health provides an overview of selected areas related to promoting one's physical well-being and general health. It surveys the role of healthy lifestyles in the physical, emotional, sexual, and spiritual dimensions of humans. (3/0)

PEH 130 CPR and First Aid in the Workplace   1.0
CPR and First Aid in the Workplace prepares the bystander with lifesaving, hands-on instruction in many emergency situations. Emphasis centers on real life responses and what to do in the first five minutes of an emergency. (1/0)

PEH 142 First Aid   3.0
First Aid emphasizes the value and need of training in first aid as a preparation for life. It also stresses safety and accident prevention. Successful completion of the course requirements leads to a Standard First Aid certificate. (3/0)

PEH 170 Principles of Weight Training   3.0
Principles of Weight Training identifies the anatomical and physiological processes of muscle development and the effects of weight training on those processes. It focuses on the basic principles of weight training and the mastering of techniques which apply to personal development and to coaching applications. (2/2)

PEH 908 Cooperative Education   1.0-6.0
Cooperative Education provides work experience related to physical education. Work experience hours are arranged. (0/4-24)
Prerequisite: Permission from the program chair.

PET 140 Athletic Training Practicum I   1.0
Athletic Training Practicum I (ATP I) provides the student athletic trainer with the basic knowledge of policies and procedures of the training room facility. It introduces students to the athletic department members, college athletic team atmosphere, and athletic injury care. Students learn basic athletic injury treatment and first aid procedures through hands-on contact with varsity athletes. Students observe varsity practices and games throughout the semester. ATP I is an arranged time schedule and takes place under the direct supervision of a Certified Athletic Trainer. (0/4)
Co-requisites: Introduction to Sports Medicine and Taping and Bracing.

PET 160 Athletic Training Practicum II   2.0
Athletic Training Practicum II (ATP II) is designed to give student athletic trainers knowledge of basic evaluation procedures while continuing to familiarize themselves with the policies and procedures of athletic training room operation. Student athletic trainers are assigned practice and game coverage on and off campus to gain experience in different sports under the direct supervision of a certified athletic trainer. ATP II is an arranged time schedule and takes place under the direct supervision of a Certified Athletic Trainer. (0/8)
Prerequisites: Introduction to Sports Medicine and Athletic Training Practicum I and permission from the program chair.

PET 170 Athletic Training Practicum III   3.0
Athletic Training Practicum III (ATP III) is designed to give the Athletic Training Student (ATS) a hands-on comprehensive experience in athletic training. The ATS will be assigned to an Iowa Western varsity team for the duration of the team's season. The ATS will attend all team functions including practices and games, home and away from campus. Overnight travel with the team is required. ATP III is an arranged time schedule as dictated by the student's assigned team. The student will be supervised at all times by a Certified Athletic Trainer or an Iowa Western coach. (0/12)
Prerequisite: Athletic Training Practicum II.

PET 181 Athletic Training Practicum IV   1.0
Athletic Training Practicum IV is designed to give the student athletic trainer administrative experience and continue to develop athletic injury evaluation skills. It also assists in the further development of skills learned in previous practicums. ATP IV is an arranged time schedule and takes place under the direct supervision of a Certified Athletic Trainer. (0/4)
Prerequisites: Care and Prevention of Athletic Injuries and Athletic Training Practicum III and/or permission from instructor.

PET 230 Care and Prevention of Athletic Injuries   3.0
Care and Prevention of Athletic Injuries introduces athletic training procedures as they relate to the athlete, physical education, coach, and trainer. Included is the history of the training profession, ethics, testing, fitness development, and care and prevention of common sports injuries. (3/0)
Prerequisite: Introduction to Sports Medicine.

PET 235 Athletic Injury Evaluation   3.0
Athletic Injury Evaluation gives students knowledge in the general assessment of musculoskeletal injuries. Each student will learn the step-by-step process of hands-on evaluations. Muscle testing, ligament testing, and neurological testing will be emphasized. Hands-on, in-class skills testing will be practiced. (3/0)
Prerequisite: Care and Prevention of Athletic Injuries.

PET 240 Taping and Bracing   2.0
Taping and Bracing will focus on the stabilizing procedures used to assist in the healing process of athletic injuries. A hands-on approach will be used throughout the course. (2/0)

PET 250 Introduction to Modalities   3.0
Introduction to Modalities provides an overview of current therapeutic modalities as well as instruction of use found within the scope of sports medicine. Emphasis centers on the effects, uses, and application of therapeutic modalities. (3/0)
Prerequisite: Athletic Injury Evaluation.

PET 260 Athletic Training Internship   2.0
Athletic Training Internship is a supervised, educational work experience with an assigned athletic team. Internship will require ability to work nights, weekends, and travel. (0/8)
Prerequisite: Permission from the program chair.

PEV 105 Varsity Sports Participation I   1.0
Varsity Sports Participation I gives credit for knowledge and skills gained through varsity sports participation. (0/2)
Prerequisite: Permission from the instructor.

PEV 109 Varsity Sports Participation II   1.0
Varsity Sports Participation II gives credit for advanced knowledge gained through varsity sports participation. (0/2)
Prerequisite: Varsity Sports Participation I.

PEV 111 Varsity Sports Participation III   1.0
Varsity Sports Participation III provides emphasis on sportsmanship behavior in varsity sports. (0/2)
Prerequisite: Varsity Sports Participation II.

PEV 185 Progressive Resistance Training I   1.0
Progressive Resistance Training I introduces students with no prior background to sport specific resistance training.(0/2)
Prerequisite: Permission from the instructor.

PEV 187 Progressive Resistance Training II   1.0
Progressive Resistance Training II continues exposure to students with moderate background in sport specific resistance training. (0/2)
Prerequisite: Progressive Resistance Training I.

PEV 189 Progressive Resistance Training III   1.0
Progressive Resistance Training III provides opportunities for students with experience in sport specific resistance training to complete complex lifts involving closed chain training exercises. (0/2)
Prerequisite: Progressive Resistance Training II.

Physical Science

PHS 142 Principles of Astronomy   3.0
Principles of Astronomy is the study of the universe. It covers life in space, history of the planets, stellar structures, the universe, and current theories on astrophysical phenomena. (3/0)

PHS 143 Principles of Astronomy Lab   1.0
Principles of Astronomy Lab applies basic phenomena, methods, and data acquisition in astronomy. The use of the scientific method is emphasized in the laboratory exercises. Laboratory experiments will enhance lecture material. (0/2)
Prerequisites/Co-requisites: A grade of "C" or higher or concurrent enrollment in Principles of Astronomy, and one of the following: Minimum math placement score of 40 on COMPASS Algebra, 18 on ACT Math, or Final Prep Math Progress score of 2.

PHS 160 Introduction to Oceanography   3.0
Introduction to Oceanography gives an overview of the interwoven natural history of today's oceans from the origins and geology of ocean basins, through the nature of marine waters, the motion of waves, movement of currents, and the global ocean-atmospheric system. Waves, tsunamis, tides, coasts, beaches, and beach processes as well as some environmental issues and living creatures that dwell in the oceans are discussed. (3/0)

PHS 165 Introduction to Meteorology   3.0
Introduction to Meteorology provides modern studies of the atmosphere and atmospheric phenomena. Course examines atmospheric composition characteristics, fronts, and air masses. It includes weather charts, weather forecasts, clouds, storms, air pollution, and weather modification. (3/0)

PHS 172 Physical Geology with Lab   4.0
Physical Geology with Lab provides an overall view of the Earth, including studies of the Earth's change, formation of continents, and the general theories of evolution of the Earth. Laboratories cover rock formations, minerals of the Earth, erosional changes, and identification of faults and related crustal changes. (3/2)

PHS 187 Introduction to Earth Science with Lab   4.0
Introduction to Earth Science studies the physical elements and processes that make up the Earth and our Solar System. Students learn how the Earth functions as a system with the hydrosphere, lithosphere, and atmosphere interacting to form daily patterns. Various Earth processes are discussed: heating and pressure of air, winds, storms, climates and causes, the role of the oceans, landform processes of plate tectonics, mountain building, volcanism, gradation and fluvial processes, and glaciation. Laboratory exercises include: atmospheric heating, air pressure, winds, storms, working with maps, landform processes of plate tectonics, mountain building, Earth materials, volcanism, gradation and fluvial processes, and glaciation. Lab experiments will enhance lecture material. (3/2)

PHS 190 Principles of GIS   3.0
Principles of GIS is an introduction to the fundamental principles of Geographic Information Systems. The course includes topics in the aspects of spatial data including its collection, storage, analysis, and display. Vector and raster data models are also covered. (3/0)

Physical Therapist Assistant

PTA 102 Introduction to Physical Therapist Assistant   3.0
Introduction to Physical Therapist Assistant provides an overview of the physical therapy profession, educational requirements, projected future needs and responsibilities, and the American Physical Therapy Association. Students are introduced to licensure requirements, ethical considerations, and professional communication needs. (3/0/0)

PTA 105 Basic Skills for the Physical Therapist Assistant   3.0
Basic Skills for the Physical Therapist Assistant introduces the student to basic patient care interventions. Interventions include, but are not limited to, patient handling techniques, transfers, gait training, wheelchair management, and asepsis techniques. (2/2/0)

PTA 107 Documentation for Physical Therapist Assistant   1.0
Documentation for Physical Therapist Assistant Documentation for Physical Therapist Assistant illustrates current documentation formats and guidelines used in healthcare. Students are introduced to the physical therapy process and legal and ethical considerations for documentation. Other topics include understanding the plan of care and physical therapist

assistant's role in providing interventions as directed by the physical therapist. (1/0/0)
Prerequisite: Introduction to Physical Therapist Assistant

PTA 181 Therapeutic Modality   3.0
Therapeutic Modality provides an in-depth overview of the theoretical and practical application of various physical agents and modalities utilized in physical therapy. Students learn to recognize common indications, contradictions, and special precautions for the safe and appropriate application of thermal, mechanical, electromagnetic and hydrodynamic therapeutic procedures. (2/3/0)
Prerequisite: Basic Skills for the Physical Therapist Assistant.

PTA 215 Orthopedic Issues   4.0
Orthopedic Issues provides a review of normal skeletal anatomy. Students explore and discuss body joints as they relate to stability, appropriate motion, and reasons for dysfunctions. Treatment regime options for basic orthopedic surgeries, injuries or dysfunctions are investigated. (3/3/0)
Prerequisite: Therapeutic Modality.

PTA 222 Therapeutic Exercise I   3.0
Therapeutic Exercise I introduces the student to the principles of exercise and physical activity. Acute and chronic physiological responses and adaptations as they relate to exercise training and progression are explored. Also included is the study and application of endurance, stretching, and strengthening programs. (2/2/0)
Prerequisite: Basic Skills for the Physical Therapist Assistant.

PTA 227 Therapeutic Exercise II   3.0
Therapeutic Exercise II includes classroom and laboratory instruction on the principles and rehabilitation of special patient populations. Topics include prevention, management, and therapeutic progression of specific medical conditions. (2/2/0)
Prerequisite: Therapeutic Exercise I.

PTA 248 Pediatric and Neurological Issues   4.0
Pediatric and Neurological Issues provides an overview of the human nervous system, including the anatomy, neurodevelopment, and function across the life span. The course investigates theories of motor control and learning in the application and progression of therapeutic interventions. Laboratory experiences explore patient handling and mobility training along with sensory and motor data collection techniques. (3/3/0)
Prerequisite: Pathophysiology.

PTA 280 Physical Therapist Assistant Seminar   1.0
Physical Therapist Assistant Seminar presents topics to assist students in the transition into the workforce as entry level physical therapy assistants. Students will apply knowledge from previous coursework and clinical experience by completing a case study presentation to peers and faculty. (1/0/0)
Co-requisite: Physical Therapist Assistant Clinical IV.

PTA 310 Physical Therapist Assistant Clinical I   1.0
Physical Therapist Assistant Clinical I introduces the application of concepts and skills learned in previous PTA course work to hands-on patient care within the plan of care established by the physical therapist in selected clinical settings. It Includes orientation to the clinical area, observation of clinical procedures and limited practice with basic procedures. (0/0/3)
Prerequisite: Introduction to Physical Therapist Assistant.

PTA 385 Physical Therapist Assistant Clinical II   3.0
Physical Therapist Assistant Clinical II provides the student opportunities to implement patient care within the plan of care established by the physical therapist in selected clinical settings by applying concepts and skills learned in previous PTA coursework. (0/0/9)
Prerequisite: Physical Therapist Assistant Clinical I.

PTA 415 Physical Therapy Assistant Clinical III   5.0
Physical Therapist Assistant Clinical III challenges the student to apply previously learned clinical skills and develop proficiency in more complicated concepts and advanced skills by implementing patient care within the plan of care established by the physical therapist in the clinical setting. (0/0/15)
Prerequisite: Physical Therapist Assistant Clinical II.

PTA 480 Physical Therapist Assistant Clinical IV   6.0
Physical Therapist Assistant Clinical IV incorporates all clinical skills and provides patient care within the plan of care established by the physical therapist in a complex clinical experience. Students utilize previously learned concepts and work with complex cases to further enhance clinical competencies. (0/0/18)
Prerequisite: Physical Therapist Assistant Clinical III.

Physics

PHY 156 General Physics I   4.0
General Physics I is the first part of a two-semester course designed for students with no prior background in physics. Topics covered are mechanics, heat, waves, and sound. (4/0)
Prerequisites: Technical Mathematics II; or Minimum Math placement score of 53 on COMPASS Algebra or 21 on ACT; or Final Prep Math Progress Score of 3.

PHY 157 General Physics I Lab   1.0
General Physics I Lab is a one-semester laboratory course for students enrolled in General Physics I. Topics include mechanics, wave motion, and sound. (0/2)
Prerequiste/Co-requisite: General Physics I.

PHY 158 General Physics II   4.0
General Physics II is the second part of a two-semester course designed for students with no prior background in physics. The course includes electricity, magnetism, optics, fluids, and topics in modern physics. (4/0)
Prerequisite: General Physics I.

PHY 159 General Physics II Lab   1.0
General Physics II Lab is a one-semester course for students enrolled in General Physics II. Topics include electricity, magnetism, optics, fluids, and modern physics. (0/2)
Prerequisite/Co-requisite: General Physics II.

PHY 210 Classical Physics I (Calculus based)   4.0
Classical Physics I (Calculus based) is the first part of a two-semester continuing course for students majoring in science, mathematics or engineering. Kinematics, dynamics, circular motion, work, energy, linear momentum, rotational dynamics, torque, static equilibrium, fluids, wave motion, and sound are covered. (4/0)
Prequisite/Co-requisite: Calculus II.

PHY 211 Classical Physics I Lab   1.0
Classical Physics I Lab is a one-semester laboratory course for students enrolled in Physics I - Calculus Level. The course covers experiments in kinematics, dynamics, circular motion, work, energy, linear momentum, rotational dynamics, torque, static equilibrium, fluids, wave motion, and sound. (0/2)
Prerequisite/Co-requisite: Classical Physics I (Calculus based).

PHY 220 Classical Physics II (Calculus based)   4.0
Classical Physics II (Calculus based) is the second part of a two-semester continuing course for students majoring in science, mathematics or engineering. Thermal expansion, wave motion, electricity, magnetism, AC and DC circuits, light, lenses, and special relativity are covered. (4/0)
Prerequisite: Calculus II.

PHY 221 Classical Physics II Lab   1.0
Classical Physics II Lab is a one-semester laboratory course for students enrolled in Physics II - Calculus Level. The course covers experiments in thermal expansion, wave motion, electricity, magnetism, AC and DC circuits, light, and lenses. (0/2)
Prerequisite/Co-requisite: Classical Physics II (Calculus based).

PHY 302 General Physics III   3.0
General Physics III is a course covering topics in quantum mechanics, semiconducting solids, nuclear physics, radiation effects, elementary particles, astrophysics and cosmology. (3/0)
Prerequisite: Any college-level physics course.

PHY 715 Technical Physics I   **5.0**
Technical Physics I stresses the mechanical principles of physics. Subject areas include vectors, equilibrium, laws of motion, work and energy principles, conservation laws, work, energy, motion, and the use of mathematics to solve problems. (3/4)

Political Science

POL 111 American National Government   **3.0**
American National Government examines the fundamentals of democracy and the basic principles of the United States Government including an examination of the United States Constitution, civil liberties and civil rights, intergovernmental relations, the political process of policy-making, and the bureaucratic system. The three branches of national government are emphasized. (3/0)

POL 112 American State and Local Government   **3.0**
American State and Local Government covers the fundamental principles and practices of state and local government in the United States, including an examination of the context of state and local government, state constitutions, intergovernmental relations, channels of influence, the political process, city and county government, and the three branches of state government with special attention to the state of Iowa. In addition, contemporary issues are examined. (3/0)

POL 121 International Relations   **3.0**
International Relations is the study of international politics and the interaction between state and non-state actors, with emphasis on those elements underlying the international political system. Topics include the international environment, the structure of interstate relations, the formulation and implementation of policy, and the importance of security, welfare, legality, and morality considerations in international relations. (3/0)
Note: Meets diversity requirement for graduation.

POL 201 The United States Constitution   **3.0**
The United States Constitution focuses on the historical evolution of the United States Constitution with emphasis on its antecedents, interpretation, and change. Topics include a study of the Constitution's historical background and its basic features, a study of the seven articles and twenty-six amendments, and an examination of current topics. (3/0)

Professional Office Careers

ADM 128 Business Document Production   **3.0**
Business Document Production focuses on production of various types of documents used in the business setting. Memorandums, letters of various types, reports, envelopes, agendas, outlines, bibliographies, tables, form creation, and other types of office documents are created. Proficiency in the word processing program being used must be demonstrated. This course is taught at the Clarinda campus only. (2/3)

ADM 163 Office Concepts and Procedures   **3.0**
Office Concepts and Procedures presents information that enables students to enter an office occupation with the knowledge, skills, and attitudes that provide a basis for initial employment and growth on the job. It stresses duties, responsibilities, and personal qualifications of the office worker. Units of study include handling incoming and outgoing mail, ordering supplies, handling banking responsibilities, communicating effectively, developing telephone techniques, and handling office records. This course is taught at the Clarinda campus only. (3/0)

ADM 164 Administrative Office Applications   **3.0**
Administrative Office Applications incorporates simulated office activities into realistic workplace integration. Students use integrated software to increase productivity and efficiently complete specialized tasks. Projects utilize all skills and equipment learned and emphasize specialty-office situations. (2/3)
Prerequisite: Sophomore standing in the program.

ADM 169 Introduction to Office Information Systems   **2.0**
Introduction to Office Information Systems covers proofreading, spelling, and punctuation with an emphasis in business applications. Detection of basic typographical and spelling errors is emphasized. In addition, interpersonal skills such as phone etiquette and receptionist duties are discussed and implemented through the assignment of phone and receptionist opportunities. This course is taught at the Clarinda campus only. (2/0)

ADM 173 Records Management   **1.0**
Records Management covers the principles and practices of effective records-handling using the American Records Management Association (ARMA) rules. (1/0)

ADM 174 Manual and Computerized Database Management   **2.0**
Manual and Computerized Database Management emphasizes the importance of manual filing systems as well as computerized database management systems. It provides working knowledge of effective record keeping, storage, and management of both manual filing systems as well as computerized database systems. The course places emphasis on practical applications. (1/3)

ADM 178 Administrative Management   **2.0**
Administrative Management deals with concepts relevant to resolving issues in business, emphasizing the use of reasoning and analytical skills, team concepts and diversity, and their application to business decisions. Case studies are used. (2/0)

ADM 181 Records and Database Management   **3.0**
Records and Database Management emphasizes the principles and practices of effective recordshandling. Creation, storage, retrieval, maintenance, and disposition of manual and automated records systems are covered. (3/0)

ADM 245 Presentation Production   **2.0**
Presentation Production is designed to give students experience using the computer to produce presentations. Experience in adding graphics, importing graphs, spreadsheets, and items from other computer programs is emphasized. Students produce slide shows and overheads and give verbal presentations using the computer. (1/3)
Prerequisites: Basic Presentation Software and Advanced Presentation.

ADM 250 Business Etiquette   **1.0**
Business Etiquette covers business and international business etiquette. Professionalism in the office is also addressed. (1/0)

ADM 270 Introduction to Speech Recognition   **1.0**
Introduction to Speech Recognition covers basic installation, training, and use of commands and methods associated with speech recognition systems. (1/0)

ADM 273 Technology for Office Communications   **3.0**
Technology for Office Communications explores various types of contemporary office communication technology and includes uses and features of each type as well as demonstrations and hands-on experience in their operation. (3/0)

ADM 274 Video Conferencing   **1.0**
Video Conferencing introduces video conferencing software to coordinate on-line meetings, enabling collaboration between dispersed teams. (1/0)

ADM 276 Technology Communications   **1.0**
Technology Communications explores the features of using technology to enhance communication. Scanners, PDA's, and tablet PC's are examples of the technology studied. (1/0)

ADM 281 The Internet/World Wide Web I   **1.0**
The Internet/World Wide Web I provides hands-on experience with various Internet communication tools. (1/0)

ADM 282 The Internet/World Wide Web II   **1.0**
The Internet/World Wide Web II explores additional Internet resources and hands-on experience with a variety of resource discovery and information retrieval tools as well as enhancement of web pages. (1/0)
Prerequisite: The Internet/World Wide Web I.

ADM 290 Web Page Maintenance   **1.0**
Web Page Maintenance utilizes basic techniques necessary to create and maintain web pages. (1/0)

ADM 293 Form Design   **1.0**
Form Design uses computer software to create and use appropriate business forms as well as interactive web page forms. (1/0)

ADM 296 Document and Form Design   **3.0**
Document and Form Design provides the basic techniques necessary to create and maintain web pages, create and use business forms as well as interactive web page forms, and presents the basic concepts of commercially-prepared software used in desktop publishing. (3/0)

ADM 932 Internship II   **1.0-8.0**
Internship II provides work experience related to the student's area of training. Work experience hours are arranged. (0/4-32)

ADM 937 Professional Office Careers Seminar   **1.0**
Professional Office Careers Seminar examines topics relevant to the Professional Office Careers internship experience. Students share work place experiences encountered and appropriate methods used to achieve positive work place outcomes. (1/0)

ADM 940 Office Leadership Seminar   **3.0**
Office Leadership Seminar promotes leadership techniques to be used in today's office with emphasis on teamwork and community service. The course covers planning and organizing meetings, seminars, travel arrangements, and policy and procedure manuals as well as peer training. (2/3)

Psychology

PSY 111   Introduction to Psychology   **3.0**
Introduction to Psychology provides an introduction to the subject matter, terminology, basic research findings, and current topics of interest in scientific psychology. Students explore the biological foundations of human behavior, social-environmental influences, and intra-psychic elements, including perception, consciousness, personality, and motivation. A holistic approach is used to understand abnormal behavior, human growth and development, health, stress, and coping. (3/0)

PSY 113   Personality and Adjustment   **3.0**
Personality and Adjustment deals with some of the problems many people face, such as family disputes, drugs, deaths, and prejudice. It also covers topics telling how people learn and develop their personalities and what motivates them to behaviors. This course allows students an opportunity to become more aware of themselves and their own personalities as a normal process of growth. (3/0)

PSY 121   Developmental Psychology   **3.0**
Developmental Psychology examines the life span of humans from conception through death. It looks at the various traditional stages (prenatal, neonatal, infancy, early childhood, late childhood, adolescence, adulthood, old age) and explores various aspects, viewpoints, and research. (3/0)

PSY 210   Sport and Exercise Psychology   **3.0**
Sport and Exercise Psychology is the scientific study of people and their behavior in a sport and exercise context. Principles and guidelines are identified to help gain benefits from sport and exercise activities. (3/0)

PSY 224   Adolescent Psychology   **3.0**
Adolescent Psychology explores the rapid physical, social, emotional, and cognitive changes of adolescents. Students distinguish myths about adolescence from research findings and examine the importance of cultural and historical factors in this crucial transition from childhood to adulthood. (3/0)
Prerequisite: Introduction to Psychology or permission from the instructor.

PSY 241   Abnormal Psychology   **3.0**
Abnormal Psychology is the study of the various forms of psychological abnormality and explores methods of prevention, diagnosis and treatment. It explores biological, psychological and sociological contributions to the development of abnormal behavior. Course content includes problems with anxiety, depression and thought disorder. (3/0)
Prerequisite: Introduction to Psychology.

PSY 251   Social Psychology   **3.0**
Social Psychology explores the impact of the social environment on individual functioning. Humans are social animals born into ongoing social worlds which shape their thoughts, feelings and personalities. Social Psychology scientifically examines such topics as attitude change, prejudice, conformity, obedience, aggression, and attraction. (3/0)
Prerequisite: Introduction to Psychology or Introduction to Sociology.

PSY 261   Human Sexuality   **3.0**
Human Sexuality focuses on normal sexual development, human sexual responses, and common sexual problems. It provides factual information on human sexuality and raises practical questions about human sexual behavior. It also helps students examine and evaluate their views and values concerning sexual behavior. (3/0)
Prerequisite: Students must have taken one of the following three courses: Introduction to Psychology, Introduction to Sociology, or Marriage and Family.

PSY 281   Educational Psychology   **3.0**
Educational Psychology applies the principles of psychology to classroom contexts. Topics include child/adolescent development, learning, motivation, instructional techniques, and assessment/evaluation. (3/0)
Prerequisite: Child Growth & Development or Developmental Psychology.
Note: Co-numbered with EDU 240

PSY 293   Issues in Psychology   **3.0**
Issues in Psychology is designed for students interested in becoming psychology or social sciences majors. It expands upon the information presented in Introduction to Psychology and helps to develop critical thinking and reasoning skills. Content includes a more rigorous discussion of potential career options, teaching the skills needed for success in psychology programs, and building familiarity with basic research. Enrollment in this course is strongly encouraged for psychology majors (3/0)
Prerequisite: Introduction to Psychology.

Reading

RDG 035 College Preparatory Reading Level I   **3.0**
College Preparatory Reading Level I is the first in a series of three courses designed to equip students with the skills they need to become successful college-level readers. Emphasis in this series will be places on basic reading comprehension skills, particularly the skills of recognizing the main idea and supporting details and student success strategies. (3/0)
Prerequisite: Reading placement.
Note: This course does not meet associate degree requirements for graduation.

RDG 036 College Preparatory Reading Level II   **2.0**
College Preparatory Reading II is the second in a series of three courses designed to equip students with the skills they need to become successful college-level readers. Emphasis in this series will be places on reading comprehension skills, and student success strategies. (2/0)
Prerequisites: A grade of "C" or higher in College Preparatory Reading Level I or Reading placement.
Note: This course does not meet associate degree requirements for graduation.

RDG 037 College Preparatory Reading Level III   **1.0**
College Preparatory Reading Level III is designed to strengthen students' understanding of college reading material. Students will utilize college textbooks, magazines, newspaper, internet, novel to strengthen their reading skills. (1/0)
Prerequisites: A grade of "C" or higher in College Preparatory Reading Level II or Reading placement.
Note: This course does not meet associate degree requirements for graduation.

Religion

REL 101 Survey of World Religions   **3.0**
Survey of World Religions provides insights into the nature of religious be-
lief through the study of primitive religions, Hinduism, Buddhism, Taoism,
Confucianism, Islam, Judaism, and Christianity. (3/0)
Note: Meets diversity requirement for graduation.

Robotics

ATR 105 Introduction to Robotics   **3.0**
Introduction to Robotics is an introduction to the start-up, operation and
simple programming of industrial robots. Topics include robot safety, robot
types, robot move types, program structure, motion control, decision mak-
ing, peripheral control, robot control modes and program examples. (3/0)

ATR 115 Computers in Industry   **2.0**
Computers in Industry provides an introduction to the hardware and soft-
ware of legacy computer systems used in industry automation. The course
covers multiple Microsoft operating systems, networking, data transmis-
sion, component replacement and repair, software installation, and opera-
tions/replacement of peripherals. (2/0)

ATR 124 Application Planning and Layout   **3.0**
Application Planning and Layout covers the specifics of how a robotic ap-
plication/automated manufacturing cell is designed. Topics include robotic
placement within the cell, types of robot(s) used within the cell, safety de-
vices, electrical interfacing of controls, programming flow charting, timeline
development, fixture design and robot tooling design. (3/0)
Prerequisites: Grade of "C" or higher in Introduction to Robotics and Intro-
duction to Engineering Design.

ATR 133 Fluid Power Systems   **2.0**
Fluid Power Systems covers fluid power and pneumatic systems, basic
circuits, and properties of both fluid and compressed air. Storage, con-
nections, valves, fittings, and pressure area volume are examined and
explained. Actuating devices and controlling devices used in common au-
tomated systems are also covered. (2/0)
Co-requisite: General Physics I.

ATR 140 Applied Robotics Lab I   **6.0**
Applied Robotics Lab I gives students the opportunity to work within ap-
plication groups and to implement the robotic automated manufacturing
application design that they developed in Application Planning and Layout.
This includes building electrical control centers and building robot end-of-
arm tooling and product fixturing. The course also includes programming
all of programmable devices within the cell, which can include multiple
robots, programmable logic controllers, and sensors. Students document
cell progress and evaluate operation of electrical, mechanical, and pro-
grammed devices. Applications can be welding, material handling, assem-
bly, and CNC machine load unload, and will replicate actual automated
manufacturing processes in industry. (3/6)
Prerequisite: A grade of "C" or higher in Application Planning and Layout.

ATR 147 Applied Robotics Lab II   **6.0**
Applied Robotics Lab II expand the robotic applications and integration of
robotic controllers and programmable logic controllers, along with advanced
features and function specific to the student designed and built application
started in Applied Robotics Lab I. Students use the application to demon-
strate functionality to potential employers, fellow students and staff. (3/6)
Prerequisites: A grade of "C" or higher in Fluid Power Systems and Ap-
plied Robotics Lab I.

ATR 152 Robot Controller Maintenance   **2.0**
Robot Controller Maintenance covers normal maintenance and trouble-
shooting of the robot controller components. Students complete exercis-
es in troubleshooting real and simulated faults within the controller using
electrical and software troubleshooting procedures as outlined within the
manufacturers' manuals. Safe troubleshooting procedures are discussed
in lecture and practiced in the lab. (1/2)
Prerequisites: A grade of "C" or higher in Fluid Power Systems and Ap-
plied Robotics Lab I.

ATR 165 Advanced Robot Controller Programming   **2.0**
Advanced Robot Controller Programming covers I/O mapping, file manipu-
lation, PLC to Robot setup, and HMI development that a technician would
be required to understand. Students program a complete application in-
cluding HMI and PLC control of a robot for a robotic application such as
welding, painting, or assembly. (2/0)
Prerequisites: A grade of "C" or higher in Fluid Power Systems and Ap-
plied Robotics Lab I.
Co-requisite: Applied Robotics Lab II.

Sign Language Interpreting

ASL 110 Introduction to American Sign Language   **3.0**
Introduction to American Sign Language provides basic skills training in
American Sign Language. Emphasis centers on basic vocabulary building
and fundamental grammar. This basic vocabulary course will help students
determine if they have the fine/gross motor skills and cognitive skills neces-
sary for success in American Sign Language. (3/0)

ASL 120 Linguistics of American Sign Language   **3.0**
Linguistics of American Sign Language is designed to give students an
overview of the field of linguistics, particularly in the areas of phonology,
morphology and syntax, semantics, and the historical change and variation
of ASL. (3/0)
Prerequisite: American Sign Language I.

ASL 141 American Sign Language I   **4.0**
American Sign Language I provides students with a foundation for visual/
gestural communication as well as the basic linguistic foundations of Amer-
ican Sign Language. Students will be introduced to vocabulary in meaning-
ful contexts and the basic grammatical structures of the language. Both
expressive and comprehensive skills in ASL will be emphasized throughout
the course. (4/0)
Prerequisite: A grade of "C" or higher in Introduction to American Sign
Language.

ASL 171 American Sign Language II   **4.0**
American Sign Language II is a continuation of American Sign Language
I. Intermediate language skills are developed by building on previously
learned grammatical structures and lexical items. Students will develop
more formalized use of complex ASL grammatical features in a cultural
context. Expression and comprehension of the language are emphasized
throughout the course. (4/0)
Prerequisite: A grade of "C" or higher in American Sign Language I.
Co-requisite: Skills Lab I.

ASL 245 American Sign Language III   **4.0**
American Sign Language III is a continuation of American Sign Language
II. Building on previously learned grammatical structures and lexical items,
students learn complex sentence structures and grammatical markers as
well as expanding on their developing vocabulary base. Students learn
to control the language and use a variety of formal communication tech-
niques in varying social situations. Expression and comprehension of the
language are emphasized throughout the course. (4/0)
Prerequisite: A grade of "C" or higher in American Sign Language II.
Co-requisite: Skills Lab II.

ASL 271 American Sign Language IV   **3.0**
American Sign Language IV is a continuation of American Sign Language
III. Building on previously learned grammatical structures and lexical items,
students continue to expand their knowledge of the grammatical structure
of ASL. In addition, the course focuses on colloquialisms, varying registers,
and socially restricted elements of the language. (3/0)
Prerequisite: A grade of "C" or higher in American Sign Language III.
Co-requisite: Skills Lab III.

ASL 295 American Sign Language V   **3.0**
American Sign Language V continues the development of ASL IV. Building
on previously learned grammatical structures and lexical items, students
will continue to expand their knowledge of grammar, with particular em-
phasis placed on presentation aspects of information in ASL. Specialized
vocabulary and control of ASL conversations will be emphasized. (3/0)
Prerequisite: A grade of "C" or higher in American Sign Language IV.

ITP 104 Skills Lab I 2.0
Skills Lab I provides the student with a supervised application for skill building techniques to enhance finger spelling, numbers, vocabulary, grammar, and semantics. (1/2)
Co-requisite: American Sign Language II.

ITP 105 Skills Lab II 2.0
Skills Lab II, an expanded version of Skills Lab I, allows the student to expand and improve skills in areas such as finger spelling, vocabulary, grammar, and semantics based on individual goals as determined by the student and the instructor. A beginning look at the translation process is a critical element to this course. (1/2)
Prerequisite: A grade of "C" or higher in Skills Lab I.
Co-requisite: American Sign Language III.

ITP 106 Skills Lab III 2.0
Skills Lab III is an expanded version of Skills Lab II. The student continues to improve his/her skills in such areas as finger spelling, grammar, and semantics. The student will continue to develop translating processes from English to ASL and from ASL to English. Consecutive and Simultaneous Interpreting processes will be introduced. (1/2)
Prerequisite: A grade of "C" or higher in Skills Lab II.
Co-requisite: American Sign Language IV.

ITP 120 Introduction to Interpreting 3.0
Introduction to Interpreting provides an overview of interpreting as a profession. This course takes an in depth look at the interpreter role, ethics, and ethical decision-making as well as professional aspects of interpreting. Students will take an in depth look at the language continuum and cultural considerations within the interpreting process. (3/0)

ITP 125 Orientation to Deafness 3.0
Orientation to Deafness examines the historical aspects of the field of deafness. Topics include the history of deaf education, notable deaf persons, various deaf organizations and their significance, the mechanics of hearing, and causes and effects of hearing loss. (3/0)
Note: Meets diversity requirement for graduation.

ITP 130 Social Aspects of Deaf Culture 3.0
Social Aspects of Deaf Culture examines the various cultural aspects of the deaf community. This course examines the interrelationship of language and culture along with a study of socialization, norms, values and traditions inherent in the deaf community. (3/0)
Note: Meets diversity requirement for graduation.

ITP 135 Introduction to Language 3.0
Introduction to Language studies basic universal linguistic features and their existence in various languages. Special attention focuses on English/American Sign Language comparatives. (3/0)

ITP 139 English Vocabulary/Grammar for Interpreters 3.0
English Vocabulary/Grammar for Interpreters focuses on developing and expanding competence in vocabulary comprehension and expressions that parallel American Sign Language. Coursework assists students in the improvement of their understanding and application of the semantic aspects of both languages. (3/0)

ITP 147 Modalities of Communication 3.0
Modalities of Communication examines the various forms of communication used by the deaf population. Focus centers on manual forms of communication other than American Sign Language such as cued speech, tactile, and oral interpreting. Video Relay Services and CART services are introduced. (3/0)

ITP 149 Signing Exact English 2.0
Signing Exact English explores in depth the use of this English system used in educational programs across America. Coursework focuses on the skill development of Signing Exact English and the transliterating process. Extensive Signing Exact English vocabulary will be developed. (1/2)

ITP 160 Principles of Educational Interpreting 3.0
Principles of Educational Interpreting examines the role and responsibilities of the English/Sign Language Interpreters/transliterators working in the K-12 school system. Emphasis will be placed on the role of the interpreter as an educational team member. This course will examine the various interpreting and non-interpreting tasks performed by educational interpreters. Selected topics include: communication modalities, interpreter demeanor, interpreter/student dynamics and ethical practices of the K-12 interpreter. (3/0)

ITP 210 Interpreting Skills Lab 2.0
Interpreting Skills Lab provides ongoing interpreting skills experience under instructional supervision. This includes interpretation and transliteration in a variety of simulated settings. The course focuses on skill development in the classroom on three levels: prepared, simultaneous, and consecutive interpreting/transliterating. (1/3)
Prerequisite: A grade of "C" or higher in Interpreting I.

ITP 220 Interpreting I 3.0
Interpreting I introduces basic knowledge and application of skills necessary for an individual to interpret or transliterate accurately. It emphasizes interpreting theory with opportunities to apply the concepts learned from the text and lecture. (3/0)
Prerequisite: American Sign Language III.

ITP 223 Interpreting II and Business Practices 3.0
Interpreting II and Business Practices provides a fundamental grounding in the theoretical and practical aspects of interpretation/transliteration. Focus centers on the business aspect of private practice interpreting, invoice procedures and taxes. Students will explore home based business, agency work, community based work and the business practices inherent in each. (3/0)
Prerequisite: A grade of "C" or higher in Interpreting I.

ITP 259 Observation and Practicum 3.0
Observation and Practicum emphasizes the important aspects of interpreting inherent in a variety of specialized settings and situations. Professional ethics will be addressed as relating to a variety of situations. Students will also have an opportunity to observe professional interpreters performing their tasks. (3/0)
Prerequisite: A grade of "C" or higher in Introduction to Interpreting.

ITP 941 Practicum 5.0
Practicum consists of field experience that provides advanced Sign Language Interpreting students with the opportunity to apply learned concepts and skills in actual interpreting situations with professional supervision. This on-the-job experience is the final phase of training prior to entrance into the field of professional interpreting. (1/16)
Prerequisites: A grade of "C" or higher in Interpreting I, Observation and Practicum, and Principles of Educational Interpreting, and permission from the program chair.

Sociology

SOC 110 Introduction to Sociology 3.0
Introduction to Sociology explores the discipline of sociology. Students become familiar with the sociological perspective of the study of human social behavior. The course stresses the development of sociology, social theory, research methods, social institutions (e.g., the family, religion, education, culture, deviant behavior, and demography). (3/0)

SOC 115 Social Problems 3.0
Social Problems acquaints students with theoretical, methodological, and substantive issues in the sociological study of social problems. It examines a variety of social problems in terms of issues in the definition of social problems, difficulties in the measurement of the extent of social problems, contributions that have been made to explaining various aspects of social problems, and the implications of this knowledge for intervention (alleviation or treatment) or prevention of social problems. The course offers examples of social problems, such as racism, environmental decay, sexism, crime and delinquency, and child abuse. (3/0)

SOC 120 Marriage and Family   3.0
Marriage and Family acquaints students with theoretical, methodological, and substantive issues in the sociological study of marriage and family. The course begins with a basic orientation on the structure of the family in society and in other cultures. Other topics include premarital interaction, mate selection, marital and sexual adjustment, and alternative utopian family experience. (3/0)

SOC 198 The Middle East   3.0
In a world increasingly globalized, borders are no longer barriers. Within the Middle East, there are great political and economic inequalities among various Muslim and non-Muslim, Arab and non-Arab countries. This course is created to help acquire a basic knowledge and understanding of the region from historical, economic, political, cultural, religious, artistic, and geographic perspectives on a per country basis. (3/0)
Note: Meets diversity requirement for graduation.

SOC 200 Minority Group Relations   3.0
Minority Group Relations explores the patterns of emigration and immigration of the major ethnic and racial groups in American society (e.g. African Americans, Asian Americans, Hispanic Americans, Native Americans, and White Ethnic Americans). Special attention covers the culture of each group and their experience in American society. Students explore patterns of interaction between majority and minority groups as they relate to the cultural, economic, political, and historical experience of each group. (3/0)
Note: Meets diversity requirement for graduation.

SOC 210 Men, Women and Society   3.0
Men, Women and Society explores the meaning and social aspects of gender. Using sociological concepts, this course analyzes how social institutions shape gender relations and identities. A considerable amount of the course will focus on how social institutions such as family, education, state and economy shape gender realities in society. (3/0)
Note: Meets diversity requirement for graduation.

SOC 230 Juvenile Delinquency   3.0
Juvenile Delinquency studies the theories of delinquency causation and recent research. This course focuses on delinquent behavior and law enforcement as related to the modern social institutions in American culture. Students explore societal reactions to the problem of juvenile crime and analyze the history and the functions of the juvenile court. (3/0)

SOC 235 Gangs   3.0
Gangs provides an in-depth study of the youth gang problem in America. It assesses the causes, consequences, and the social and legal reactions to youth gangs. Gangs also includes the study of youth gang violence, female gangs, race and gangs, classical and contemporary theories of youth gangs, drugs and gangs, youth gangs in historical perspective and youth gangs in other societies, youth gang interventions, and the future of youth gangs. (3/0)
Prerequisite: Introduction to Sociology, Introduction to Criminal Justice, Criminology, or Juvenile Delinquency.

SOC 240 Criminology   3.0
Criminology surveys the history, nature, and causes of crime; criminal behavior patterns, investigation, and prosecution; correctional methods; and the structure of the prison system. The criminal behavior patterns include violent crimes, organized crime, white-collar crime, and theft. (3/0)

SOC 250 Sociology of Deviance   3.0
Sociology of Deviance explores the processes of conformity and nonconformity and social control in society. Types of deviance from crime to social forms and social reaction to deviance will be analyzed using sociological concepts. (3/0)

SOC 908 Cooperative Education   1.0-6.0
Cooperative Education provides cooperative work experience related to social science courses. Work experience hours are arranged. (0/4-24)
Prerequisite: Permission from the program chair.

Special Topics

SPT 0 Special Topics   0.0
Special Topics expands the curriculum by allowing students to enroll for up to three semester credits in a specific course or program area. Subject matter may be an in-depth extension of the particular area and is developed by the teaching faculty to meet unique interests and needs of the student. Students may apply up to, but no more than, three semester credit hours of Special Topics courses toward their general education requirements. (1-3/0)
Prerequisite: Minimum of three semester credit hours in the specific course or program area or permission from the instructor.

Speech

SPC 112 Public Speaking   3.0
Public Speaking analyzes the fundamentals of oral communication. It covers lectures, readings, and applications of the six principal aspects of public speaking: the speaker, the audience, thought and content, organization, language, and delivery. It also examines the basic principles of small group communication: leadership, the decision-making process, and individual participation in a small group. (3/0)

SPC 120 Intercultural Communications   3.0
Intercultural Communications emphasizes communication theory across cultures. Focus is on identifying the cultural bases of beliefs, attitudes, values and behaviors. Interactive assignments are used for the purpose of recognizing commonalities across cultures, developing a more global multicultural perspective, identifying and appreciating other cultural orientations, and recognizing and assigning cultural explanations of specific behaviors. (3/0)
Note: Meets diversity requirement for graduation.

SPC 122 Interpersonal Communication   3.0
Interpersonal Communication examines the skills of interpersonal communication in both a dual or group situation. It includes an investigation into the process of communication, language, nonverbal communication, listening, self-concept, emotions, or the nature of relationships and conflict. (3/0)

SPC 132 Group Communication   3.0
Group Communication emphasizes the development and application of small group communication theories designed to enhance communication skills needed in the work place and in various social environments. Competencies in the areas of effective communication, adaptability, conveying information, managing conflict, organized thinking, and problem-solving are addressed. (3/0)
Prerequisite: Interpersonal Communication.

SPC 140 Oral Interpretation   3.0
Oral Interpretation is a performance-based course in which students explore the art of interpreting literature and using the human voice to communicate literature to a listening audience. Emphasis will be on developing interpretive and analytical skills in understanding literature and developing the vocal and physical skills needed to express these skills to others. (3/0)

SPC 160 Voice and Diction   3.0
Voice and Diction explores the structure and working of the human vocal mechanism. Students will learn how to sure and control the voice for effective delivery of oral communications in the workplace, the performing arts and English as a Second Language. Emphasis will be on proper production and articulation of vowels, consonants and diphthongs, vocal quality and expressiveness, and proper breathing for vocal production. (3/0)

Student Development

SDV 108 The College Experience   1.0
The College Experience equips first-year students with the knowledge and skills needed to successfully transition to college. Students learn information, tips, and strategies that will ultimately make their academic careers and extracurricular interests more productive and enjoyable. Topics include campus resources and support services, learning styles, study and test taking skills, students' rights and responsibilities, personal exploration and de-

velopment, and financial literacy, as well as academic and career planning. This course should be taken the first semester of a student's enrollment. (1/0)

SDV 114 Strategies for Academic Success   3.0
Strategies for Academic Success is meant to facilitate and promote academic success. The student is exposed to learning strategies focused on the classroom (test taking, note taking, time management, etc.) and beyond (changing habits, personal responsibility, etc.). The student is introduced to tools which will help him/her grow academically, personally, and professionally. This course is a wonderful opportunity to assist with transition to college and provides numerous strategies to create success in and out of the classroom. It is recommended the course be taken the first semester of the freshman year. (3/0)

SDV 130 Career Exploration   1.0
Career Exploration guides students through the career development process, and assists them in making academic choices that support their career choices. Special emphasis is placed on developing an action plan, including an educational plan, for achieving career goals. (1/0)

SDV 165 Transfer Planning   1.0
Transfer Planning provides students with the information, resources, and tools necessary to plan a successful transition from Iowa Western to a four-year college or university. Special emphasis is placed on developing individual transfer plans. (1/0)

Surgical Technology

SUR 130 Introduction to Surgical Technology   2.0
Introduction to Surgical Technology introduces the broad field of surgical technology. This introductory course has five basic sections: (1) General Introductory Information, (2) Perioperative Patient Care (3) Introduction to Patient Care (4) Special Patient Populations and (5) Physical Environment and Safety Standards. The course is a prerequisite for the clinical training sequence of courses. (1.5/1.5)
Prerequisites: Ethics, Legal Issues and Professionalism in Surgical Technology and Pharmacology for the Surgical Technologist.

SUR 135 Ethics, Legal Issues and Professionalism   2.0
        in Surgical Technology
Ethics, Legal Issues and Professionalism in Surgical Technology introduces the characteristics of professionalism, surgical conscience and problem solving as they relate to ethical and legal decision making in surgical technology. (2/0)

SUR 141 Introduction to Basic Surgical Principles   6.0
Introduction to Basic Surgical Principles introduces perioperative routines, basic principles of aseptic technique, patient care and safety. Instrumentation as it applies to surgical procedures, wound healing and surgical case management are also introduced. (4/6)
Prerequisite: Ethics, Legal Issues and Professionalism in Surgical Technology.

SUR 215 Basic Surgical Principles   6.0
Basic Surgical Principles continues the concepts of Introduction to Surgical Technology and Introduction to Basic Surgical Principles. Emphasis is placed on preoperative events (PACU, discharge planning, emergency situations, death and dying, organ transplant and procurement). Students will examine health and wellness in relation to internal and external sources of stress. Students will learn the basic knowledge of biomedical science. (4/6)
Prerequisites: Introduction to Surgical Technology, Introduction to Basic Surgical Principles, and Human Anatomy and Physiology I with Labs.

SUR 221 Surgical Technology   10.0
Surgical Technology provides clinical experience with related theory for a variety of perioperative assignments to build on existing skills. Students focus on maintaining the integrity, safety, and efficiency of the sterile and non-sterile fields throughout various surgical procedures. The surgical specialties of general, gastrointestinal, genitourinary, gynecology, ENT, plastic, ophthalmology, maxillofacial, orthopedic, and pediatric modifications thereof

are studied. Emphasis is on related surgical anatomy, pathology, and procedures, thereby enhancing theoretical knowledge of patient care. (6/12)
Prerequisites: Introduction to Surgical Technology, Introduction to Basic Surgical Principles, and Human Anatomy and Physiology I with Labs.

SUR 320 Advanced Surgical Technology   7.0
Advanced Surgical Technology provides clinical experience with related theory in the surgical specialties of neurology, cardiothoracic, trauma, and peripheral vascular. Emphasis is on related surgical anatomy, pathology, and procedures, thereby enhancing theoretical knowledge of patient care, instrumentation, supplies, and equipment. The course provides individualized experience in advanced practice, education, circulating, and managerial skills. Emphasis is on greater technical skills, critical thinking, speed, efficiency, interpersonal communication, and autonomy in the operative setting. Students should be able to prepare, assist with distribution, and dismantle basic surgical cases in the scrub role. (2/15)
Prerequisites: Basic Surgical Principles, Surgical Technology, Human Anatomy and Physiology II with Labs.

SUR 420 Pharmacology for the Surgical Technologist   2.0
Pharmacology for the Surgical Technologist introduces pharmacological concepts and medication administration in the surgical arena. This course incorporates principles of measurement and basic arithmetic review, terminology, care and handling of medications and solutions, as well as drugs used in anesthesia. This course requires students to master mathematical principles relating to the field of surgical technology. (2/0)

Sustainable Energy Resources

SER 120 Introduction to Renewable Energy   3.0
Introduction to Renewable Energy provides students with a survey of the wind, solar and alternative fuel industries. Students study the development, construction, and operation of wind farms, solar farms and alternative fuels systems. (3/0)

SER 125 Renewable Energy Workplace Safety   2.0
Renewable Energy Workplace Safety provides a framework for students to develop a thorough understanding of safety requirements in the renewable energy workplace, the reason for these requirements, and how to determine if individuals and facilities are meeting those requirements. Emphasis is placed on requirements unique to renewable energy worksites. (1/2)

SER 130 Introduction to Solar Energy   3.0
Introduction to Solar Energy provides students with an overview of the solar energy industry. Students will study development, construction, and operation of solar panels with emphasis on operation and maintenance. Students will examine both photovoltaic and thermal panels in detail and develop a familiarity with standard procedures. (2/2)

SER 135 Introduction to Alternative Fuels   3.0
Introduction to Alternative Fuels provides students with an overview of the alternative fuel industry and the production processes employed in that industry. Students study the development, construction, and operation of ethanol, bio-diesel and natural gas industries. (3/0)

SER 140 Geothermal Systems   2.0
Geothermal Systems provides students with an introduction to the practical applications of geothermal concepts. Students study energy production and environmental control systems. (2/0)

SER 150 Electricity I   4.0
Electricity I introduces the basics of AC and DC electricity, motors, generators, the use of test equipment, and circuit diagrams. Students will develop an understanding of the characteristics of voltage, current, resistance, and power, as well as the laws governing the relationships among them. Students will use this understanding to develop troubleshooting skills. (3/2)

SER 155 Electricity II   4.0
Electricity II builds on the concepts studied in Electricity I. Students will analyze and troubleshoot progressively more complex AC and DC circuits. They will go on to explore basic semi-conductor theory, diode, diode ap-

plications, special-purpose diodes, optical devices, bipolar junction transistors, power amplifiers, field effect transistors and thyristors. Computer simulations and hands-on exercises will be used to demonstrate concepts and build troubleshooting skills. (3/2)
Prerequisite: Electricity I

SER 160 Electricity III   3.0
Electricity III builds on the concepts studied in electricity I and II. Students will study digital device operation and use their understanding of component operation to analyze and troubleshoot devices and systems used in power generation and conversion. Computer simulations and hands on exercises will be used to develop and deepen understanding of system and device operation. (2/2)
Prerequisite: Electricity II.

SER 165 Advanced Programmable Logic Controllers   3.0
Advanced Programmable Logic Controllers builds on the programmable device control concepts studied in Intro to Programmable Logic Controllers. Students will develop skills in the use of different types of programmable controllers and input/output devices to accomplish various tasks, with a focus on renewable energy system applications. There will be extensive hands on activities wherein students will demonstrate wiring, programming, and troubleshooting skills. (2/2)
Prerequisite: Introduction to Programmable Logic Controllers

SER 170 Advanced Solar Energy: Thermal   3.0
Advanced Solar Energy: Thermal provides students with knowledge and experience in the use of solar energy to produce heat. Students study low, medium, and high temperature collectors and applications for each. (2/2)
Prerequisite: Introduction to Solar Energy.

SER 175 Advanced Solar Energy: Photovoltaic   4.0
Advanced Solar Energy: Photovoltaic provides students with knowledge and experience in the use of solar energy to produce electricity. Students study the production and workings of solar cells and how solar cells are used to produce electricity in small-and large-scale applications. (3/2)
Prerequisite: Introduction to Solar Energy.

SER 180 Renewable Energy Business Practices   3.0
Renewable Energy Business Practices provides an overview of the renewable energy business from an entrepreneurial, financial, regulatory, and ethical perspective. Students will develop an understanding of general business practices as they pertain to the renewable energy environment. (3/0)

SER 805 Sustainable Energy Internship   2.0
The Sustainable Energy Internship provides an opportunity for students to gain work experience in a field related to renewable energy. (0/8)
Prerequisite: Permission from the Program Chair

SER 905 Sustainable Energy Project   2.0
The Sustainable Energy Project provides an opportunity for students to work as part of a team to research, plan, and develop a virtual renewable energy project from beginning to end. The students will be provided with circumstances and variables that will mimic those encountered in actual project development. (0/6)

Theatre

DRA 101 Introduction to Theatre   3.0
Introduction to Theatre helps the student develop an awareness of and an appreciation for theatrical arts and its impact on western civilization. This course traces the history of plays and the major theatrical developments with regards to genre, architecture, design, and production aspects over the course of 2,500 years. (3/0)

DRA 118 Theatre History   3.0
Theatre History offers students an overview of world theatre history from the time of the ancient Greeks to contemporary theatre. Students acquire a basic understanding of developments in playwriting, staging techniques and artistic patronage with consideration to the socio-political context in which theatre trends evolved and to corresponding developments in other forms of art. (3/0)

DRA 130 Acting I   3.0
Acting I examines the theory and practice of acting technique, stage movement, and interpretation of character. It includes studies in the basics of vocal development and control and the use of the body in performance. Students apply these fundamentals through recital or actual theatrical production. (3/0)

DRA 132 Acting II   3.0
Acting II follows Acting I and expands upon the student's basic knowledge of movement, voice, style, text analysis, auditioning, and directing. Acting II provides opportunities for students to work with each other in groups in order to further their collaborative skills on scene-building and ensemble work. (3/0)
Prerequisite: Acting I.

DRA 138 The Business of Acting   2.0
The Business of Acting focuses on presenting students with the practical, day-to-day skills and information needed to be successful in their future theatrical careers. (2/0)
Prerequisite: Acting II.

DRA 146 Stage Dialects   3.0
Stage Dialects focuses on the techniques required to produce believable renditions of various English-speaking stage dialects, including Standard British, Cockney, Irish, Scottish and various regional American dialects, utilizing scenes and monologues from plays. (3/0)

DRA 157 Scenic Painting   3.0
Scenic Painting focuses on the theories, practices and techniques of scenic painting. The course also examines the role of the scenic artist in relation to the entire theatrical design team. (3/0)

DRA 165 Stagecraft   3.0
Stagecraft will introduce the students to the principles and techniques used in the construction of stage scenery and properties. Students will learn to read technical drawings and demonstrate an understanding of the various methods and techniques used in scenic construction. They will learn the basic safety rules for scene shops and about the proper care and handling of power and hand tools. Students will acquire and apply their knowledge of the organizational and operational aspects of theatrical productions. (3/0)

DRA 167 Drafting for the Theatre   3.0
Drafting for the Theatre gives students an introduction to the principles and techniques of rendering and drafting for the performing arts. Exercises will include plan view, section view, painter's elevations, and models. This course emphasizes the creation of standard working drawings for the entertainment industry. (3/0)

DRA 177 Stage and TV Lighting   3.0
Stage and TV Lighting is an introduction to the principles, characteristics, and control of lighting and color as applied to theatre and television. Students receive practical experience in the use and the care of lighting equipment, instrumentation, and special effects devices. (3/0)

DRA 178 Stage Costume   3.0
Stage Costume is an introduction to the history and creation of theatrical apparel. Students experience the designing and construction of costumes by hand and machine sewing. Students also learn to select costumes by using existing inventories. (3/0)

DRA 179 Stage Make-Up   3.0
Stage Make-Up is the study of the function, design, and application of theatrical makeup and hair. Students study the theory and history of makeup and hair styling for the theatre, as well as for television and film. (3/0)

DRA 183 Production Lab I: Stagecraft   1.0
Production Lab I: Stagecraft provides students with supervised experience in building, mounting, and running a theatrical production. This class will emphasize the importance of teamwork and teach the skills, terms and techniques involved with construction, painting and run crew. Each student's particular work assignment is negotiated between the faculty and

the student and is based on the student's experience, abilities and interests. (0/3)
Co-requisite: Stagecraft.

DRA 186 Production Lab II: Lighting   1.0
Production Lab II: Lighting provides students with supervised experience working with lighting equipment on a theatrical production. This class will emphasize the importance of teamwork and teach the practical skills involved with lighting a production including planning and reading a light plot, cueing a show, hanging, focusing and maintaining lighting instruments and striking stage equipment. Each student's particular assignment is negotiated between the faculty and the student and is based on the student's experience, abilities and interests. (0/3)
Co-requisite: Stage and TV Lighting.

DRA 189 Production Lab III: Stage Costume and Make Up   1.0
Production Lab III: Stage Costume and Make Up provides students with supervised experience working on basic costume construction and theatrical make up techniques and participation on the costume crew of a production. This class will emphasize the importance of teamwork and teach the skills involved in theatrical make up, costume construction, sewing, patterning, maintaining and coordinating stage wardrobe through practical application. Each student's particular assignment is negotiated between the faculty and the student and is based on the student's experience, abilities and interests. (0/3)
Co-requisite: Stage Costume.

DRA 194 Production Lab IV: Production Management   1.0
Production Lab IV: Production Management will require students to work as a designer or as the head of a stage crew on a theatrical production. Students will work with the director, technical director and various designers, attend and participate in production meetings and rehearsals, and supervise one of the production crews. This Production Lab is the culmination of the production lab process. Each student's particular assignment is negotiated between the faculty and the student and is based on the student's experience, abilities and interests. (0/3)

DRA 220 The American Musical   3.0
The American Musical explores the evolution of the American musical from its roots in British music halls, in opera and operetta, African American jazz and pop music, to the contemporary Broadway stage as well as screen. Students will explore this popular art form and its culture, traditions and identity. (3/0)

DRA 250 Directing for the Stage   3.0
Directing for the Stage focuses on the theories, practices and techniques of directing the stage. The course helps students develop an understanding of the fundamentals of directing, including text analysis, conceptualization, staging and rehearsal techniques. (3/0)
Prerequisite: Acting I.

DRA 291 Theatre Cooperative Education   1.0
Theatre Cooperative Education provides cooperative work experience and/or service learning projects in theatre. Assignments are developed in conjunction with a local organization and department faculty. Positions, specific learning objectives, and required hours will be decided prior to the class beginning. (0/4)
Prerequisite: Permission from the program chair.

DRA 305 Introduction to Audio   3.0
Introduction to Audio introduces students to basic audio theory as well as how to assemble and operate a live sound reinforcement system. Instruction will cover the basic audio theories behind and standard operation of audio cables, microphones, mixing consoles, power amplifiers, loudspeakers, and signal processing. (3/0)
Note: Co-numbered with MUS 305

DRA 930 Devised Theatre Projects   3.0
Devised Theatre Projects allows students to examine social theories and needs in the current cultural climate and introduces methods to devise a theatrical performance based on those needs. Final projects include a public performance or workshop which addresses those needs. (3/0)

Turf & Landscape Management

AGH 112 Introduction to Turfgrass Management   3.0
Introduction to Turfgrass Management examines the fundamentals of lawn care and golf course turf management including species identification and use, established renovation, fertilization, mowing, pest control, and other cultural practices. Hands-on lab activities are an integral part of this course. (2/2)
Prerequisite: Fundamentals of Soil Science.

AGH 120 Herbaceous Plant Materials   3.0
Herbaceous Plant Materials discusses identification, botanical characteristics, origins, propagation, uses, and general culture of herbaceous annual and perennial plants. (2/2)

AGH 124 Woody Plants/Trees   3.0
Woody Plants/Trees includes the study of characteristics, growth rate, care, and use of trees used in the Midwest for landscaping purposes. Students learn the proper use of spraying and pruning equipment as they relate to trees and woody landscape plants. (2/2)

AGH 125 Woody Plants/Shrubs   3.0
Woody Plants/Shrubs presents identification and cultural characteristics of commonly used woody outdoor plants used in landscapes in the Midwest including many native plants. Recognition of scientific names of plants, identification, and common terms are also included. (2/2)
Prerequisite: Woody Plants/Trees.

AGH 131 Greenhouse Management   3.0
Greenhouse Management discusses the design and management of greenhouse and nursery facilities. Winter and spring commercial pot plants, cut flowers, and bedding plant crops are explored. (2/2)

AGH 152 Landscape Design Techniques   3.0
Landscape Design Techniques provides an introduction to principles of landscaping as they apply to residential landscaping. Students are given the opportunity to design basic landscape plans. (2/2)
Prerequisite: Woody Plants/Trees.

AGH 156 Landscape Design II   3.0
Landscape Design II provides an introduction to principles of landscaping as they apply to commercial landscaping. Students are given the opportunity to design commercial and advanced residential landscape plans. (2/2)
Prerequisite: Landscape Design Techniques.

AGH 161 Irrigation Systems   3.0
Irrigation Systems studies the design, installation, use, maintenance, and repair of irrigation and drainage systems used in the production of horticulture crops. Topics also include their uses in turf grasses and landscape. (2/2)
Prerequisite: Introduction to Turfgrass Management.

AGH 171 Landscape Maintenance   4.0
Landscape Maintenance covers the principles and practices involved with establishment and maintenance of ornamental plants in the landscape. Laboratory work involves site evaluation, installation techniques, post-plant care, and maintenance of established landscapes. (2/4)
Prerequisites: Principles of Horticulture and Landscape Design Techniques.

AGH 221 Principles of Horticulture   3.0
Principles of Horticulture provides students with an overall view of how man utilizes horticulture plant materials. Topics covered are fruits, vegetables, ornamental plants, and their proper use and care. Proper culture, environmental conditions, and plant propagation are also included. (2/2)

AGH 245 Golf Course and Sports Turf Management   3.0
Golf Course and Sports Turf Management studies the history of field operation, environmental practices, and biological problem-solving in the care of golf courses and sports fields such as football, soccer, baseball and softball fields. Students learn the balance in prioritizing play, turf and human safety based on daily evaluation of field/turf conditions. (2/2)
Prerequisites: Principles of Horticulture and Introduction to Turfgrass Management.

AGH 465 Turf and Landscape Capstone   **3.0**
Turf and Landscape Capstone will focus on three general components. The career component examines the career path opportunities in the Turf & Landscape Industry. The management component reviews the business and economic principles applied to decision –making and problemsolving in managing a turf and landscape industry business. The operations component reviews the unique business activities in the turf and landscape industry, including golf course, sports turf, landscape, greenhouse, and lawn care businesses. (3/0)
Prerequisite: Landscape Maintenance, and Golf Course and Sports Turf Management.

AGH 810 Turf and Landscape Internship I   **3.0**
Turf and Landscape Internship I provides turf and landscape management students with hands-on training at off-campus sites. (0/12)

AGH 819 Turf and Landscape Internship II   **1.0**
Turf and Landscape Internship II provides students with a supervised capstone experience at off-campus work sites with a turf and/or landscape emphasis. (0/4)

AGP 333 Precision Farming Systems   **3.0**
Precision Farming Systems introduces the emerging technologies such as GPS, GIS, and VRT. Students study various systems and applications for precision farming, equipment used, software, legal and social issues, and economic returns. (2/2)

AGP 456 Advanced Technology Applications   **3.0**
Advanced Technology Applications deals with advanced techniques of spatial data manipulation to allow for analysis, report generation and cross-platform transfer of GIS information. It also includes advanced topics in word processing, spreadsheet, database, and presentation software as well as an introduction to network systems operations and data transfer. (2/2)

AGP 457 Agronomic Applications of Site Specific Management   **3.0**
Agronomic Applications of Site Specific Management provides detailed study of GPS and VRT systems and how they relate to agriculture. (2/2)

AGS 113 Survey of the Animal Industry   **3.0**
Survey of the Animal Industry examines ways domestic animals serve the basic needs of humans for food, shelter, protection, fuel, and emotional well-being. Terminology, basic structures of the industries surrounding the production, care, and marketing of domestic animals in the U.S. Includes hands-on learning experiences relative to production and/or companion animals common to the area. (3/0)

Veterinary Technology

AGV 100 Introduction to Veterinary Technology   **2.0**
Introduction to Veterinary Technology gives veterinary technology students an understanding of veterinary medical ethics, the Veterinary Practice Act, and veterinary technicians and the law. Other topics include regulatory veterinary medicine, public relations in veterinary medicine, and identification of dog and cat breeds. The course is taught in the overall context of the role of the veterinary technician in the profession of veterinary medicine. (2/0)

AGV 104 Veterinary Technology Anatomy and Physiology I   **3.0**
Veterinary Technology Anatomy and Physiology I provides instruction in anatomy and physiology of domestic animals. Course focus is on skeletal, musculature, renal, ophthalmic, cardiac, and respiratory systems. Lab activities focus on skeletal identification and dissection of related body systems of domestic animals. (2/3)

AGV 108 Veterinary Technology Anatomy and Physiology II   **3.0**
Veterinary Technology Anatomy and Physiology II provides instruction in anatomy and physiology of domestic animals. The course focus is on cardiovascular, neurological, integumentary, and digestion systems. Lab activities focus on feline dissection. (2/3)
Prerequisite: A grade of "C" or higher in all first-semester veterinary technology courses.

AGV 110 Principles of Veterinary Technology I   **3.0**
Principles of Veterinary Technology I introduces veterinary technology students to the topics of immunology, small animal diseases, and small animal vaccination protocol. The laboratory portion of the course focuses on dog and cat restraint and nursing skills. (2/3)

AGV 115 Principles of Veterinary Technology II   **3.0**
Principles of Veterinary Technology II provides veterinary technology students with instruction in veterinary clinical medicine and procedures. Topics include small animal dentistry, ophthalmology, wound healing and bandaging, first aid, toxicology, emergency care, and small animal obstetrics. The laboratory section provides hands-on experience in small venipuncture, dentistry, bandaging, and other small animal nursing skills. (2/3)
Prerequisite: A grade of "C" or higher in all first-semester veterinary technology courses.

AGV 120 Veterinary Medical Terminology   **1.0**
Veterinary Medical Terminology gives students a working knowledge of roots, prefixes and suffixes of words commonly used in veterinary medicine. Emphasis is placed on correct spelling, pronunciation, and use of works in context. Abbreviations used in veterinary medicine are also covered. (1/0)

AGV 122 Principles of Sanitation   **3.0**
Principles of Sanitation provides instruction on basic sanitation principles used in veterinary medicine. Topics include cause of disease, spread of infectious disease, autoclaves and other sterilization procedures used in veterinary medicine, use of disinfectants, and environmental factors which influence spread of disease. Parasitology, including parasite life cycles and public health significance, and zoonotic diseases are also covered. (2/3)

AGV 135 Clinical Pathology Lab Techniques I   **3.0**
Clinical Pathology Lab Techniques I provides lecture and laboratory instruction in skills veterinary technicians utilize in a clinical pathology laboratory setting. Topics include specimen management, performance of analytical tests, and procedures on blood, urine and feces. (2/3)
Prerequisite: A grade of "C" or higher in all first-semester veterinary technology courses.

AGV 136 Clinical Pathology Lab Techniques II   **4.0**
Clinical Pathology Lab Techniques II provides lecture and laboratory instruction in skills veterinary technicians utilize in a clinical pathology laboratory setting. Topics include blood chemistry analysis, serology, histology, and dermatology. (3/3)
Prerequisite: A grade of "C" or higher in all first-year veterinary technology courses.

AGV 140 Veterinary Pharmacology   **3.0**
Veterinary Pharmacology provides instruction about drugs and medications used in veterinary medicine. Classification of drugs, writing prescriptions, controlled drugs, and the legal use of drugs in veterinary practices are discussed. (3/0)
Prerequisite: A grade of "C" or higher in all first-semester veterinary technology courses.

AGV 142 Mathematics for Veterinary Technicians   **3.0**
Mathematics for Veterinary Technicians includes a brief review of fractions, decimals, percents, ratios, and solving of algebraic functions. The purpose of this course is to instruct veterinary technology students in methods of accurate measurement and calculation of drug dosages. Topics include the metric system, Apothecaries' equivalents, conversion of units of measurement, and preparation of solutions and dilutions. While there is no prerequisite, a working knowledge of arithmetic operations using whole numbers, fractions, decimals, and percents is expected. (3/0)
Prerequisite: A grade of "C" or higher in all second-semester veterinary technology courses.

AGV 145 Animal Nutrition   **3.0**
Animal Nutrition provides instruction regarding essential nutrients and the role of each in an animal's metabolism. Topics include basic clinical and therapeutic nutrition, pet food analysis, nutritional deficiencies, and toxins.

Emphasis is on dogs and cats with an introduction to large animal nutrition, feeds and feeding. (3/0)
Prerequisite: A grade of "C" or higher in all second-semester veterinary technology courses.

AGV 147 Large Animal Care   4.0
Large Animal Care provides students with a background in large animal breeds and breed identification, large animal diseases, obstetrics, vaccination protocol, and disease prevention. Laboratory topics include large animal restraint, nursing procedures, anesthesiology, and surgical assisting. Experience is provided on live animals in a field setting. (2/4)
Prerequisite: A grade of "C" or higher in all first-year veterinary technology courses.

AGV 149 Avian, Exotic and Lab Animal Care   3.0
Avian, Exotic and Lab Animal Care covers basic avian, exotic and laboratory animal medicine. Lecture topics include breed and sex identification, housing requirements, nutritional requirements, common diseases, and the use of laboratory animals in research. The laboratory provides hands-on training in restraint, nursing procedures, and anesthesiology of birds, exotic, and laboratory animals. (2/2)
Prerequisite: A grade of "C" or higher in all third-semester veterinary technology courses.

AGV 150 Office Procedures for Veterinary Technicians   3.0
Office Procedures for Veterinary Technicians includes an overview of veterinary practice management and office procedures. Topics include basic filing, record-keeping, telephone etiquette, cash drawer management, and the economics of veterinary practice. Instruction on the use of veterinary practice management computer software is provided. (3/0)
Prerequisite: A grade of "C" or higher in all first-year veterinary technology courses.

AGV 170 Veterinary Anesthesiology   3.0
Veterinary Anesthesiology provides lecture and laboratory instruction in skills veterinary technicians utilize in a clinical setting. Topics include anesthesiology, pain management and fluid therapy. (2/3)
Prerequisite: A grade of "C" or higher in all first-year Veterinary Technology courses.

AGV 182 Diagnostic Imaging   3.0
Diagnostic Imaging provides lecture and laboratory instruction in skills veterinary technicians utilize in a clinical setting. Topics in¬clude radiology with an emphasis on detail, density and contrast, as well as ultrasonography. (2/3)
Prerequisite: A grade of "C" or higher in all third-semester Veterinary Technology courses.

AGV 185 Veterinary Surgical Assisting   3.0
Veterinary Surgical Assisting provides lecture and laboratory instruction in skills veterinary technicians utilize in a clinical setting. Topics empha¬sized include surgical nursing, critical care and fluid therapy. (2/3)
Prerequisite: A grade of "C" or higher in all third-semester Veterinary Technology courses.

AGV 805 Veterinary Technology Internship I   2.0
Veterinary Technology Internship I is a cooperative education program during the first summer session of the veterinary technology program. Students work in the veterinary medical industry under the supervision of a licensed veterinarian for a minimum of 128 contact hours. Students receive experience and mentoring in the following areas: scheduling appointments, filing radiographs, reports and client records; maintaining facility records; managing inventory; and handling routine financial transactions. Students also receive experience in a variety of clinical areas to be agreed upon prior to the internship between the student, the veterinarian, and the veterinary technology program chair. (0/8)
Prerequisite: A grade of "C" or higher in all second-semester veterinary technology courses.

AGV 806 Veterinary Technology Internship II   3.0
Veterinary Technology Internship II is a cooperative education program during the final semester of the veterinary technology program. Students

work in the veterinary medical industry under the supervision of a licensed veterinarian for a minimum of 192 contact hours. Students receive experience and mentoring in the following areas: scheduling appointments, filing radiographs, reports and client records; maintaining facility records; managing inventory; and handling routine financial transactions. Students also receive experience in a variety of clinical areas to be agreed upon prior to the internship between the student, the veterinarian and the veterinary technology program chair. (0/12)
Prerequisite: A grade of "C" or higher in all third-semester veterinary technology courses.

Welding

WEL 117 General Welding   2.0
General Welding introduces the fundamental skills involved in welding and cutting metals. Students learn to use Plasma cutting and Oxyacetylene cutting methods as well as Shielded Metal Arc Welding, Gas Metal Arc Welding, and Gas Tungsten Arc Welding techniques. (1/2)

WEL 149 Arc Welding   3.0
Arc Welding covers the fundamentals and technical knowledge of arc welding in the flat position on mild steel with different rods on different thicknesses of metal. Welding safety practices are also stressed. (3/0)

Wind Energy and Turbine Technology

WTT 103 Introduction to Wind Energy   3.0
Introduction to Wind Energy provides students an overview of the wind energy industry. The development, construction, and operation of wind farms will be studied, with emphasis on the operation and maintenance of wind turbines. Students will examine wind turbines in detail and develop a familiarity with standard procedures, tools, and subsystems that comprise the wind turbine. (2/2)

WTT 142 Mechanical Power Transmission   4.0
Mechanical Power Transmission is designed to give students an overview of the terminology, theory of operation, and specific devices involved in the movement of energy. Belts, chains, gears, shafts, hydraulics, and pneumatics will be examined. Emphasis will be on systems used in wind energy. (4/0)

WTT 175 Introduction to Programmable Logic Controllers   3.0
Introduction to Programmable Logic Controllers gives students experience with programmable devices commonly used in the wind energy industry. Students will study the theory of PLC operation and use their understanding to create and troubleshoot programs. (2/2)

WTT 202 Advanced Wind Energy   4.0
Advanced Wind Energy seeks to broaden the scope and depth of student understanding of wind turbine operation and the wind energy industry. Students will study site preparation and construction, turbine component specifications and manufacturing, operation and maintenance programs, and data acquisition and assessment. (3/2)