2008 Catalog 2008-09

DMACC

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*The following Diploma program will be offered pending the Iowa Department of Education approval.

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<td>Urban/Den Moines</td>
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*Selected courses in this program are offered at this campus

**AA** = Associate in Arts degree  **AS** = Associate in Science degree  **AAS** = Associate in Applied Science degree  **AGS** = Associate in General Studies degree
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VISIT US ONLINE: www.dmacc.edu
On March 18, 2006, Des Moines Area Community College (DMACC) celebrated its 40th Anniversary. Our board, faculty and staff used this celebration as a time to reflect upon our many successes, and reaffirm our core goals for the next 10 years, taking DMACC to 2016, when we will celebrate our golden anniversary.

DMACC is committed to providing outstanding service and educational excellence to our students and our communities. To achieve this, we have created three “FIRST Goals” to be implemented over the next 10 years. In comparison to other Iowa community colleges and similar award-winning colleges nationally, we intend to be:

- FIRST in Quality, making sure our students are the most successful;
- FIRST in Service, making a DMACC education accessible to all Iowans in our district; and,
- FIRST in Affordability, making DMACC the most affordable choice for our students.

We are making excellent progress toward meeting all three goals. In Quality, our students and graduates do extremely well after leaving DMACC, whether they transfer to a four-year college or university or go directly into the workforce. In Service, there are only a few areas in our district that need better access to DMACC and we will meet their needs soon. In Affordability, this year DMACC will have the second-lowest tuition of all 15 Iowa community colleges.

In our 40th anniversary year, DMACC enrolled 26,800 students with unique needs and aspirations in credit programs. We appreciate your support; we’re pleased that you are considering DMACC; and we are eager to help you achieve your career goals.

Our winning DMACC team welcomes you!

Sincerely,

Robert Denson, President
PROFILE OF DMACC

History of DMACC
Des Moines Area Community College is a publicly supported two-year institution serving the Des Moines metropolitan area and surrounding counties. The College District includes all or major portions of Audubon, Boone, Carroll, Dallas, Guthrie, Jasper, Madison, Marion, Polk, Story and Warren counties and minor parts of 11 adjacent counties. It encompasses 6,560 square miles or about 11 percent of the land area of the state. Approximately 20 percent of the state’s population resides within the district. Des Moines Area Community College was officially created March 18, 1966, and was designated as Merged Area XI. A nine-member Board of Directors was elected and formally installed that same year.

The College was established after extensive studies had indicated the need for such an institution. Leading figures throughout the College’s District combined their talents and resources to assure proper planning for the College.

In 1968, the Board of Directors adopted Des Moines Area Community College as the official name of the institution. The first classes were held at the new Ankeny Campus location in 1968. Administrative and operational control of Boone Junior College was assumed in 1969 and Carroll Campus in Carroll, Iowa, was initiated in 1979. The Urban Campus began operation in metropolitan Des Moines in 1972 and a new facility was constructed at Seventh and Laurel in 1980. The first classes were held in the fall of 1993 at Newton as a result of the cooperative effort of the Maytag Corporation, Iowa State University, the City of Newton and the DMACC Foundation. In October 2001, the state-of-the-art technology facility, West Campus, opened in West Des Moines.

Paul Lowery was the first superintendent/president of the College.

Dr. Joseph A. Borgen served 20 years as the president from 1981 until his retirement in 2001. David England was the president of Des Moines Area Community College from 2001 to 2003. Robert Denson became our current president in November 2003.

Mission and Goals
It is the mission of Des Moines Area Community College to offer quality programs and courses to meet the different community interests, student abilities and personal objectives of citizens of all ages and levels of education, for the purpose of improving the quality of life, the economic conditions and the public welfare of our state.

Therefore, the Board of Directors, faculty and staff are committed to providing a variety of educational options on a nondiscriminatory, open-door basis.

DMACC exists to:
• Prepare or retrain students for employment and advancement in their chosen occupation through career education.
• Prepare or retrain students for employment and advancement through occupationally oriented associate degree programs.
• Assist students in becoming active, responsible citizens in our democratic society through a program of practical education.
• Provide effective assistance to students in exploring their interests, identifying their aptitudes and selecting the programs of study that best meet their needs and interests.
• Provide counseling and other support services that improve students’ chances for success in their educational endeavors.
• Provide learning experiences and cocurricular activities that promote personal, social, academic and vocational development of students.
• Prepare students for transfer, typically as juniors, to four-year colleges and universities.
• Provide placement services for all students seeking full-time or part-time employment.
• Provide opportunities for adults to complete their high school education.
• Provide off-campus adult and continuing education programs as needs and interests are expressed.

Nondiscrimination Policy
Des Moines Area Community College shall not engage in nor allow discrimination covered by law, including harassment, based on race, color, national origin, creed, religion, gender, sexual orientation, age or disability. Veteran status in DMACC’s educational programs, activities, employment practices or admission procedures is also included to the extent covered by law. Individuals who believe they have been discriminated against may file a complaint through the College Discrimination Complaint Procedure. Complaint forms may be obtained from the Human Resources Department, Provost’s office, EEO/AA, Judicial Office or the ombudsperson on any campus. Persons who wish additional information or assistance may contact the EEO/AA Officer, Executive Director, Human Resources, Bldg. 1, 515-964-6301.

Student Right to Know
Institutions are required to provide students with information regarding campus security, alcohol and drug use, crime prevention, reporting of crimes, sexual assaults, Equal Employment Opportunity and Affirmative Action, college policy regarding HIV/AIDS, graduation rates and transfer data, drug-free schools and campus information. This data can be obtained at the Information Center on the Ankeny Campus and from the Provosts at all other campuses. It is also available on DMACC’s website. Des Moines Area Community College students are expected to be familiar with policies and procedures affecting their activities. Ignorance of policies and procedures will not excuse violations.

DMACC Catalog
The Des Moines Area Community College Catalog is an annual publication of information regarding fees, curricula, policies and procedures. Statements set forth in the catalog are for informational purposes and should not be construed as the basis for a contract between the institution and the student. Every effort has been made to make the catalog accurate as of the date of publication; however, the catalog is not intended to be a complete statement of all procedures, policies, rules and regulations. The College reserves the right to change by appropriate action of the faculty, college administration, Board of Directors of Des Moines Area Community College or the State of Iowa, without notice to individual students, any academic or other requirement, course offerings, programs, rules, regulations or fees.
PROFILE OF DMACC

ANKENY CAMPUS
2006 S. Ankeny Blvd., Ankeny, IA 50023-3991
515-964-6200 or toll-free in Iowa: 800-362-2127
FAX: 515-964-6391

BOONE CAMPUS
1125 Hancock Dr., Boone, IA 50036-5399
515-432-7203 or toll-free in Iowa: 800-362-2127
FAX: 515-433-5033

CARROLL CAMPUS
906 N. Grant Rd., Carroll, IA 51401-2525
712-792-1755 or toll-free in Iowa: 800-622-3334
FAX: 712-792-6358

NEWTON CAMPUS
600 N. 2nd Ave. W., Newton, IA 50208-3049
641-791-3622 or toll-free in Iowa: 800-362-2127
FAX: 641-791-1728

URBAN CAMPUS
1100 7th St., Des Moines, IA 50314-2597
515-244-4226 or toll-free in Iowa: 800-362-2127
FAX: 515-248-7216

WEST CAMPUS
5959 Grand Ave., West Des Moines, IA 50266-5302
515-633-2407 or toll-free in Iowa: 800-362-2127
FAX: 515-633-2409

THE CAMPUSES

ANKENY CAMPUS is located on a 304-acre site six miles north of Des Moines within the city limits of Ankeny. The campus is easily accessible from both Interstates 35 and 80. A directory of campus facilities is located at each entrance.

BOONE CAMPUS is located on a 37-acre site, at the southeast edge of the city of Boone, just north of Hwy 30. Constructed in 1968, the campus was renovated and expanded in 1995 and 2005.

CARROLL CAMPUS is located on a 9-acre site at 906 North Grant Road in the city of Carroll. The Carroll Campus was started in 1979 and finished construction of a new building in 2004.

URBAN CAMPUS is located north of I-235 at 7th and Laurel in Des Moines. The campus opened two new buildings in 2003 and opened the Charles H. Betts Building in 2004.

NEWTON CAMPUS is located at 600 N. 2nd Ave. West in Newton and began operation in the fall of 1993.

WEST CAMPUS is located west of Interstate 35 at 5959 Grand Avenue in West Des Moines. The campus opened in the fall of 2001.

Credit classes have been offered on the basis of need in other locations throughout the area and in many area high schools. Community services and continuing education classes are offered in many additional communities within the College District.

ACCESS TO CAMPUS FACILITIES
The DMACC campuses are generally open to students and the public from 7:30 a.m. to 9:00 p.m., Monday through Thursday, and from 7:30 a.m. to 4:30 p.m. on Friday and 7:30 a.m. to 12:30 p.m. on Saturday (Saturday hours may vary on individual campuses). The campuses are closed during other times and holidays. Visit our website: www.dmacc.edu

ACCREDITATION
Des Moines Area Community College is accredited by the North Central Association of Colleges and Schools, 30 N. LaSalle St., Suite 2400, Chicago, IL 60602-2504. The association’s telephone number is 800-621-7440, and their website is www.ncahighered.com. The College is also approved by the Iowa State Department of Education and the Iowa Board of Regents. College transfer curricula meet the requirements of four-year colleges and universities.

Both career option and college transfer curricula carry the approval of the United States Department of Education and are approved for veterans’ benefits. The College also holds membership in the American Association of Community Colleges.

BOARD OF DIRECTORS

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<td>Jim Knott, Carroll</td>
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<td>Ben Norman, Board Vice-Chair, Ankeny</td>
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<td>Joe Pugel, Board Chair, Newton</td>
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<td>Wayne Rouse, M.D., Boone</td>
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<td>Madelyn Tursi, Des Moines</td>
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### Ankeny Campus

(515) 964-6200 or 1-800-362-2127

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### Boone Campus

(515) 432-7203 or 1-800-362-2127

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### Carroll Campus

(712) 792-1755 or 1-800-362-2127

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Veterans Services: Refer all inquiries to: 964-6284 or 800-362-2127 Ext.#6284, Ankeny Campus

### VISIT US ONLINE: www.DMACC.edu
Newton Campus
(641) 791-3622 or 1-800-362-2127
Campus Code #5

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Veterans Services: Refer all inquiries to:
964-6284 or 800-362-2127 Ext.# 6284, Ankeny Campus

Urban Campus
(515) 244-4226 or 1-800-362-2127
Code #2

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Veterans Services: Refer all inquiries to:
964-6284 or 800-362-2127 Ext.# 6284, Ankeny Campus

West Campus
(515) 633-2407 or 1-800-362-2127
Code #6

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Veterans Services: Refer all inquiries to:
964-6284 or 800-362-2127 Ext.# 6284, Ankeny Campus
## 2008–2009 Academic Calendar

### Fall Semester 2008
- Aug. 25, 2008: Fall Semester Begins (first day of classes)
- Sept. 1, 2008: Labor Day, No Classes, Offices Closed
- Oct. 1, 2008: Application Deadline for Fall Graduates
- Oct. 17, 2008: Midterm
- Nov. 3, 2008: Last Day to Withdraw from Regular Term Classes
- Nov. 27–30, 2008: Thanksgiving Holiday, No Classes, Offices Closed
- Dec. 12, 2008: Last Day of Fall Semester

### Spring Semester 2009
- Jan. 12, 2009: Spring Semester Begins (first day of classes)
- Jan. 19, 2009: Martin Luther King Holiday, Offices Closed
- Feb. 1, 2009: Application Deadline for Spring/Summer Graduates
- Feb. 27, 2009: All Staff In-Service, No Classes, Offices Closed
- Mar. 9, 2009: Midterm
- Mar. 16–22, 2009: Spring Break, No Classes, Offices Open
- Mar. 31, 2009: Last Day to Withdraw from Regular Term Classes
- May 7, 2009: Last Day of Spring Semester
- May 7, 2009: 7:00 p.m. Ankeny/Urban/Newton/West Graduation
- May 8, 2009: 10:00 a.m. Boone Graduation
- May 11, 2009: 6:00 p.m. Carroll Graduation

### Summer Semester 2009
- May 27, 2009: Summer Semester Begins (first day of classes)
- July 3, 2009: Holiday, No Classes, Offices Closed
- Aug. 6, 2009: Last Day of Summer Semester

*These withdrawal dates are for classes that are scheduled for the full semester. Classes that are shorter in length or have a different timetable may have different deadlines for withdrawals. Consult the Registration Office for specific dates.

### Key
- **Semester Begins**
- **Midterm**
- **Last day to withdraw from classes**
- **Holiday-College Closed**
- **Semester Ends**
- **Spring Break**
ADMISSIONS

Des Moines Area Community College is dedicated to helping individuals to reach their educational and vocational goals. Admission to the College is open to all who apply and can benefit from courses and programs offered by the College. The College does reserve the right to guide placement of students in courses on the basis of counseling, examination, preenrollment interviews and past academic achievement. Admission to the College does not guarantee acceptance into all courses or programs offered and enrollment in some programs and courses depends on basic skill levels and/or available space.

DMACC operates under a continuous admissions process, so acceptance of applicants is granted when admissions procedures and requirements have been completed. Therefore, applicants will find it to their advantage to apply as soon as they have decided to seek admission to a program. After meeting program entrance requirements, those students who apply to a program already at enrollment capacity will be placed on standby status until an enrollment opportunity occurs.

Each program establishes the minimum entrance requirements for applicants. Proficiency in reading, writing and/or mathematics may be required for enrollment in selected courses within a program in addition to the program admission requirements.

APPLYING FOR ADMISSION

1. Complete an admission application and submit it online or at a DMACC campus nearest you. You may request a form by calling any DMACC campus. To apply online, visit the DMACC website at www.dmacc.edu. There is no fee for applying for admission to DMACC.

2. Complete any required assessment. Assessment guidelines can be found under the heading, Guidelines for Required Assessment.

3. Complete any program entry requirements for the specific program for which application has been made.

4. Submit a copy of your high school transcript or GED scores if either is needed for entry to a specific program. For admission requirements to any specific program, refer to the Program Entry Requirements in the informational material that accompanies each individual academic program. After applicants have met all admission requirements, they will be notified. DMACC accepts students on a first-come, first-serve basis. If a program is filled to capacity at the time all admission requirements are met, the applicants will be placed on standby and so notified.

GUIDELINES FOR REQUIRED ASSESSMENT

DMACC requires a skills assessment of all new, full-time students. Full-time is defined as 12 credit hours or more during fall and spring semesters and 8 credit hours or more during the summer semester. This assessment provides information about students’ academic skills in reading, writing and mathematics. Assessment information is used to assist with course selection and schedule planning.

The assessment requirement may be met by completing any one of the following options:

1. Complete COMPASS testing at any DMACC campus. The COMPASS tests in math, reading and writing are given to students who do not qualify under options 2 or 3.

2. Submit ACT Scores. ACT scores of 19 or above in reading, math and English can be used to meet DMACC’s assessment requirement. ACT scores must be mailed to the Admissions Office. If the ACT scores are more than three (3) years old, it is recommended that students complete Option 1 – COMPASS testing.

3. Provide evidence of successful college experience. An official college transcript from each prior college attended must be mailed to the Admissions Office. The following criteria are used to grant assessment waivers:

   Writing – grade of C or higher in a college-level writing course.

   Reading – grade of C or higher in 6 hours of college-level academic course work such as psychology, sociology, economics, etc., and/or vocational technical course work requiring comparable reading skills.

   Math – grade of C or higher in college-level mathematics course.

   If college experience is older than five (5) years, students are strongly encouraged to take the COMPASS test.

Assessment is not required if students are planning to enroll part-time, but is strongly encouraged. It is especially important in the following instances:

1. A mathematics assessment before enrolling in a math class or a course with a math prerequisite.

2. A writing assessment before enrolling in any course that has writing expectations or requirements.

3. A reading assessment before enrolling in a course with substantial reading assignments.

Students taking the COMPASS test who need an accommodation because of disability must provide documentation of the disability to the Special Needs Coordinator prior to the test and make the necessary accommodation arrangements with the testing center in advance of the testing date.

COMPASS testing is provided on all DMACC campuses. Call one of the numbers listed to make a testing appointment at the campus of your choice:

Ankeny: 515-964-6595 or 1-800-362-2127, ext. 6595
Boone: 515-432-5096 or 1-800-362-2127, ext. 5096
Carroll: 712-792-1755 or 1-800-622-3334
Newton: 641-791-3622 or 1-800-362-2127, ext. 3622
Urban: 515-248-7218 or 1-800-362-2127, ext. 7218
West: 515-633-2408 or 1-800-362-2127, ext. 2408

ESL TEST IN COMPASS

DMACC offers English as a Second Language ESL Test in COMPASS tests for students whose native language is not English. All full-time and part-time students whose native language is not English are required to take and pass the ESL Test in COMPASS test as a requirement for admission. Placement in ESL courses, college preparatory courses or college-level courses is based on minimum scores. Please contact the DMACC Assessment Center at the campus nearest you for more information.

ADMISSION OF HIGH SCHOOL STUDENTS

DMACC offers the opportunity for high school students to enroll in credit courses. Juniors and seniors must complete steps 1 and 2 below if enrolling as a part-time student, steps 1, 2 and 3 if enrolling full-time. Freshmen and sophomores must complete all four steps and are limited to no more than two credit courses each semester.

Admission steps:

1. Submit a completed Application for Admission.

2. Submit written approval from a parent/guardian and from a high school counselor or principal on the Permission Form for High School Student.
ADMISSIONS

3. Complete COMPASS testing or submit ACT scores. Course placement is mandatory based on the COMPASS or ACT scores.
4. Meet with a DMACC advisor or counselor prior to registration.
This procedure does not apply to high school age students enrolling under the Postsecondary Enrollment Options Act, Career Advantage or other special contractual agreements except that full-time students must meet the Guidelines for Required Assessment.

ADMISSION OF PRE-HIGH SCHOOL STUDENTS
In limited circumstances, DMACC may allow pre-high school students to enroll in credit courses. Completion of all the steps listed below is necessary before the College will make a decision about admitting and enrolling any person who is not at least a freshman in high school:
1. Approval of the school counselor or principal.
2. Approval of the parent or guardian.
3. COMPASS testing or submission of ACT scores. Students not meeting minimum scores for placement in college-level courses will not be allowed to enroll. Course placement based on test scores will be mandatory.
4. Any specific course or program prerequisite must be met.
5. Students are limited to no more than two credit courses per term.
6. Students must meet, without the parent being present, with the appropriate instructor, program chair, or dean for an evaluation of readiness for each desired course. A determination that a student is not ready, either educationally or emotionally, will prohibit enrollment in that course.

ADMISSION OF HOME-SCHOoled STUDENTS
Home-schooled students may apply for admission by following these guidelines:
1. Complete a DMACC Application for Admission.
2. Provide a written statement of approval from a parent or guardian on the Permission Form for High School Student.
3. Complete COMPASS testing or submit ACT scores of 19 or better in the English, Mathematics and Writing tests.
Note: Course placement is mandatory based on COMPASS or ACT results.
4. The student must meet with a DMACC advisor or counselor prior to registration.

ADMISSION OF GUEST STUDENTS (SUMMER ONLY)
Students who have been accepted for admission at another college or university or whose primary enrollment is at another college may enroll as a “guest student” at DMACC. Guest student status allows an individual to enroll as a full-time student for summer semesters only without meeting the assessment requirements.
Guest students complete a DMACC Application for Admission and supply proof of enrollment such as an acceptance letter or a valid student ID from their primary school of attendance.
Guest students who decide to enroll for a fall or spring semester must meet DMACC admission and assessment requirements.
Note: Guest students are not eligible for financial aid.

ADMISSION OF INTERNATIONAL STUDENTS
International students are persons in the United States who have a nonimmigrant visa including an F-1 visa. Specific requirements must be met before being admitted to Des Moines Area Community College.
No admission decision will be made until the International Student Office receives all required documents.

Deadlines for New International Students
All Applications for Admission and supporting documents must be received NO LATER THAN 60 days prior to the first day of the semester.
Semester Deadline
Fall 2008.......................... June 30, 2008
Spring 2009.......................... November 12, 2008

If the paperwork is received after the deadline, DMACC will process the application for the next semester.
Example: For students who apply to attend school for the fall semester and the documentation arrives after June 30, DMACC will process the application for the spring semester.

Deadlines for International Transfer Students
Semester Deadline
Fall 2008.......................... July 11, 2008
Spring 2009.......................... November 12, 2008
Summer 2009.......................... March 27, 2009

NEW INTERNATIONAL STUDENT APPLICANTS
New international students will need to obtain a Certificate of Eligibility form I-20 in order to receive a student visa through the U.S. Consul or Embassy in their country. The I-20 indicates that all admission requirements have been met to enter the College. This document is issued through SEVIS, the Student Exchange Visitor Information System. The U.S. Consulates make the final decision regarding whether students will be allowed to enter the United States to study.
All International Students must report to DMACC on or before the date stated in the I-20 forms. Late-arriving students will not be allowed to register for courses.
International students requesting admission and issuance of an I-20 must provide:
1. A completed and signed DMACC International Application for Admission.
2. A completed International Student Information Form.
3. A Financial Resource Statement verifying the ability of the student or the student’s sponsor to meet all educational and living expenses for one year while attending DMACC. This must be signed and sealed by a notary public or accompanied by a letter or bank statement dated within six months of the application. Financial support of approximately $16,000.00 (USD) is needed per year. Students who are issued an F-1 visa to study in the United States are not permitted to work off-campus unless they receive authorization from the government. There are very few opportunities to work on campus.
4. A payment of a $100.00 processing fee. This may be sent in the form of a bank draft or an international postal money order. Payment must be made before an I-20 will be issued.
5. An official transcript that provides evidence of graduation from a secondary school and transcripts from all postsecondary institutions attended. Photocopies may be accepted if they are properly notarized as true copies. Transcripts must be translated into English.
Students who wish to transfer credits from a college or university from outside the United States to apply toward degree requirements at Des Moines Area Community College must have transcripts reviewed by a commercial service. The review must be completed at the subject analysis or catalog level. Students are responsible for the additional fees. Contact the International Student Office for further information.

VISIT US ONLINE: www.DMACC.edu
ADMISSIONS

The College issues an I-20 Certificate of Eligibility form after students complete the steps above and qualify for admission. Documents required to complete the admission process:

6. Official evidence of English proficiency (if your native language is NOT English). Submit one of the following:
a. TOEFL (Test of English as a Foreign Language) score of 173 on the computer test, 500 on the paper test, or 61 or higher on the internet-based version (45 if speaking not completed) in order to enroll in credit courses. The code for DMACC is #6177.
b. COMPASS ESL test score of 95 in order to enroll in credit courses. This test is available at the assessment centers located on each DMACC campus.
c. Official transcripts from an accredited United States college or university showing successful completion (‘C’ or better grade) in a freshman-level English composition course.

7. Deposit of $3,000.00 to cover direct educational expenses for the first semester of enrollment. This must be paid before you may register for courses. Part of this deposit may be used to meet the cost of the required medical insurance discussed below.

8. Proof of medical insurance. Students who purchased their own medical insurance must provide proof of insurance within the first 15 days of the semester. If no proof of insurance is provided, insurance will be provided and a fee of approximately $850.00 per year will be assessed to the student.

9. Completion of the ‘Guidelines for Required Assessment’ and any additional entry requirements for their program of study.

Transfer International Student Applicants

Students who apply to Des Moines Area Community College as a transfer student from a college or university within the United States must provide the same items as new students listed as 1–9 above. In addition, transfer students must submit:

10. A transfer release signed by the Designated School Official (DSO) or Alternate Responsible Officer (ARS) from their most recent school of attendance.

11. Copies of passports including the VISA pages, I-94 forms and all previously issued I-20 forms.

RESIDENCY

Students may be considered for Iowa residency for purposes of determining in-state tuition if they are permanently domiciled in Iowa and have resided in the state for a period of not less than ninety (90) days prior to the start of the academic term. When residency is in question, the burden of proof of domicile is on the student. The student must apply for reclassification from nonresident to resident status.

To apply for reclassification from nonresident to resident status, students must complete a ‘Request for Determination of Residency Status’ form and submit it along with two (2) additional documents evidencing Iowa residency.

Examples of acceptable documents include:
- iowa driver’s license
- iowa vehicle registration card
- iowa voter registration card
- iowa state income tax form
- Written and notarized documentation from an employer that you are employed in Iowa
- Proof of Iowa Homestead Credit on property taxes
- Other indicators of Iowa residency, such as rent receipts, utility bills, bank statements, etc.

No two documents may come from the same source. Requests for change in residency must be submitted prior to the start of the semester for which students are registering.

Reclassification of residency is not retroactive. Noncitizens must submit proof of legal immigration status by submitting a copy of their Permanent Resident Card or I-94 page from their passport showing approved resident status by the U.S. Citizenship & Immigration Service (USCIS). International students cannot establish residency while studying in this country on a temporary visa.

Residency questions and documents should be submitted to the Registrar on the Ankeny Campus.

READMISSION

In general, students who are in good standing and have not enrolled for one or more consecutive semesters do not need to apply for readmission to the College. Prior to registration, students must verify the accuracy of their existing information. It is recommended that students visit with a counselor/advisor to review their academic records.

Students accepted to a limited enrollment or selective admission program and who did not start when planned or withdrew for one or more semesters must contact the department chairperson to request enrollment as a ‘Restart’ student.

Students who have been suspended due to failure to meet the College’s academic standards must meet the requirement for readmission as found in the Academic Standards section of the catalog before reenrolling.

Students who have been suspended for a disciplinary reason may not reenroll until they have met all requirements imposed at the time of suspension.

TRANSFERRING CREDIT TO DMACC

Evaluation of Previous Training and Education

Students must request that a transcript bearing the official seal and signature of the official in charge of the records be sent directly to the DMACC Admissions Office by each college or university previously attended. Transcripts that have been in the student’s possession will not be considered official documents. Transcripts must be sent from each previously attended institution even though all previous records may be summarized on one transcript. DMACC will accept credit from an institution only when submitted by the institution where the credit was earned.

Students submitting an official transcript in a language other than English must also submit and pay for an English translation of this transcript. Contact the International Student Office for more details. Upon receipt, the Admissions Office will forward official transcripts to the Credentials Office for evaluation.

A maximum of 43 semester credit hours of transfer credit is applicable toward associate degree requirements. The total grade point average of credits transferred to DMACC must equal 2.0 or higher. Some programs may require a minimum grade of ‘C’ in each course that fulfills a degree requirement. Since the student’s DMACC grade point average is calculated from course work taken at DMACC only, grades earned at other colleges or universities will not be used in the computation of the student’s GPA at DMACC.

Upon completion of the transfer credit evaluation, students will receive reports listing the equivalent DMACC courses.

The acceptance and use of transfer credit is subject to limitations in accordance with the educational procedures of the College.
ADMISSIONS/REGISTRATION

CREDIT FOR EDUCATIONAL EXPERIENCE IN THE ARMED FORCES

Credit earned through educational experiences in the armed forces can be validated and accepted by the College. Credit is accepted based on statewide policies at Iowa colleges and universities and based on its applicability toward meeting the requirements in the student’s program of study. An American Council on Education (ACE) publication, ‘Guide to the Evaluations of Educational Experiences in the Armed Services,’ is generally used in making these determinations.

Credit is awarded only for significant learning experiences as recommended by the ACE guide. No credit will be awarded based on the Military Occupational Specialties (MOS) evaluation program.

Credit may be awarded for course work completed via correspondence, classroom study and/or examination through the United States Armed Forces Institute. Credit may also be granted on the basis of scores earned on the Subject Standardized Test of the Defense Activity for Non-Traditional Educational Support (DANTES). Copies of transcripts showing such work will be evaluated by the Credentials Office.

CAMPUS TOURS

Prospective students are invited to visit any or all of the DMACC campuses during ‘Discover DMACC Day.’ Individual tours may be arranged by calling 1-800-362-2127 and selecting the campus of your choice, via the website at www.dmacc.edu and clicking on the ‘visit DMACC’ link, or by calling the individual campus at:

Ankeny Campus ......................515-965-7100
Boone Campus ......................515-432-5025
Carroll Campus .....................712-792-8332
Newton Campus ....................641-791-3622
Urban Campus ......................515-244-4226
West Campus .......................515-633-2408

REGISTRATION

Students may register for courses during the times and dates listed in the schedule of classes published prior to the beginning of each semester. Registration is not complete until students have paid their tuition and fees or when payment has been officially authorized by the Financial Aid Office or Business Office. Students with past-due obligations to the College will not be permitted to register for classes until the obligations are resolved. Students may register by calling 1-800-362-2127, ext. 7100 or via the web at www.dmacc.edu/discover.htm.

REGISTRATION PROCEDURES

New, Full-time Students

All new full-time students (12 credits or more fall and spring semester or 8 or more credits summer term) should plan to attend orientation. New students who have been accepted for admission will be notified when to report for orientation and registration. Counselors and advisors will be available to assist with registration.

To help students make a successful transition to college, DMACC offers The College Experience course, SDV108. The course uses short lectures, demonstrations, guest speakers and practical exercises to help students understand the entire college experience from classroom expectations to learning resources. SDV108 is strongly recommended for students who fit these guidelines:

• Enrolled in a liberal arts, preprofessional or general education program and
• Enrolled full-time and
• Have no previous college experience

New, Part-time Students

New part-time students (11 or fewer credits fall and spring semesters, 7 or fewer credits summer term) are encouraged to participate in orientation/registration, but are not required to do so. Registration during the time and dates published in the schedule of classes can be completed in person, by telephone, fax or via the internet.

Continuing Students

These students may register in person, by telephone, fax or via the internet in accordance with the times and dates published in the schedule of classes or via the internet.

ADDING A COURSE

Students may add a credit course through the first five days of the full-length semester. Students who add courses during this time period are advised that classes have already begun and missed classes are the same as any absence. Course adds can be made in person, by phone, fax or via the internet. Students are not permitted to attend a course unless officially registered for the course.

DROPPING A COURSE

Students may drop a credit course through the first week of the full-length semester. The last day to drop a course that does not run the full length of the fall, spring and summer semesters depends on the beginning and ending dates of the course. The applicable date is published in the DMACC Credit Schedule and is also available by contacting the Registration Office on any campus. Courses dropped during the first week of the semester will not show on the students’ transcripts.

Deadlines for dropping courses are different than refund deadlines. Information about refund deadlines is published in the DMACC Credit Schedule and is also available by contacting the Registration Office on any campus.

Students who have withdrawn from a course will not be permitted to continue attending the course.

Students who have a ‘hold’ on their records due to unpaid financial obligations will be permitted to withdraw from credit courses, but will not be permitted to obtain transcripts and graduation awards will not be conferred. In addition, students who have indebtedness may be prohibited from enrolling in courses as long as the indebtedness remains. Unpaid debts may be referred to a collection agency and/or a credit bureau. Students should contact the Student Accounts Office to resolve their debt.

Students may be administratively dropped from courses for nonattendance. Information on this procedure is contained in the Academic Information section of this catalog under ‘Attendance and Enrollment.’

Dropping or Adding Courses After the Deadlines

Students who miss the deadline for dropping a course, receiving a refund of tuition and fees or adding a course may file an appeal asking that the deadline in question be waived. In order to appeal, students complete a Petition for Policy Waiver and submit it to their campus Student Services Office. Students must have exceptional extenuating circumstances that precluded compliance with the deadlines. Documentation must be submitted in support of the petition. Students must meet with an ombudsperson before submitting a petition. Petitions must be submitted no later than midterm of the semester immediately following the semester of enrollment. The Petition for Policy Waiver Committee reviews the petitions and notifies students of the final disposition of petitions in writing.

NONCREDIT COURSE REGISTRATION, ADDS AND DROPS

Registration during the time and dates published in the Continuing Education schedule of classes can be accomplished in person, by telephone, mail, fax or via the internet. Payment is due at the time of registration.

VISIT US ONLINE: www.DMACC.edu 13
EDUCATIONAL EXPENSE/STUDENT ACCOUNTS

TUITION AND FEE CHARGES
The DMACC Board of Directors establishes tuition and fee charges. Tuition is charged on a per-credit basis. Additional supplemental fees are described below under ‘other fees.’
Nonresident tuition, not including fees, is twice the amount of resident student tuition. See the chart on the following page of tuition and fees. The DMACC Board of Directors has the authority to change tuition and fees after the charges are published in this catalog.

OTHER FEES
Additional fees, including, but not limited to, supplemental course fees, lab fees, music fees, TV class and internet fees are also Board approved. These fees are market-driven.

DMACC ONECARD/STUDENT ID
All currently enrolled credit students will receive the DMACC OneCard from Higher One, the new student photo ID card that not only serves as a picture ID confirming college enrollment and on-campus privileges, but when used in tandem with the OneAccount, the OneCard also has all the purchasing power of the debit MasterCard® network. The DMACC OneCard also provides students a choice in receiving any financial refunds from DMACC, allowing them to get their money faster and easier with new electronic options.
• The DMACC OneCard will be mailed to you by Higher One at your current mailing address on file with DMACC. Please verify that your address is correct on the DMACC Web Info System at www.dmacc.edu/WEBINST.asp.
• Student photos will be taken on all campuses. Please have your photo taken at one of DMACC’s campus photo sites.
  • The DMACC OneCard should be activated at www.dmacconecard.com.
  • Lost cards will be replaced for a fee of $20 assessed to your DMACC student account.

INDEBTEDNESS POLICY
Students who have a balance due to the College should contact Student Accounts to resolve their debt. Unpaid debts may be referred to a collection agency and/or a credit bureau. DMACC uses the State of Iowa Offset Program which allows us to collect funds from tax refunds or other payments made by the State. Students with unpaid financial obligations may have a ‘hold’ put on their record. The hold may permit students to withdraw from credit courses provided the withdrawal deadline is met, but will prohibit students from enrolling in courses, obtaining or sending transcripts, and graduating.

DEPOSITS
International students are required to pay a $3,000 deposit prior to admission to the College. This is coordinated through the International Student Office.
Students must notify the Business Office when they have deposited money available to pay tuition. At the student’s request, additional deposit money may be released for the purchase of books at the college bookstore.
Students are encouraged to deposit money prior to each semester of enrollment. Call the International Student Office at the Ankeny Campus for information.

CAMPUS BOOKSTORE PURCHASES
Bookstores are located at each DMACC campus. Students should purchase books at the campus they will be attending. Online class books are available ONLY at the Ankeny Campus bookstore. Financial aid credits may be used at the bookstore after the authorized aid has been released to accounts.

PAYMENT POLICY
Payment for credit class enrollment must be made by the published due date. If fees are paid by a third party or employer, it is the student’s responsibility to make sure the documentation is provided to Student Accounts prior to the payment due date. Financial Aid may hold your enrollment if all of the proper documents have not been provided to that office. A payment plan is available online with Nelnet Business Solutions (formerly FACTS). Please refer to the current Credit Course Schedule for payment due dates and payment plan options.

Important: Credit classes enrollment MAY BE canceled if payment or payment arrangements are not made by the payment due date. STUDENTS are responsible for dropping classes if they DO NOT plan to attend. Please refer to the current Credit Course Schedule for payment due dates, payment plan options and the refund policy each term.
Payment for Non-Credit Continuing Education classes is required when registering.

PAYMENT BY CHECK
When you provide a check as payment, you authorize us to use information from your check to process a one-time Electronic Funds Transfer (EFT) or draft drawn from your account, or to process the payment as a check transaction. When we use information from your check to make an EFT, funds may be withdrawn from your account as soon as the same day you make your payment and you will not receive your check back from your financial institution.
If your payment is returned unpaid, you authorize the collection of your payment and a return fee of $30 by EFT(s) or drafts(s) drawn from your account.

REFUNDS
Important considerations before dropping classes:
1. Students should consider consulting with an advisor or counselor.
2. Students should consider insurance issues affected by dropping classes.
3. Students should consider a possible reduction of financial aid. See the Financial Aid Recipients section of this catalog.

Student refunds are computed by using:
1. The date the Student Registration Office receives a formal drop form from the student or
2. The date the Student Registration Office receives a phone call or fax from the student requesting a class drop or
3. The date the student initiates a drop via the internet.

NOTE: Student refunds will be disbursed by Higher One according to student preference or a refund adjustment to their previous MasterCard/VISA or Discover payment.

REFUND SCHEDULE (normal/full-length term classes only)
First Week of term .................................. 100%
Second Week of term ............................. 100%
After Second Week of term................. No Refund

Important:
1. Refunds for classes other than the normal full-length will be prorated. A complete copy of the refund policy for all semesters is available at all campuses in the Business/Student Accounts Offices.
2. Refunds for TV classes are based on the published class/term dates–NOT the viewing dates.
DMACC reserves the right to change the Refund Schedule at any time.

EDUCATION TAX CREDITS
Federal income tax credits are available to persons who pay higher education costs. The amount of credit is determined by the amount of qualified tuition and related expenses paid for a student and the amount of the tax filer’s adjusted gross income. For more information concerning how to qualify for these credits, call the IRS Help Line at 1-800-829-1040 or call 1-800-829-3676 and ask for IRS publication 970, Tax Benefits for Higher Education. Details are also available on the internet at http://www.irs.gov/individuals/students/index.html.
EDUCATIONAL EXPENSE

STUDENT TUITION RATE FOR CREDIT OFFERINGS

<table>
<thead>
<tr>
<th>Enrollment Type</th>
<th>Resident Rate</th>
<th>Nonresident Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full- or part-time enrollment (per credit)</td>
<td>$107.00</td>
<td>$214.00</td>
</tr>
<tr>
<td>Audit (per credit)</td>
<td>Resident</td>
<td>Nonresident</td>
</tr>
<tr>
<td></td>
<td>$107.00</td>
<td>$214.00</td>
</tr>
<tr>
<td>Continuing and General Adult Ed–Local schools (per credit)</td>
<td>Market Rate</td>
<td>Market Rate</td>
</tr>
<tr>
<td>High School Completion (per course)</td>
<td>$100.00</td>
<td>$10.00</td>
</tr>
<tr>
<td>High School Completion Diploma</td>
<td></td>
<td>$100.00</td>
</tr>
<tr>
<td>High School Correspondence (per course)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Nonresident tuition is 200% of resident rate, whether the course is taken for credit or audit.

FEES

<table>
<thead>
<tr>
<th>Fee Description</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music fee (piano/instrumental per course)</td>
<td>Market Rate</td>
</tr>
<tr>
<td>Correspondence course fee</td>
<td>$15.00/per course</td>
</tr>
<tr>
<td>TV course fee (per course)</td>
<td>$30.00/course</td>
</tr>
<tr>
<td>Online technology fee (per credit)</td>
<td>$20.00/per credit</td>
</tr>
<tr>
<td>Materials, supplies, lab fees for selected courses (per course)</td>
<td>Market Rate</td>
</tr>
<tr>
<td>Deferred payment fee</td>
<td>$25.00</td>
</tr>
<tr>
<td>International student processing fee</td>
<td>$100.00</td>
</tr>
<tr>
<td>GED–Testing/Diploma fee</td>
<td>$85.00</td>
</tr>
<tr>
<td>GED Instruction materials fee</td>
<td>$50.00</td>
</tr>
<tr>
<td>Returned Check Fee</td>
<td>$30.00</td>
</tr>
<tr>
<td>Reregistration/Late Fee</td>
<td>$25.00</td>
</tr>
</tbody>
</table>

TRANSCRIPT FEES

<table>
<thead>
<tr>
<th>Service Description</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regular request</td>
<td>No Charge</td>
</tr>
<tr>
<td>Same-day service request</td>
<td>$5.00</td>
</tr>
<tr>
<td>FAX requests</td>
<td>$5.00</td>
</tr>
</tbody>
</table>

TRAFFIC FINES

<table>
<thead>
<tr>
<th>Offense Description</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parking in handicapped stall</td>
<td>$100.00</td>
</tr>
<tr>
<td>Illegal parking</td>
<td>$10.00</td>
</tr>
<tr>
<td>Improper permit displayed or no permit displayed</td>
<td>$10.00</td>
</tr>
<tr>
<td>Parking in unauthorized area</td>
<td>$25.00</td>
</tr>
<tr>
<td>Moving violation</td>
<td>$50.00</td>
</tr>
<tr>
<td>Littering, reckless driving, driving in unauthorized area</td>
<td>$50.00</td>
</tr>
</tbody>
</table>

Des Moines Area Community College reserves the right to change tuition, fees and fines.
FINANCIAL AID

HOW TO APPLY FOR FINANCIAL AID AT DMACC

Financial aid at DMACC is need-based. The College believes that the financing of an undergraduate education is a partnership between the student and college and the student should pay to the extent they are capable.

Students apply for financial aid at DMACC by filing a Free Application for Federal Student Aid (FAFSA). Eligibility for funds is based on a federal formula and each student’s financial situation, as well as DMACC’s cost of attendance. The following topics provide basic information concerning the financial aid awarding process at DMACC.

Budget Allowances
In addition to tuition and fees, allowances are made for room and board, personal expenses, books and supplies, child care and transportation in determining financial need.

Cost of Attendance
Estimated costs for a full-time undergraduate student, based on the 2007–2008 budget, are as follows:

<table>
<thead>
<tr>
<th></th>
<th>Iowa Resident</th>
<th>Nonresident</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuition and Fees</td>
<td>$3,060</td>
<td>$6,120</td>
</tr>
<tr>
<td>Books and Supplies</td>
<td>$1,000</td>
<td>$1,000</td>
</tr>
<tr>
<td>Room and Board</td>
<td>$5,302</td>
<td>$5,302</td>
</tr>
<tr>
<td>Personal/Misc.</td>
<td>$1,646</td>
<td>$1,646</td>
</tr>
<tr>
<td>Transportation</td>
<td>$2,080</td>
<td>$2,080</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$13,088</strong></td>
<td><strong>$16,148</strong></td>
</tr>
</tbody>
</table>

Current cost of attendance can be found at www.DMACC.edu/financial.

FILING REQUEST FOR SPECIAL CONSIDERATION

There are times, after receiving the award notification from the DMACC Student Financial Aid Office, that a student/family may find it difficult to finance their expected contributions due to changes in their financial circumstances. If this is the case, a student/family may file a Request for Special Consideration. If a student/family has new or additional information concerning their financial circumstances, it should be submitted in writing and sent to the attention of the Director of Student Financial Aid, Ankeny Campus. Any supporting documentation should be sent with the Request for Special Consideration.

FREE APPLICATION FOR FEDERAL STUDENT AID (FAFSA)

One application is all it takes. FAFSA worksheets are available at all campuses.

Students must access the Free Application for Federal Student Aid (FAFSA ) on the Web at www.fafsa.ed.gov. Students may access the Web by using computers available in the Student Financial Aid Office located in Building 1 on the Ankeny Campus. Students may apply on the Web at www.fafsa.ed.gov.

WHEN TO APPLY

It is necessary to file a FAFSA each year. Priority consideration will be given to students who apply by April 1 prior to the fall term.

1. Complete the FAFSA as soon after January 1 as possible.
2. Make sure the appropriate signatures are on all forms.
3. Review all data before submitting the FAFSA. Check the student’s Social Security number and birth date. ESTIMATED tax data may be used, but it is preferred that taxes be completed before filing the FAFSA, when possible.
4. Submit the FAFSA online.
5. When filing the FAFSA by using the internet, it may be necessary to print the signature page and mail it to:
   Federal Student Aid Programs
   P.O. Box 4008, Mt. Vernon, IL 62864-8608.

FINANCIAL AID UPDATES ON THE WEB

Once students have enrolled at DMACC and applied for financial aid, they may check on the status of their financial aid by reviewing DMACC’s student website at www.dmacc.edu. Students will need their DMACC student PIN numbers.

TO OBTAIN A DMACC PIN

To request a PIN number, or if the student has forgotten their PIN number, contact:
1-800-362-2127, ext. 6800, or 515-964-6800
or email to: info-sys@dmacc.edu.

Helpful hints section:
1. Keep together copies of all forms, letters, award notices and financial aid-related documents.
2. Include student’s name and Social Security number on all correspondence.
3. The student will be contacted by the DMACC Financial Aid Office if additional documents, such as tax returns, are needed.

TYPES OF AID

(GRANTS & SCHOLARSHIPS)

Federal Pell Grants
These grants are awarded based on financial need and are available if the student has filed a FAFSA, shows financial need and does not have a bachelor’s degree. Students should contact the DMACC Financial Aid Office concerning their eligibility.

Federal Academic Competitiveness Grant
Grant assistance may be available for students who have completed rigorous high school coursework. First-year students are eligible for $750 and second-year students are eligible for $1,300.

Students who are Federal Pell Grant eligible, are enrolled full-time, have completed rigorous high school coursework and completed high school after January 1, 2006, for the first year or January 1, 2005, for the second year. Second year students must also meet the GPA requirement of 3.0 and have a total of 24 credit hours.

Federal Supplemental Educational Opportunity Grants (SEOG)
SEOG is available for undergraduate students who have completed and filed a FAFSA, are enrolled at least half-time and show exceptional financial need. The maximum amount is $500.00 for a full-time student.

Iowa Vocational-Technical Tuition Grants (IVTTG)
IVTT Grants are available for students enrolled in vocational-technical programs. The Iowa College Student Aid Commission through notification by DMACC makes IVTTG awards. The maximum annual award is $1,200.

Iowa Grant
These grants are available to undergraduate students enrolled at least half-time who have applied for financial aid and show exceptional need. The maximum amount offered is $1,000 per academic year.

TEACH Grant
The College Cost Reduction and Access Act (the CCRAA), Pub. L. 110-84, created the Teacher Education Assistance for College and Higher Education (TEACH) Grant Program. This program is effective beginning with the 2008–2009 Award Year and provides up to $4,000 a year in grant assistance to students who plan on becoming a teacher and meet certain specified requirements. If a student who receives a TEACH Grant does not complete the required teaching, the grant must be repaid as a Direct Unsubsidized Loan under the William D. Ford Federal Direct Loan Program.
FINANCIAL AID

State of Iowa Scholarship Program
This program was established by the Iowa Legislature to provide recognition and monetary awards to Iowa’s top high school students. To be considered a State scholar, a student must: (1) meet the state’s requirements and be a designated State of Iowa Scholar, (2) be entering as a freshman at DMACC, and (3) plan to enroll full-time. Students should see their high school counselor for assistance. The maximum amount is $400.00 for the freshman year only.

Miscellaneous Scholarships
Scholarships available from off-campus sources are posted on the Financial Aid bulletin boards on each DMACC campus.

APPLYING FOR DMACC AND OUTSIDE SCHOLARSHIPS AND GRANTS

DMACC Scholarships and Grants
The DMACC Foundation provides funds for DMACC students as scholarships and grants. Foundation money comes from private sources, including individual donations, business and industry support and a variety of fundraising activities. These awards are competitive and are awarded through an application process. Most awards are based on both financial need and academic achievement, with a few that are based solely on academic achievement. A partial listing of Foundation scholarship awards available college-wide can be found on the Foundation’s website: www.dmacc.edu/foundation.

DMACC Foundation Scholarship Program
Criteria and Conditions for DMACC Foundation Awards
The DMACC Foundation was created to help assure educational excellence through charitable giving. Every year, the DMACC Foundation receives generous gifts from individuals, corporations and foundations. Fundraising efforts combined with earnings from the Foundation’s investments provide student scholarships to hundreds of students annually. The Foundation requires all applicants to have a minimum verifiable cumulative grade point average (GPA) of 2.0 and be enrolled at DMACC (any campus) for a minimum of 6 credit hours. Specific scholarships may have higher minimum criteria. GPAs can be from high school, other colleges, or from the students’ prior or current DMACC attendance. If a GPA is not from DMACC, copies of transcripts must accompany applications.

For most DMACC Foundation scholarships, students must verify financial need; filling an application for federal financial aid is the best way to do this.

HOW DMACC AWARDS ARE PAID
Unless otherwise stated on specific applications, all awards are for tuition and books at DMACC only and for the semester for which the award is given. Some awards are renewable for the following terms. All awards will be applied directly to a student’s account at DMACC. If a recipient fails to maintain his/her original enrollment criteria or drops out before the term ends, he/she may be required to repay the DMACC Foundation.

DMACC Foundation’s Scholarship Application Checklist
The application process is online at: www.dmacc.edu/foundation/scholarships.asp.
Scholarship applications become available after January 10 each year and are due April 1, online, for the subsequent academic year.

Please read the following tips carefully and note the deadline date for applications.
• Read all instructions carefully. Incomplete or late applications will not be considered.
• Once you have submitted your application, you WILL receive a confirmation response from our e-mail system. If your system returns an error message, be sure to check that you have completed all questions in the form in which they are required.
• Current or returning DMACC students can find their current GPA on their DMACC student website. On the DMACC home page, select Student web system; go to Student Services; go to Student Records; select Academic Transcripts.
• Currently attending first-term DMACC students with no recorded grades need to have instructors write a note stating what their expected grades for the spring term will be. Submit grades, notes or transcripts from other schools separately to the Scholarship Office, Ankeny Campus, Bldg. 1.
• All applications MUST include the required one-page letter. Your letter will represent one-third of your review points. We recommend you write your letter first in a word processing program, make sure it says what you want, and then paste it into the application letter box. The complete letter will not show in the box but it will be included in our printout.
• Double-check your personal information: Social Security number, mailing address, etc. Mistakes could cause delays in our contacting you.
• Be patient. After the deadline date is past and all applications have been reviewed and awards assigned, you WILL be notified by mail of your award status. No scholarship information will be given over the phone.
• All DMACC Foundation general scholarship applications must be submitted electronically. If you do not have Web access from home, you can access the application form from the DMACC website using any available DMACC campus computer.

Outside Scholarships and Grants Websites
FASTWEB: www.fastweb.com
CollegeQuest: www.collegequest.com
CASHE: www.cashe.com

Tips for Applying for Outside Scholarships and Grants
• Focus on scholarships/grants with criteria that closely match the student.
• Send a self-addressed stamped envelope when requesting applications and information about scholarships/grants.
• Be aware of deadlines.

EMPLOYMENT

Federal College Work-Study Program (CWSP)
The College Work-Study Program is for students who show financial need. To be eligible, a student must be enrolled and show financial need. The College Work-Study Program offers part-time jobs on- and off-campus. Students should contact the DMACC Student Employment Assistance Office for available positions.

Community Service
Students who are College Work-Study eligible may be employed as tutors for children in reading and math. As tutors, students may work in a child care center, a school, an after-school program or a library. Community Service opportunities are listed in the Employment Assistance Offices on all DMACC campuses.

STUDY ABROAD
A student in a study abroad program is eligible for aid if the program is approved for credit by an eligible school and the student is enrolled as a regular student at the eligible
FINANCIAL AID

school. DMACC will accept the study abroad coursework for credit. The coursework does not have to be required for the student’s degree program. DMACC must have a contractual agreement with the foreign school or a single written arrangement with a study-abroad organization to represent agreement between DMACC and one or more foreign schools. A financial aid advisor will assist you with obtaining financial aid for study abroad. Visit the Financial Aid Office on the Ankeny Campus or call 515-964-6283.

Exit Counseling
Students leaving or graduating from DMACC must complete the Exit Counseling requirement. It is important for students to know the amount of their loans, as well as repayment options and requirements and loan cancellation provisions. Students may use the www.dlservicer.ed.gov to complete the Exit Counseling requirement or visit any DMACC campus for Exit Counseling.

VETERANS EDUCATIONAL BENEFITS
The DMACC Veterans Services Office assists students in applying for veterans’ educational benefits, acts as a liaison between the student and the federal Department of Veterans Affairs (DVA) and serves as a resource to other DMACC departments and services.

Students who could be eligible for veterans educational benefits through the VA are: former full-time-active-duty U.S. military veterans, current members of the Iowa National Guard, current members of U.S. military reserve units, participants in the VA vocational rehabilitation program, and surviving dependents and spouses of service-related disabled or deceased veterans.

Application for veterans’ benefits should be completed when applying for admission to DMACC. Forms are available from the Veterans’ Office on the Ankeny Campus. The application process for new claims takes a minimum of eight weeks to complete by the DVA. Therefore, appropriate paperwork should be completed as early as possible.

DMACC is an SOC—Service members Opportunity College—and career and degree programs are approved by the DVA for VA benefits. Monthly pay rates are set by Congress and the DVA. They vary according to students’ benefits categories and are based on credit hour enrollment for each term. Further details may be obtained at the Office of Student Financial Aid/Veterans Services, Ankeny Campus, 515-964-6284, or toll-free number 1-800-362-2127 or on the Web at www.dmacc.edu/veterans.

Iowa National Guard
The Iowa National Guard Educational Assistance Program may pay up to 100 percent of an eligible student’s tuition (not additional class fees) Fall and Spring semesters at DMACC. Eligible students must be active members of the Iowa Army or Air National Guard. Individuals must apply for this grant through their Guard unit commander each spring for the coming academic year. The Adjutant General (TAG) notifies the Iowa College Student Aid Commission (ICSAC) of approved application. That agency notifies DMACC of the student’s eligibility and authorizes payment of the funds to DMACC.

Iowa New Choices
The Iowa New Choices Program located at the Boone, Urban and West Campuses provides support to single parents who have full or joint custody of minor children, single pregnant women, or low-income Iowans receiving public assistance or preparing to enter the job market.

The support services include academic advising, career assessment and planning, referral services to various community agencies and the promotion of nontraditional occupations. Financial assistance may be provided in the following forms: Bus passes on a first-come, first-serve basis; mileage allowance to the Ankeny and Urban Campuses if the student lives outside Polk County; childcare assistance if not eligible for State block grant. All financial assistance depends on availability of funds. Details may be obtained from the Iowa New Choices Office on the Urban Campus, 515-248-7320.

Similar services are also available at the Boone and Carroll Campuses.

Dislocated Workers
Adults whose jobs are being eliminated through downsizing or business closing should contact the Dislocated Worker Center in their county.

Strive
The STRIVE (Selected Training Received in Vocational Education) Program provides vocational education to special needs students from high school. Details may be obtained at www.dmacc.edu/strive.

Vocational Rehabilitation
Through a special agreement with the Iowa Vocational Rehabilitation Services division of the Department of Education, a vocational rehabilitation staff person is assigned to each DMACC campus. Agency services are available to eligible clients. As a part of an individual written plan requiring training to meet a student’s vocational goal, financial assistance may be available per Agency guidelines.

LOANS
Federal Direct Student Loan Program—Subsidized and Unsubsidized:
Subsidized loans are need-based, fixed 6.8 percent interest rate loans available to assist students for educational costs. Students must file a completed Free Application for Federal Student Aid (FAFSA) and be enrolled at least half-time to apply for a loan. The government pays the interest on the subsidized loan during periods of enrollment and the six-month grace period. The student pays all interest after receiving an unsubsidized loan.

Repayment for both loan types begins six months after terminating enrollment or dropping to less than half-time. The maximum annual subsidized/unsubsidized Direct Loan amounts are $3,500 for freshmen and $4,500 for sophomores. Independent students may be eligible to receive additional unsubsidized loans. Entrance exit counseling are required.

Federal Direct Parent Loans for Undergraduate Students (PLUS):
A PLUS loan is a fixed 7.9 percent interest rate, Direct Loans may be available to parents of dependent students. Students must be enrolled at least half-time. Parents can borrow the cost of the dependent student’s education minus any financial aid the student receives. Parents apply through the DMACC Financial Aid Office.

ALTERNATIVE LOANS
Alternative loans provide low-interest loans to students and families who would not otherwise receive adequate amounts of student aid. Students may obtain additional information by calling the Financial Aid Office.

Entrance Counseling
All first-time borrowers at DMACC are required to attend an entrance counseling session. Students may use the internet Entrance Counseling-tutorial at www.dl.ed.gov or visit the Financial Aid Office.
FINANCIAL AID

REQUIREMENTS FOR CONTINUED FINANCIAL AID ELIGIBILITY

Satisfactory Academic Progress (SAP)
Federal regulations require that students maintain satisfactory academic progress in the program of study they are pursuing in order to receive financial aid. At DMACC, students must earn and maintain a minimum cumulative grade point average of 2.00. Students must also earn a minimum number of credits per semester to continue receiving aid. Financial aid includes all federal and state grants, college work-study and loans, including the Federal Direct Student Loans. Academic records will be reviewed every semester.

FINANCIAL AID ACADEMIC PROGRESS STANDARDS
Financial Aid Academic Progress Standards are established to encourage students to successfully complete courses and progress satisfactorily toward program completion. Students shall maintain the following academic standards to continue receiving financial aid:

1. Qualitative Measurement:
   a. During the first term a student is enrolled and receiving financial aid at DMACC, he/she must earn a minimum grade point average of 2.00.
   b. Subsequent terms will require the student to earn a cumulative GPA of at least 2.00.
   c. Acceptable grades to maintain a cumulative 2.00 GPA are:
      - A (superior), B (above average), C (average), P (pass), T (credit by testing).
      - A grade of D (below average) will be included when totaling minimum credits completed for each calendar year.
      - An F grade will not be counted in calculating the cumulative GPA. Students will be held responsible only for credits accepted at DMACC, but accepted credits will not be figured into the cumulative GPA. Students will be held responsible only for academic progress made at DMACC.
   d. Minimum credits not earned will result in deficit credits. The number of deficit credits must be eliminated the next term.
   e. Summer credits earned will be included when totaling minimum credits completed for each calendar year.

2. Quantitative Measurement:
   a. If receiving aid as a full-time student (registered for 12 or more credits), a minimum of 8 credits must be earned each regular semester (8 credits per calendar year).
   b. If receiving aid as a 3/4-time student (registered for 9, 10 or 11 credits), a minimum of 6 credits must be earned each regular semester (12 credits per calendar year).
   c. If receiving aid as a 1/2-time student (registered for 6, 7 or 8 credits), a minimum of 4 credits must be earned each regular semester (8 credits per calendar year).
   d. Minimum credits not earned will result in deficit credits. The number of deficit credits must be eliminated the next term of enrollment.
   e. Summer credits earned will be included when totaling minimum credits completed for each calendar year.

3. Warning Status
   Students will be placed on Warning Status if either the qualitative or quantitative criteria are not met. During the next term of enrollment, the student must increase his/her grade point average to a cumulative 2.00 GPA if the qualitative measurement was not met or not go deficit. If the student does not earn the minimum required credits, he/she must earn the deficit credits the next term that he/she is enrolled in addition to the minimum credits required by the next term while maintaining GPA. (Example: If a full-time student is deficient by 4 hours Fall semester, a total of 4 + 8 credits with an appropriate GPA must be maintained Spring semester.)

4. Cancellation of Eligibility
   The second consecutive term a student fails to meet one or more of the minimum progress standards, he/she will lose his/her eligibility for financial aid cancelled.

5. Regaining Eligibility
   To regain eligibility for financial aid, the student will be required to regain cumulative 2.00 GPA at his/her own expense. If the student did not earn the minimum credits for which he/she received aid, the student must earn the number of deficit credits, as indicated in point 3 above, at his/her own expense. If the student is reenrolling after an absence of one or more terms and has had financial aid cancelled, the minimum qualitative and quantitative standards to regain eligibility must be met. If he/she feels extenuating circumstances prevented these standards from being maintained, an appeal may be made in writing to the Financial Aid Appeal Committee.

   If the student is reinstated for financial aid as a result of an appeal, attendance and compliance with the committee’s instruction letter will be monitored. If the student is reported as not attending classes or not complying with the terms of the appeal, any subsequent financial aid will be cancelled.

6. Transfer Students
   Students transferring to DMACC may have credits accepted at DMACC, but accepted credits will not be figured into the cumulative GPA. Students will be held responsible only for academic progress made at DMACC.

7. Appeals of Cancellation of Eligibility
   A student may submit a written appeal documenting extenuating circumstances that prevented him/her from meeting minimum standards. Appeal forms will be mailed with the cancellation letters. The deadline for a written appeal will be indicated on the appeal form included with the letter of cancellation. Additional forms are available at the Financial Aid Office, Ankeny Campus, and the Business Offices at the Boone, Carroll, Newton, Urban and West Campuses.

   A student may be required to meet with an academic counselor before aid is finalized. Following the Appeal Committee’s meeting, students may call the Financial Aid Office concerning the Committee’s decision. In addition, a written summary of the Committee’s decision will be mailed to the individual student.

8. Duration of Eligibility
   Students who have earned two (2) Associate Degrees at DMACC will need to seek the advice of an academic counselor before receiving further financial aid.

   Students who have earned 150 percent of the number of credits required to graduate in their program will need to seek the advice of an academic counselor before receiving further financial aid. (Example: The student’s program requires 64 credits for completion; the student has earned 96 credits without receiving further financial aid. Students may call the Financial Aid Office, Ankeny Campus, and the Business Offices at the Boone, Carroll, Newton, Urban and West Campuses.

   A student may be required to meet with an academic counselor before aid is finalized. Following the Appeal Committee’s meeting, students may call the Financial Aid Office concerning the Committee’s decision. In addition, a written summary of the Committee’s decision will be mailed to the individual student.

   NOTE: The student’s program of study may require more credit hours than the minimums stated by this policy.

REPEATING CLASSES
Financial Aid will monitor students with excessive retakes and this may result in a financial aid warning or cancellation.

When students retake a class that has a grade higher than an “F,” the credits are reduced in the semester the original class was taken. This could result in the student being short credits.
FINANCIAL AID

Example:
A part-time student enrolled in 7 credits gets a ‘D’ in a 4-credit class and a ‘B+’ in a 3-credit class in the fall and maintains a GPA of 2.00. His status is satisfactory. If he retakes the 4-credit class in the spring, those 4 fall semester credits will be removed and his status will be deficit one credit and would be on warning, even if the spring semester credits and grades were satisfactory. The credits you earn for a class you have already passed will not be counted toward the number of credits required in the Quantitative Measurement for Satisfactory Academic Progress.

A retake of a class that has been passed will not make up deficit credits because it only replaces the grade for credits you have earned.

NEVER-ATTENDING PROCESS
(10th day — NA)
Prior to the 10th day of class, instructors can view their class lists online and must identify students who have never attended their class. Students will receive an email indicating the classes that were reported. Students are instructed that if they have been reported in error, they need to obtain their instructor’s signature and submit the signed email to the Information Center by the deadline provided. If the email is not returned, the student is dropped from those reported classes and the student’s financial aid is adjusted accordingly. If a balance is then due, a letter is sent to the student indicating the amount and a due date.

QUIT-ATTENDING PROCESS
(Midterm — QA)
Instructors are asked to report students who have quit attending. An email is sent to the student showing what classes have been reported as QA. The student must obtain the instructor’s signature and submit the signed email to the Financial Aid Office. If all instructors report a student as QA, a Return of Title IV calculation is completed. The student is dropped from his classes and receives a letter telling him of any amount he may owe to the College or Department of Education and the methods of repayment. Those students who are reported in some, but not all of their classes as QA should consider dropping those courses in order to avoid receiving a failing grade.

LEAVE OF ABSENCE
A leave of absence may be granted to a student who leaves DMACC for military reasons or for jury duty. Only one leave per academic year will be allowed. The student must return by the end of the leave of absence or the student is treated as a withdrawal.

FINANCIAL AID RECIPIENTS
If any amount of tuition is paid with funds from a Title IV Program and the student withdraws during the established refund period, the Title IV program funds will be adjusted and any unearned aid will be returned in the following order: Loans: Federal Unsubsidized, Federal Subsidized and Federal Plus. Grants: Federal Pell Grant, Federal Supplemental Educational Opportunity Grant and Other Title IV programs. Under federal law, DMACC must return the funds as soon as possible, but no later than 45 days after DMACC determines the student’s withdrawal date.

RETURN OF FINANCIAL AID
Title IV Funds
A student’s financial aid is based on the number of classes the student is enrolled in and the number of days the student is enrolled in classes. When a student initiates a withdrawal from one or more classes, the amount of financial aid the student is eligible to receive is affected.

The Return of Title IV funds to the federal government is based on a calculation that determines how much aid the student is eligible to receive and how much the student is no longer eligible for, because he/she is no longer enrolled in school. This calculation is applicable until the student has completed more than 60 percent of the semester. Once the student has completed more than 60 percent of the semester, all financial aid is considered earned.

For example:
If a student completed 10 percent of the semester, the student will have earned 10 percent of the financial assistance awarded for the semester. Any aid above and beyond the 10 percent is considered unearned and must be returned to the federal government.

Who Is Responsible for Returning the Unearned Funds?
As prescribed by federal law, DMACC is required to return the lesser of:
• The unearned amount of the financial aid; or
• An amount equal to the student’s total institutional charges for the semester, multiplied by the percentage of unearned aid.

As prescribed by federal law, the amount the student must return is:

- The unearned amount of Title IV assistance minus any funds DMACC returned.
- If the student is required to repay unearned loan funds, these funds will be repaid in accordance with the terms of the promissory note. That is, through scheduled payments to the holder of the loan over a period of time.
- If the student is required to repay unearned Pell and/or SEOG Grant funds, the law provides that the student is only required to return grant funds if the final grant overpayment amount exceeds 50 percent of the total grant assistance the student received for the payment period.

Any unearned grant money must be repaid by either making arrangements with DMACC or with the U.S. Department of Education.

Example:
Bill Dollar is a returning student from Des Moines who was disappointed to have to withdraw from DMACC during the semester, particularly since he is doing very well in the 12 credit hours he is taking. Bill has to withdraw for personal reasons.

Bill was awarded the following financial aid, which was credited to his student account:
Federal Direct Student Loan $1,733
Federal Pell Grant 998
Federal SEOG 250

Total Financial Aid Awarded $2,981
Bill completed only 11 days of classes or 10 percent of the semester. Bill’s tuition and fee charges for the full semester are $1,320.00. To determine how much money must be returned by DMACC and Bill, the financial aid staff must first determine how much financial aid Bill did not earn.

Since Bill only attended 10 percent of the semester, he only earned 10 percent of his financial aid. Therefore, the unearned percent of his financial aid is 90 percent.

Total Financial Aid Awarded $2,981
Multiply Percent of Unearned Aid x .90

Amount Unearned Aid $2,682.90
Per federal requirements, DMACC and Bill must repay a total of $2,682.90.

DMACC is required to return the lesser of the unearned amount of financial aid, or the amount of total institutional charges multiplied by the percent of unearned aid.

In this example, DMACC would be required to pay back the amount of institutional charges, because it is the lesser amount.

Total Institutional Charges $1,320.00
Multiply Percent of Unearned Aid x .90
Amount to Be Repaid $1,188.00
FINANCIAL AID/ACADEMIC INFORMATION

Bill is required to return the remaining unearned amount.

Total Unearned Aid $2,682.90
Subtract Percent of Unearned Aid $1,188.00
Amount Bill Must Repay $1,494.90

Amount and Order of Repayment
In the example, both DMACC and Bill must return loan funds. After completing the calculations and following the repayment guidelines, it was determined that DMACC should repay $1,188.00 to Bill’s loan. Bill will be required to repay $545.00 to the Federal Direct Student Loan Program, through a repayment plan in accordance with the terms of his promissory note. In addition, based on the calculations, $949.90 of Bill’s Pell Grant was unearned. As DMACC has already paid the total amount it owes to the loan program, Bill is responsible for paying back 50% of the Pell Grant.

Unearned Pell Grant $949.90
x .50
Amount Bill Must Repay $474.95

Title IV Grant Overpayment
If a student is required to repay an unearned grant (overpayment), the student will remain eligible for Title IV aid up to 45 days after the student has been notified of the overpayment. The student may resolve the overpayment by repaying the overpayment in full to DMACC, by making satisfactory repayment arrangements with DMACC, or by making satisfactory repayment arrangements with the U.S. Department of Education.

ACADEMIC INFORMATION

ACADEMIC INTEGRITY
Academic integrity, doing one’s own work in course assignments and in tests, is one of the most important values in higher education. Receiving credit for plagiarizing or cheating violates that value. It is unacceptable for students to submit another person’s work as their own.

If students quote, summarize, paraphrase or use an author’s idea, they must acknowledge the source; otherwise they are plagiarizing. Allowing others to accept credit for work not their own in tests or in written and oral reports is also cheating. Students who plagiarize or cheat will be held accountable by the instructor and are subject to the sanctions outlined in the Academic Misconduct Procedure.

ACADEMIC RECOGNITION
Dean’s/Provost’s List: Students who have earned 6 credits in any term with a 3.50 to 3.99 grade point average are honored by being named to the Dean’s/Provost’s List. Students are mailed a certificate from their respective dean or provost and the names of students on the list are sent to their ‘hometown’ newspaper for publication.

President’s List: Students who have earned 6 credits in any term with a 4.00 grade point average are honored by being named to the President’s List. Students are mailed a certificate from the president and the names of students on the President’s List are published in their ‘hometown’ newspaper.

ATTENDANCE AND ENROLLMENT
Students have the primary responsibility for dropping courses or withdrawing from the College if they decide not to attend. The College, however, has administrative procedures whereby students may be dropped.

At the beginning of the semester, instructors are asked to report the names of students who do not attend class. Students are notified and, if they wish to remain in class, must obtain their instructors’ written permission by an established date. Financial aid may be adjusted for students who are administratively dropped.

When one-third of the term has passed, instructors are asked to report students who quit attending class and/or who have grades below 2.00. All students on the report are notified. Those students who quit attending all courses and have financial aid may be dropped. Students may be required to repay financial aid under the federal repayment formula and will be notified. (For information on the Return of Title IV Funds, please see the Financial Aid section.) The students will have the established options to appeal in writing to the Financial Aid Appeals Committee or the Petition for Policy Waiver Committee. Students are required to meet with the ombudsperson before filing a petition for policy waiver.

AUDITING COURSES
Students who wish to audit a course must receive approval from the instructor. Audits are not recorded on the student’s transcript. The student takes the course for information only and may not receive academic credit. Audited courses appear on students’ records with no credit and marks of “N.” Students auditing courses are not required to complete regular assignments or examinations, though attendance is expected. Instructors may exclude students who are auditing from participation in portions of the course, such as special projects. Enrollment on an audit basis does not qualify for financial aid or insurance purposes.

The deadline for changing a course from credit to audit is the same as the deadline for dropping a course. The completion of a Drop/Add form with the instructor’s signature is required. If a course has been placed on audit, it cannot be changed back to credit unless the semester has not begun and the late registration period has not passed for the course.

GRADE REPORTS
Final grade reports are issued approximately one to two weeks after the end of a term. Students may also view their grades on the Web. Progress grade reports are issued prior to midterm and the deadline for dropping classes. This report notifies students who are not progressing satisfactorily (receiving F, D-, D, D+ or C- grades) of services available to help them improve their academic performance. Students who have quit attending class are also notified.

GRADING SYSTEM
Grading Scale
The grading scale and designations for DMACC coursework are listed below. Please note that it is the option of each faculty member whether or not to incorporate the plus/minus values into their grading scale. The course syllabus should specify the grading scale.

<table>
<thead>
<tr>
<th>Letter Grade</th>
<th>Numerical Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>4.00</td>
</tr>
<tr>
<td>A-</td>
<td>3.67</td>
</tr>
<tr>
<td>B+</td>
<td>3.33</td>
</tr>
<tr>
<td>B</td>
<td>3.00</td>
</tr>
<tr>
<td>B-</td>
<td>2.67</td>
</tr>
<tr>
<td>C+</td>
<td>2.33</td>
</tr>
<tr>
<td>C</td>
<td>2.00</td>
</tr>
<tr>
<td>C-</td>
<td>1.67</td>
</tr>
<tr>
<td>D+</td>
<td>1.33</td>
</tr>
<tr>
<td>D</td>
<td>1.00</td>
</tr>
<tr>
<td>D-</td>
<td>.67</td>
</tr>
<tr>
<td>F</td>
<td>.00</td>
</tr>
</tbody>
</table>

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ACADEMIC INFORMATION

Other Grade Designations:
- W: Withdrawn/Dropped
- I: Incomplete
- N: Audit
- P: Pass
- T: Testing
- L: Life Experience

COMPUTING GPA
The method of computing grade point average (GPA) is as follows:

a. Multiply hours of credit in each course by the appropriate numerical value of the grade to find the quality points.
b. Total the quality points earned.
c. Divide the total quality points earned by the total number of semester hours taken (excluding courses in which a W, I, N, P, T or L was received).

Example:
<table>
<thead>
<tr>
<th>Semester</th>
<th>Hours</th>
<th>Grade</th>
<th>Grade Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Composition I</td>
<td>3</td>
<td>X</td>
<td>8+ (3.33)</td>
</tr>
<tr>
<td>Fund. of Oral Communication</td>
<td>3</td>
<td>X</td>
<td>A (4.00)</td>
</tr>
<tr>
<td>Finite Mathematics</td>
<td>4</td>
<td>X</td>
<td>C- (1.67)</td>
</tr>
<tr>
<td>Intro to Computer Literacy</td>
<td>3</td>
<td>X</td>
<td>+ (2.33)</td>
</tr>
<tr>
<td>Elementary Spanish I</td>
<td>5</td>
<td>X</td>
<td>D+ (1.33)</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>Divide 42.31 points by 18 semester hours = 2.350</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

REPEAT COURSEWORK
Students may repeat a course previously taken at DMACC if the course is currently being offered.
Students who fail a required course may repeat and pass that course at Des Moines Area Community College in order to fulfill graduation requirements. The repeated course must be the exact course that was taken earlier in order for the repeat procedure to apply. This privilege does not pertain to courses failed while in attendance at other colleges and universities. Des Moines Area Community College cannot make changes in the grades issued by other institutions. When a course is repeated, only the hours and the grade point value of the last grade earned will be included in calculating the grade point average. Earlier grades recorded for the repeated course will remain on the transcript record, but will be excluded from the GPA calculation. Withdrawing from a course that is being repeated and receiving a grade of “W” does not constitute a course repeat.

Repeat Symbols
- I: Grade value included in the GPA calculation
- E: Grade value excluded in the GPA calculation

The repeat symbol will be noted in the far right column on the transcript record next to the respective course.

Example:
- FL 06-07 PSY 111: D 3.00 E
- SP 07-08 PSY 111: A 3.00 I

GRADE APPEALS
Students should first attempt to resolve questions about grades with their instructors. If students wish to proceed further, they should follow the steps outlined in The Appeal of the Final Grade Procedure. A copy of this procedure is available in any DMACC Student Services office. Students begin the process by meeting with an ombuds-person on their campus.

Repeat, Incomplete and Failing Mark Policies
Students who, due to extenuating circumstances, are unable to complete some portion of assigned course work during the regular term may sign a contract with an instructor approving an “I” (Incomplete) grade. In such cases, the students must complete the course by the mid-term date of the following term. Incomplete grades are generally not approved by instructors unless there is an extenuating circumstance such as serious injury or illness. An extension of time to complete the work for the course may be granted by the instructor until the end of the term. ‘Incomplete’ grades automatically change to “F” grades if the course work is not satisfactorily completed within the time period specified.

OTHER CREDIT OPTIONS AND SPECIAL OFFERINGS
Advanced Placement (AP)
This program allows students, while still in high school, to take examinations for credit at the college level. DMACC awards credit for advanced placement through the Advanced Placement Program in art, computer science, English, foreign languages, history, mathematics, music and sciences. AP credit will be applied to the student’s permanent record as transfer (T) credit after 12 semester hours of credit have been successfully completed at DMACC.

Advanced Standing Credit
A maximum of 30 semester hours of credit may be earned through proficiency examinations, military credit, national standardized tests and employment experience. Advanced Standing credit with the exception of transfer credit will be included on the student’s permanent record after 12 semester hours of credit have been successfully completed at the college. Credit will not be granted if students have successfully completed college courses representing the same content.

Alternative Methods for Obtaining Credit
Students may obtain college credit for competencies gained through formal training, work experience or certain approved examinations. Some alternative methods available include:
- Converting DMACC continuing education coursework to credit.
- Converting DMACC corporate training to credit.
- Earning credit for experiential learning through portfolio development or skills demonstration.
- Earning credit through the assessment of work experience.
- Converting certification or licensure from a state or national examination to credit.

Students should first examine the competencies for courses to determine which course or courses provide instruction in the subject area. Course competencies are available on the internet via the DMACC homepage. ’Student Application for Alternative Credit’ forms are available in the Dean’s or Provost’s office.

Students then contact the Dean or department chairperson in that subject matter area, who will determine if there is a possibility of obtaining credit and the method of assessment that may be available and appropriate for that course. Students may be required to complete a challenge test, develop a portfolio and/or provide documentation. There is a charge for awarding alternative credit. Credit for employment experience is limited to courses that meet program requirements for internship, career courses, practicum, clinical experiences, field experiences and seminars related to these types of courses.

Any credit awarded through alternative means will be posted to the transcript with marks of “T” or “L.” These marks are not included in the grade point average.
ACADEMIC INFORMATION

Challenge Tests (DMACC Local Department Examinations)
Students who have met the entrance requirements of the College and who are matriculating in a program of study leading to a degree, diploma or certificate may take locally constructed departmental examinations for credit in certain specified areas for which they and the department feel they have the necessary preparation.

- Students may challenge test a course only once. This can occur at any time prior to formal registration in that course or, if the students are enrolled in the course, by the designated drop date for the course.
- If the examination is requested prior to formal registration in a class, a nonrefundable fee equal to one-half the tuition for that course shall be charged. If the examination is unsuccessful, that fee may NOT be applied if student subsequently formally registers for that course.
- A course that is a prerequisite to a course that has been successfully completed cannot be challenged.
- A challenge test cannot be used as a course repeat.
- Credit earned by challenge testing is entered on students’ permanent records only when students have earned 12 credit hours at DMACC. A “T” mark is used and is not included when computing grade point average.

Students interested in taking a Challenge exam should contact the appropriate academic department for specific information on tests available and fees for testing.

Credit for Educational Experience in the Armed Forces
Educational experiences in the armed forces can be validated and accepted for credit by the College. Credit is granted based on statewide policies at Iowa colleges and universities and based on the applicability of the educational experiences toward meeting the requirements in the student’s program of study. An American Council on Education (ACE) publication, “Guide to the Evaluations of Educational Experiences in the Armed Services,” is generally used in making these determinations.

Credit is awarded only for significant learning experiences as recommended by the ACE guides. No credit will be awarded based on the Military Occupational Specialties (MOS) evaluation program.

Credit may be awarded for coursework completed via correspondence, classroom study and/or examination through the United States Armed Forces Institute. Credit may also be granted on the basis of scores earned on the Subject Standardized Test of the Defense Activity for Non-Traditional Educational Support (DANTES). Official copies of transcripts showing such work are required for credit evaluation by the Office of Credentials.

College Level Examination Program (CLEP)
Des Moines Area Community College will award credit based on scores obtained on the General examinations and Subject examinations. CLEP credit will not be granted if it duplicates credit for a course already taken.

A minimum of 12 semester credit hours must be successfully completed at DMACC before the CLEP credit will be applied to the student’s permanent record.

CLEP testing is available on the Ankeny Campus. Contact the Ankeny Campus Assessment Center for more information.

Cross-Enrollment
Under a special agreement, a limited number of students may enroll, tuition-free, in one course at Drake University, Grand View College or Iowa State University fall or spring semester, provided they are taking at least 12 semester hours at DMACC, have earned 12 semester credits (including transfer credit) and have a cumulative 2.00 GPA. This credit will be added to the DMACC transcript according to transfer credit guidelines. This agreement does not apply to summer session.

For more information on Cross-Enrollment, contact the DMACC Registration Office at 515-964-6800.

High School Articulated Courses
DMACC has entered into joint enrollment agreements with some of the high schools in the district. Specific courses are offered in the high schools under curriculum guidelines jointly approved by DMACC and the high school. Credit earned through these agreements is recorded as transfer (T) credit.

Articulated credit is recorded on the student’s permanent record after the student has applied for admission, earned 12 credits at DMACC and paid the required fee for each course being articulated.

Independent Study
Independent study provides an opportunity for the above-average student to do independent research in areas not covered in the regular curriculum or to explore in greater depth a topic covered in a course. Each independent study project must be arranged in advance through a supervising faculty member. The standard tuition charge will be made. Independent study may not be used to earn credit for any courses listed in the College catalog or substitute for any required or option courses in a program.

Each independent study may be for one to four credits. A maximum of four hours of elective credit in any one term and eight hours in total may be earned through independent study.

Students may register for coursework in independent study at any time during the term.

International Travel/Study Courses
DMACC faculty in a range of disciplines have traveled extensively, lived or studied in countries around the globe. Wishing to share their interest in and expertise of a particular country or region of the world, these faculty members arrange international travel and travel/study opportunities for students. Since the tours are educational travel, students may receive academic credit on designated trips. These international travel/study programs permit students to spend one or two weeks exploring a country, with additional time spent at home reading, writing and reflecting about the country they have experienced. Most travel/study courses are independent study credits issued under a global studies (GLOS) acronym.

For information on the Study Abroad in England program or international travel/study courses, please contact the Global Studies chairperson at 515-965-7032.

Postsecondary Enrollment Options Act
Eligible high school students may be accepted for admission to DMACC under Iowa’s Postsecondary Enrollment Options Act. Approval by the high school is mandatory before high school students may be accepted under this program. If the students are approved and accepted, the high school will pay up to $250 per course of the cost of the tuition, fees, books, materials and supplies. Students enrolled under this program take DMACC courses and credit is earned as DMACC credit. For more information, contact the DMACC Registration Office at 515-964-6800.

Semester Abroad
DMACC offers students an opportunity to take selected classes in English, speech, history and humanities during a spring semester Study Abroad in London program. The program is offered by DMACC as part of the Iowa Community College International Association’s Study Abroad Consortium. Students from all 15 of Iowa’s community colleges spend 10 weeks in London studying with an Iowa
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community college instructor. A British professor at the University of London teaches British Life and Culture, a mandatory course in the curriculum. Classes are held on the University of London campus. Students reside with families in local homes. In addition to lectures and class discussions, students are able to take advantage of an expanded classroom as they tour museums and historic monuments and attend live theatre performances in London and the surrounding area. Students are expected to enroll for 12 credits, which may include some independent study work. Program arrangements are made by the American Institute for Foreign Study, which specializes in study abroad programs for colleges and universities. Financial aid is available for study abroad.

SATISFACTORY ACADEMIC PROGRESS

The following applies only to credit enrollment at DMACC.

Passing grades are required in all courses outlined in the program of study. The cumulative grade point average of 2.00 in all course work applicable to the degree, diploma or certificate of specialization is required for satisfactory completion or progress. Students who have attempted 12 or more credits with grades of A, A-, B+, B, B-, C+, C, C-, D+, D, D-, F or P at Des Moines Area Community College are subject to the following academic progress standards:

1. Satisfactory academic progress is indicated by a cumulative grade point average (GPA) of 2.00 or higher.
2. Guidelines for placing a student on ‘ACADEMIC PROBATION’:
   a. A student whose cumulative GPA falls below 2.00 at the end of any term will be placed on ACADEMIC PROBATION for the next term of enrollment.
   b. Students on ACADEMIC PROBATION who are assigned more than one grade of C- or less grade at progress report time will be restricted from registering for future credit coursework until they have developed an Educational Achievement Plan with a counselor, advisor and/or program chairperson and obtained the appropriate signatures for approval.
   c. A student on ACADEMIC PROBATION will return to a status of ‘good academic standing’ when his/her cumulative GPA is raised to 2.00 or higher.
   d. A student on ACADEMIC PROBATION will continue on probationary status if his/her term GPA for the term following his/her placement on probation is 2.00 or higher but the cumulative GPA remains below 2.00. This same rule will apply for the next term of enrollment.
   e. The College will not award a Certificate of Specialization, Diploma or Degree to a student who has a GPA below 2.00 in his/her chosen program of study. Only grades for coursework applicable to the chosen program of study will be calculated in the program GPA.
3. Guidelines for placing a student on ‘CONDITIONAL ENROLLMENT’:
   a. A student on probation who earns a term GPA of less than 2.00 will be placed on CONDITIONAL ENROLLMENT for the next term of enrollment.
   b. If the student is registered for the following term and is placed on CONDITIONAL ENROLLMENT for that term, he/she will be required to meet with a counselor/advisor no later than the first day of the CONDITIONAL ENROLLMENT term to review his/her course selections. Failure to comply will result in canceled classes.
   c. If the student placed on CONDITIONAL ENROLLMENT is not registered for the next term, he or she must meet with a counselor/advisor prior to reenrolling in credit coursework.
   d. A student on CONDITIONAL ENROLLMENT who is assigned more than one grade of C- or less at progress time will not be allowed to register for the following term until his/her conditional enrollment term final grades are recorded.
   e. A student on CONDITIONAL ENROLLMENT who earns a term GPA of 2.00 or higher, but the cumulative GPA remains below 2.00, will be placed on ACADEMIC PROBATION.
   f. A student on CONDITIONAL ENROLLMENT who earns a term GPA and a cumulative GPA of 2.00 or higher will be placed in good standing.
4. Guidelines for placing a student on ‘ACADEMIC SUSPENSION’:
   a. After the nonenrollment period, a student on ACADEMIC SUSPENSION may apply for reenrollment. Students who are placed on academic suspension at the end of the Spring semester may not reenroll until the following Spring semester.
   b. In all instances, a readmitted student will be placed on CONDITIONAL ENROLLMENT.
   c. A student seeking reenrollment must develop an Educational Achievement Plan with a counselor/advisor and/or program chairperson and obtain the appropriate signatures for approval.
   d. A student on Academic Suspension for a second or subsequent time may reenroll only after receiving written approval of the Director of Student Development.
   e. Individual programs may impose additional reenrollment requirements.

STUDENT RECORDS-CONFIDENTIALITY

Student Records--Confidentiality--Family Educational Rights and Privacy Act (FERPA)

Des Moines Area Community College complies with the laws of the State of Iowa and the United States in the maintenance of, access to and release of student records. All procedures conform to the Family Educational Rights and Privacy Act (FERPA), sometimes referred to as the Buckley Amendment.

At its discretion, DMACC may provide certain information designated as ‘Directory Information’ to the public unless students have requested that their Directory Information not be released. Directory Information is defined as: student name, address, telephone number, date and place of birth, major field of study, dates of attendance, degrees and awards received, most recent educational institution attended, participation by the student in officially recognized activities, weight and height of members of athletic teams, email address and photograph.

With the exception of the Directory Information items listed above, all student records are considered to be confidential and are only open to designated school officials with a legitimate educational interest in the records and others as designated in the College’s FERPA.
ACADEMIC INFORMATION/PROGRAM REQUIREMENTS & GRADUATION

procedure. Except as provided for within the Act, personally identifiable information about students will not be released without the student's written permission. Under FERPA, students also have certain rights to inspect and review their education records, request amendment of their records, consent to disclosure of personally identifiable information contained in education records, and file a complaint with the U.S. Department of Education concerning an alleged failure to comply with FERPA.

To obtain copies of the procedure and more detailed information, contact the Registrar's Office on the Ankeny Campus or refer to the DMACC Student Handbook.

TRANSFER CREDIT

A maximum of 43 semester credit hours of transfer credit is applicable toward Associate Degree requirements. For diploma and certificate programs, a maximum of 2/3 of the program credits may transfer into DMACC (1/3 of the credits must be earned at DMACC). The total grade point average of credits transferred to DMACC must equal 2.00 or higher. Some programs, e.g., Health Service programs and Accounting Specialist, may require a minimum grade of “C” in specific courses that fulfill a degree requirement. Grades earned at other colleges or universities will not be used in the computation of students’ grade point averages at DMACC. Refer to the Admission section on the Evaluation of Previous Training and Education for more details on transcript processing and transfer credits.

TRANSCRIPT REQUESTS

Des Moines Area Community College will send or issue a transcript when students or former students submit a signed, written request or submit a request via the Web Information System.

Students can email or FAX requests to the Office of Academic Records. Transcript request forms are available at each campus, but a letter requesting a transcript will be honored.

Transcript requests should include the student’s name, Social Security number or DMACC I.D., telephone number, dates of attendance and the address to which the transcript should be mailed.

Except during peak periods, transcripts are sent within two working days after the receipt of the request. During peak periods, transcript requests are processed in the order they are received. There is no fee for transcripts unless special services are requested. In order for the transcript to be official, it must be sent directly to the receiving institution. Any copies of transcripts that are issued to students are considered to be unofficial. Transcripts will not be issued for students who have unpaid financial obligations to Des Moines Area Community College.

Students who have access to the DMACC Web Info System can view unofficial copies of their transcripts on the internet.

TRANSFERRING FROM DMACC TO ANOTHER INSTITUTION

- Students considering transfer to another college or university should contact an admissions or transfer counselor at that institution early in the planning process.
- The transferability of Des Moines Area Community College courses to other colleges and universities is determined by the receiving institution.
- Official college or university transcripts and high school transcripts are required during the application process. Students should request these documents from all prior schools be sent directly to the transfer institution.
- A financial aid transcript may be required from each college or university attended in order to receive aid at the transfer institution.
- Students should keep a copy of all the catalogs of colleges attended. These may be needed when discussing transfer credit.
- Copies should be kept of all documents completed, as well as a record of names and phone numbers of people contacted at the transfer institution. This will help if there is a need to clarify information in the future.

Applications for most major Iowa colleges and universities on colleges and universities throughout the United States are available in the Career Resource Center in Building 1, Ankeny Campus.

PROGRAM REQUIREMENTS AND GRADUATION

PROGRAMS OF STUDY

Instruction is offered in a variety of courses and programs to meet the diverse needs of DMACC students. Students may engage in areas of study that emphasize:

Liberal Arts
- General Education curriculum is designed for students intending to transfer to a four-year institution. Students may also take these courses for enrichment or with the intent of concluding their education with an Associate Degree.
- Paraprofessional curriculum prepares students for employment in a variety of public service fields. Students may also transfer to a four-year institution.
- Preprofessional curriculum provides the recommended courses for the first two years of study in various professions.

Vocational Education
- Vocational/Technical programs are designed to teach the essential skills and operational theory needed to ensure occupational competency. Vocational/Technical programs are designed to fulfill the employment needs of the community.

Continuing Education
- Continuing Education is designed for vocational training, professional advancement, personal enrichment, physical fitness or just the pleasure of learning. Classes, workshops and seminars are designed for those to whom academic credit is not required. These courses have no tests, grades or homework.

Pre-College Programs of Study
- College Preparatory courses are designed to aid students whose educational background requires strengthening to achieve success in regular college-level courses.
- Adult Basic Education (ABE) is designed to provide individualized instruction to adults who need development or review of basic reading, language or mathematical skills. ABE services are provided to adults who are seeking high school completion, vocational advancement, further training, English as a Second Language and general improvement of everyday living skills. Classes are offered in many locations throughout the College District.
- The Adult High School Diploma program is designed for adult students seeking a high school diploma. Courses required of all students enrolled in the program are:
  - Two credits in American History
  - One credit in American Government
  - Three credits in Mathematics
  - Two credits in Science
  - Six credits in English

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- 18 credits of elective courses shall be completed to meet a minimum requirement of 32 credits.
- Iowa High School Equivalency diploma is awarded by the State of Iowa through the Iowa Department of Education. Eligible adults may earn this Diploma by achieving passing scores on the General Education Development (G.E.D.) test administered by the College.

TRANSFER INFORMATION

DMACC offers the first two years of most baccalaureate degree programs. Students can attend DMACC for their first two years and earn an Associate in Arts (AA) or Associate in Science (AS) degree.

Articulation agreements and major transfer plans have been developed to assist students in transferring. Four-year colleges and universities vary in the required number and nature of preprofessional and general education courses that should be completed at DMACC.

The information included in the AA degree will change as four-year colleges/universities change their degree requirements, so students should contact the admissions office at the four-year institution they expect to attend as soon as possible after beginning at DMACC. Because other colleges can change their requirements, articulation agreements and transfer plans cannot be considered an agreement or contract between students and DMACC or its staff.

Transfer plans are available for some vocational programs to selected colleges, and DMACC partners with other institutions. For example, DMACC is working with Grand View College on a business administration program that will be offered with accelerated courses in the evening.

The advisors and counselors at each DMACC campus are available to work with students in planning their programs and assisting them in making decisions for a successful transfer. The following information is available for students:

- Transfer Plans for different majors at various colleges/universities
- General articulation agreements between DMACC and colleges/universities
- College/university catalogs
- Admission applications for some colleges/universities
- Dates of visits from college/university admission representatives
- Transfer scholarship information
- Admissions Partnership Program (APP)

Students interested in transferring to Iowa State University are encouraged to participate in the Admissions Partnership Program (APP). APP will assist students with a smooth transition between DMACC and ISU. Staff from the selected college will facilitate this transition by:

1. Assigning students to both DMACC and ISU advisors to help select appropriate coursework.
2. Inviting students to participate in ISU programs and activities appropriate to their major.
3. Assisting students with their transition to ISU.

For more detailed information and program requirements, contact any DMACC counselor or advisor.

COURSE SUBSTITUTIONS

On a limited basis, students may request course substitutions in their programs of study. Course substitution is defined as ‘the replacement of one course with another.’ Course substitutions will be allowed only:

- In clearly warranted situations, such as a scheduling conflict beyond the student’s control.
- When the student clearly demonstrates knowledge/competency in the subject area for which the substitution is requested and when such knowledge/competency is accurately assessed through measures such as testing, documentation of prior course work, or certification.
- When the substituted course reflects similar or complementary content/sills.
- As a reasonable accommodation for a student with a disability. (See the procedure titled Reasonable Accommodations for Applicants for Admission and Students with Disabilities.)

Noncore courses may not be substituted for courses designated as core requirements for a particular academic award. Adjunct courses may not be used to meet degree requirements other than electives. In programs exceeding twenty-four (24) semester credit hours, no more than one-eighth (1/8) of the total number of credits may be substituted. In programs of fewer than twenty-four (24) semester credit hours, only one (1) course of up to four (4) semester credit hours may be substituted.

Students who wish to request a course substitution should contact the program chairperson in their area of study.

GRADUATION REQUIREMENTS

Students must satisfy the requirements in effect at time of enrollment in their program or the requirements in effect at the time of graduation.

If program requirements are not satisfied within five years of the first term of enrollment in their program of study, students can no longer use those requirements effective at the time they initially enrolled in their program and must complete the program requirements effective at the time of their graduation.

All requirements of the chosen program must be satisfied, although adjustments may be made where program curriculum has changed and courses are no longer available. It is the responsibility of the students to know and to observe the requirements of their curriculum and the rules governing academic work.

If students have an unpaid debt to the College, graduation awards will not be conferred.

Degree Audit

Students may visit the credentials/graduation office or mail requests to receive reports of their progress toward completion of requirements for their programs of study. Students are encouraged to request a Graduation Evaluation Report at least one semester prior to their planned graduation date to assist with planning their final semester. Most degree audit reports are available via DMACC’s web information system.

Application for Graduation

Candidates for graduation must complete applications for graduation in order to receive their academic awards. Students who do not complete requirements for graduation in the term for which they applied must submit new applications. Students who plan to participate in one of the annual commencement ceremonies indicate their intent on the application for graduation. There is no graduation fee. Students who plan to receive more than one associate degree, diploma or certificate need to complete graduation applications for each program.

Candidates for graduation should submit their applications to the credentials/graduation office at the Ankeny Campus or the Student Services Office at the other DMACC campuses by the following dates:

Fall..........................October 1
Spring.........................February 2
Summer......................February 2
(if students plan to participate in the annual commencement ceremonies)
Summer......................June 1

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Commencement Ceremonies
Students who graduate at the end of fall, spring or summer terms are invited to participate in the annual commencement ceremonies in May. Participation in commencement ceremonies is free. Ankeny, Newton, Urban and West Campuses have a combined commencement ceremony. The Boone and Carroll Campuses have individual ceremonies.

Diplomas and Academic Awards
Diplomas are mailed to students approximately three to four weeks after final grades are posted. Students seeking degree verification may request a copy of their transcripts showing the degree and date awarded from the Transcript Office. Transcripts may be ordered prior to the end of the term to be sent once grades and graduation status are finalized. There is no charge for transcripts unless special services are requested.

GRADUATION HONORS
Phi Theta Kappa
Phi Theta Kappa is a national scholastic honor society for students at two-year colleges. There are chapters on all DMACC campuses. Membership may be conferred upon students who have completed at least 12 semester hours of coursework with a 3.50 grade point average in courses that apply toward a two-year associate degree program. In addition, potential members must have high moral character and desirable qualities of citizenship and leadership. Interested students should contact the Phi Theta Kappa advisor at their campus for details about their campus chapter.

Graduation with Program Honors
Candidates for graduation who earn a cumulative grade point average of at least 3.50 in coursework applicable to their program of study will graduate with program honors.

GENERAL EDUCATION
General Education integrates curricula in all degree and diploma programs at DMACC. It focuses on the knowledge and skills necessary for the understanding and effective application of many fields that include written/oral communications, pure/applied science, mathematics, social/behavioral sciences and humanities. The essential importance of general education remains a central principle in curriculum development at Des Moines Area Community College. Students will acquire skills for lifelong learning by:
1. Understanding and demonstrating effective communication.
   a. Write organized, clear and grammatically correct English, appropriate to purpose and audience.
   b. Read a document and demonstrate an understanding of its content, such as drawing inferences and distinguishing between major ideas and supporting detail and between fact and opinion.
   c. Present an organized oral message, appropriate to purpose and audience, using correctly spoken English.
   d. Listen attentively, respectfully and sensitively to a message and demonstrate an understanding of the message.
   e. Work collaboratively.
   f. Use technical communication effectively.
2. Understanding and demonstrating logical and critical thinking.
   a. Develop reasoned and thorough arguments.
   b. Analyze the arguments of others, distinguishing fact from opinion and identifying assumptions and inferences.
   c. Recognize and value the existence of different points of view.
   d. Analyze the conditions of a given problem and design solutions to it.
   e. Develop research techniques and acquire knowledge of bibliographic citation.
3. Developing an understanding of fundamental scientific principles and their application.
   a. Demonstrate an understanding of basic scientific principles.
   b. Apply scientific principles to analyze and solve problems in nature, culture and society.
   c. Make informed decisions, as citizens, on matters of public policy related to science.
4. Developing an understanding of fundamental mathematical principles and their application.
   a. Obtain correct mathematical results with or without technological assistance.
   b. Develop logical thinking skills that permit the selection of models appropriate to problems.
   c. Express models numerically, graphically and symbolically.
   d. Identify, interpret and manipulate relevant data.
5. Developing an understanding of human society and cross-cultural variation and perspective.
   a. Demonstrate an understanding of social and behavioral sciences and their application to the study of cultural diversity.
   b. Demonstrate an understanding of social and behavioral sciences and their application to the study of global cultures.
6. Developing a knowledge of and appreciation for the human condition as expressed in works of human imagination and thought.
   a. Demonstrate a fundamental knowledge of history, philosophy, literature or the arts.
   b. Demonstrate an understanding of the impact of human expression on culture and of culture on human expression.
   c. Recognize the significance of historical context to culture and human expression.

DEGREES AWARDED
DMACC awards the Associate in Arts (AA), Associate in Science (AS), Associate in Applied Science (AAS) and Associate in General Science (AGS) degrees plus Diplomas, Advanced Standing Diploma and Certificates of Specialization. Course availability varies by campus.

Degrees
The requirements for the AA, AS, AAS, AGS degree, the Diploma, the Advanced Standing Diploma and the Certificate listed below represent the minimum content required in any program offering these degrees at Des Moines Area Community College. Specific programs may and often do require additional coursework. Students must refer to the programs of study, which are approved by the State Department of Education and published in this college catalog. For specific programs, see the program section for course requirements.

Associate in Arts Degree (AA)
To receive an AA degree, students must:
1. Maintain a 2.00 grade point average on all work applicable for the AA degree.
2. Earn at Des Moines Area Community College a minimum of 1/3 of the semester credit hours applicable to the degree being pursued. No more than 43 transfer semester credit hours may be applied toward the degree.
3. Complete the final 10 semester credit hours at DMACC (or petition to the Registrar for an exception).
4. Complete a minimum of 64 semester credit hours.
PROGRAM REQUIREMENTS & GRADUATION

5. Include at least 48 semester credit hours of core courses.
   • Communications ......................... 9 credits
   • Social & Behavioral Sciences .......... 9 credits
   • Math & Sciences ......................... 9 credits
   • Humanities .............................. 9 credits
   • Distributed Requirements .......... 12 credits
   • Diversity Requirements .............. 3 credits

*The course taken to fulfill the Diversity Requirement may be “double counted” in any of the categories above.

6. Include at least 16 semester credit hours of elective credit.
   a. Students may include no more than 16 semester credit hours of vocational/technical credit.
   b. Students may have up to 8 semester credit hours of independent study courses; a limit of 4 semester credit hours of independent study may be earned in any single semester.

For specific programs, see program section for program requirements and course listing.

Associate in General Studies Degree (AGS)

To receive an AGS degree, students must:
1. Maintain a 2.00 grade point average on all work applicable for the AGS degree.
2. Earn at Des Moines Area Community College a minimum of 1/3 of the semester credit hours applicable to the degree being pursued at DMACC. No more than 43 transfer semester credit hours may be applied toward the degree.
3. Complete the final 10 semester credit hours at DMACC (or petition the Registrar for an exception).
4. Complete a minimum of 12 semester credit hours at DMACC after the effective date of the AGS degree (January 1, 1992).
5. Complete a minimum of 64 semester credit hours.
6. Complete the following core requirements:
   • Communications .......................... 3 credits
   • Social & Behavioral Science/ Humanities ............................. 3 credits
   • Math & Sciences ........................... 3 credits
   • Distributed Requirements .......... 3 credits
7. Electives ........................................ 52 credits

Students may include no more than 8 semester credit hours of Independent Study courses; no more than 4 semester credits of Independent Study may be earned in any single semester.

Associate in Applied Science Degree (AAS)

Areas of study that lead to an Associate in Science degree include specific courses required for the degree in addition to the core and general education requirements listed below. Refer to individual AAS programs of study in this catalog to learn degree requirements in addition to these general requirements. Students must complete a specific program in order to receive the AAS degree.

To receive an AAS degree, students must:
1. Maintain a 2.00 grade point average on all work applicable for the AAS degree.
2. Earn at Des Moines Area Community College a minimum of 1/3 of the semester credit hours applicable to the degree being pursued at DMACC. No more than 43 transfer semester credit hours may be applied toward the degree.
3. Complete the final 10 semester credit hours at DMACC (or petition the Registrar for an exception).
4. Complete all required courses in a particular program of study. (Minimum of 64 semester credit hours.)
5. Satisfy the following core:
   a. Communications – 3 credits
      ENG 105, ENG 106, ENG 108, COM 703, ADM 157
   b. Social & Behavioral Sciences/ Humanities – 3 credits
      AGB 101
      ANT 100, 105
      ART 101, 184, 186
      ASL 151, 181, 251, 291
      DRA 101
      ECN 120, 130
      FLA 141, 142, 241, 242
      FLG 141, 142, 241, 242
      FLJ 141, 142, 241, 242
      FLF 151, 152, 241, 242
      GAS 101, 120, 116, 121
      LIT 101, 142, 110, 111, 185, 166, 188, 193, 130, 190
      MGT 145
      MUS 100, 101
      PHI 101, 110, 105
      POL 112, 121, 125, 171
      PSY 111, 121, 241, 251, 261, 102, 261
      REL 101
      SOC 110, 115, 120, 200
   c. Mathematics or Sciences – 3 credits
      ENV 115, 116
      BIO 138, 156, 732, 733, 734, 104, 112, 113
      187, 164, 168, 173
      BUS 211 or MAT 157, BUS 112
      CHM 105, 122, 132, 165, 175, 263, 273
      ELT 106, 108
      MAT 110, 114, 116
      MAT 157 or BUS 211
      MAT 162, 166, 130, 129, 211, 217, 219
      227, 772, 773
      PHS 152
      PHY 106, 160, 161, 213, 223, 710
   d. Distributed Requirement – 3 credits
      Choose one course from 1, 2, or 3 above or SPC 101, 126 or ELT 368.

Diploma

To receive a diploma, students must:
1. Maintain a 2.00 grade point average on all work applicable for the diploma.
PROGRAM REQUIREMENTS & GRADUATION/STUDENT SERVICES

2. Earn at DMACC a minimum of 1/3 of the semester credit hours applicable to the degree being pursued.
3. Complete the final 10 semester credit hours at DMACC (or petition the Registrar for an exception).
4. Complete all required courses in a particular program of study. (Minimum of 30 semester credit hours.)
5. Complete the following core requirements:
   • One Communications course
   • One Social & Behavioral Science course
   • One Math course

Course options for the above core are listed in specific programs of study.

Advanced Standing Diploma
To receive an advanced standing diploma, students must:
1. Prior to entry into the program, complete
   • An associate degree or at least 64 semester credits of college-level course work from an accredited institution of higher education.
   • One Communications Core course
   • One Social & Behavioral Science course
   • One Math Core course
2. Maintain a 2.00 grade point average in all work applicable to the advanced standing diploma.
3. Earn at DMACC a minimum of 1/3 of the semester credit hours applicable to the diploma being pursued.
4. Complete the final 10 semester credit hours at DMACC (or petition the Registrar for an exception).
5. Complete a minimum of one general education course as part of the program of study.
6. Complete all required courses in the particular program of study, which will include a minimum of 30 semester credit hours.

Certificate of Specialization
To receive a certificate, students must:
1. Maintain a 2.00 grade point average on all work applicable for the certificate.
2. Earn at DMACC a minimum of 1/3 of the semester credit hours applicable to the certificate being pursued.
3. Complete the number of semester credit hours required in a particular program of study.
4. Complete all required courses in a particular program of study.

Certificate of Completion
A certificate of completion is issued to signify that a student has satisfactorily completed a program of instruction other than those listed above. Certificates are normally issued to students at the completion of a specific short-term program of study.

STUDENT SERVICES

ACADEMIC ACHIEVEMENT CENTERS
The Academic Achievement Centers located on each campus are available to all full-time and part-time students in the following categories:
1. Students seeking assistance with college course work, especially in the areas of math, science, English, reading and study skills.
2. Adults working toward high school completion (GED or adult high school diploma) or completing a program of basic literacy skills (ABE).
3. Students pursuing studies for academic upgrading, prerequisites or enrichment.
   Instructors will diagnose academic skill levels, establish individual programs of study and assist in the learning process. Students progress at a pace based on ability, interest, needs, and time available for learning.
   Computer services are also available in the Academic Achievement Centers. These services include various educational and support programs in many areas and a computer-based educational system (PLATO). Contact the Academic Achievement Center at each campus for additional information.

ALUMNI ASSOCIATION
Des Moines Area Community College has an active Alumni Association. Headed by a volunteer Alumni Board of Directors, the Association strives to remain in contact with and provide service and benefits to alumni. Through annual fundraising activities, the Association provides scholarships and grants to deserving DMACC students. For more information, contact the Alumni Office.

ACADEMIC ADVISING
Academic advisors are available to assist students in planning their educational programs, meeting graduation requirements, further developing their academic skills and using resources of the College to meet their educational needs. Assistance is given in selecting a transfer institution and the transferring of credits. The value of the degree, diploma and certificate programs is explained.

ASSESSMENT CENTERS
The COMPASS assessment is available for current and prospective students at each of the six DMACC campuses. Please call for an appointment.
Ankeny Campus ......................... 515-964-6595
Boone Campus ......................... 515-433-5098
Carroll Campus ......................... 712-729-8303
Hunziker Center ....................... 515-663-6700
Newton Campus ....................... 641-791-3622
Success Center ...................... 515-287-8700
Urban Campus ....................... 515-248-7218
West Campus ....................... 515-633-2408

DMACC offers English as a Second Language ESL Test in COMPASS tests for students whose native language is not English. All full-time and part-time students whose native language is not English are required to take and pass the ESL Test in COMPASS test as a requirement for admission. Placement in ESL courses, college preparatory courses or college-level courses is based on minimum scores. Please contact the DMACC Assessment Center at the campus nearest you for more information.

In addition, the Ankeny Assessment Center offers ACT, LSAT, MPRE, PRAXIS, Medical Assistant and Medical Office Specialist typing test, Veterinary Technology biology test, mechanical reasoning aptitude test, Iowa Dental Board test.
The Boone Assessment Center also offers CLEP testing.

CAMPUS SECURITY
Law enforcement and security are provided to help ensure the safety and security of our campuses. DMACC provides 24-hour/7-day security officer patrol of the Ankeny Campus.
At the Urban Campus, security officer patrol is 7 a.m. to 10:30 p.m., Monday through Thursday; 7:00 a.m. to 3:00 p.m. Friday; and 8:00 a.m. to 12:30 p.m. Saturday. Security measures may include uniformed security guards, closed circuit-television, building security systems, exterior lighting, courtesy phones, and attention to landscape materials.
In addition, the Ankeny, Des Moines, Boone, Carroll, Newton and West Des Moines Police Departments patrol and assist the College in their respective jurisdictions. DMACC Security personnel administer traffic and parking regulations, ensure safety and security, and provide assistance to the College community.
STUDENT SERVICES

CAREER AND TRANSFER RESOURCE CENTER (CTRC)
The CTRC on the Ankeny Campus offers assistance and informational resources to students, prospective students and career changers for all stages of career planning. The CTRC has up-to-date information about hundreds of occupations. There are many resources available about Iowa’s two-year and four-year colleges and universities, as well as information on colleges throughout the United States. Students will find tips and information for transfer planning. CHOICES, a computerized career-guidance system, is an excellent resource available to students. Appointments are preferred, but walk-in assistance is also available.
The CTRC resources will enable students to learn about job requirements, job trends and salaries. Students will be better prepared for making decisions about school majors and costs. Career planners will organize personal interests and skills for making better choices. Call for appointment at 515-964-6474.

CHILD CARE
The DMACC Child Development Center on the Ankeny Campus provides child care for the children of students, staff and faculty. Children ages 2–5 are eligible for child care during normal College business hours. Children must attend on a full- or part-time, regularly scheduled basis. The child care center is open year-round on student contact days only. There is generally a waiting list. To request an application or for more information, call 515-964-6588.
Children should not be brought to class or left unattended at any time in a classroom, at clinical sites or on College property.

COLLEGE BOOKSTORES
The College bookstores are located at all DMACC campuses to serve students, faculty and staff.
In addition to materials for course requirements, the bookstores stock supplemental study aids, paper products, office supplies, calculators, cassette recorders, computer supplies, seasonal and everyday greeting cards, imprinted gift items and up-to-date college fashions.
Hours of operation vary at each campus. Check with each bookstore for more information.
During the first week of each semester, hours will be extended to accommodate evening and weekend students. During student breaks, all bookstores will close early and hours will be posted.
A cash register or financial aid receipt is required for a full refund or exchange of any textbook. Textbooks may be returned within 14 days from the beginning of each semester, as long as the textbook is in the same condition as when purchased. Check with the bookstore for further details of the Bookstore Return Policy. Materials purchased with a check require 10 working days for a refund in the form of a DMACC check.
Students whose books do not qualify for a refund are encouraged to use our everyday buyback. Check with the bookstore about further details regarding the Buyback Policy. Representatives from wholesale companies may be present at the end of the semester. Notices will be posted at least two weeks before the end of the semester with all necessary information.
Textbook purchases should be made at the campus location of your class. Mail orders from the Ankeny Campus bookstore are available for other off-campus courses. Online class book purchases may be made through the DMACC website www.dmacc.edu. Online class books are available only at the Ankeny Campus bookstore. MasterCard, VISA and Discover charge cards are accepted. A picture ID is required when writing a check in the bookstore. Students with prewritten checks from parents must also present a picture ID. Checks must be written for the amount of purchase only and payable to DMACC or Knowledge Knook Bookstore.
Students receiving funds from an agency must pick up a voucher in Student Accounts before purchasing books and supplies.
Picture IDs are required for all Financial Aid and Voucher purchases.

COUNSELING SERVICES
The College provides professional counselors to assist students in career and educational planning and in solving problems of a personal nature. Counselors help students make decisions and plan for a successful future. Counselors are available to help students choose an educational program or career direction, recommend and interpret career tests and inventories, examine mid-career options, discuss anticipated academic difficulties and develop an appropriate course of study.
Students who experience difficulty or dissatisfaction with their curriculum are encouraged to make use of the counseling services to explore options or an alternative course of action. Counselors can also provide assistance with study skills, developing satisfying personal and social relationships, solving financial problems and getting through a crisis.
Counseling services are available to assist all students including those in evening classes and at off-campus sites. Contact the most convenient campus for further information.

COLLEGE PREPARATORY EDUCATION
College Preparatory Education offers a variety of academic and personal support services to help students succeed in reaching their educational and career goals. These services are particularly designed for students who need to strengthen their academic skills before enrolling in college-level courses.
Staff are available to counsel and advise students prior to registration and during their enrollment. Instructional services provided by the program include a career planning course and preparatory courses in reading, writing, mathematics and study skills. Although credits from the college preparatory courses do not count toward a degree or diploma, they do help students fill in any gaps in the skills needed for success in college-level courses. The Academic Achievement Centers provide the following support services to students enrolled in college preparatory courses: tutoring, individualized instruction, homework help, assessment of basic skills and vocational interest, and academic planning.

FOOD SERVICES
Vending machines are available at each campus. The Ankeny, Boone, Urban/Des Moines and West Campuses have food services where food is prepared on site. For formal dining, the Culinary Arts students at the Ankeny Campus operate the Bistro, located in Building 7.

RECREATION AND WELLNESS PROGRAMS
Fitness and intramural sports opportunities are available for students at Des Moines Area Community College. Facilities are located in Building 5 on the Ankeny Campus and on the Boone Campus. A schedule of intramural events and rules for participation are available online and in the Recreation & Wellness Center on the Ankeny Campus. Free fitness classes and discounted personal training services are also available to currently enrolled students.
STUDENT SERVICES

DMACC students on the Ankeny Campus. All currently enrolled DMACC students as well as card-carrying alumni are eligible to utilize the Recreation and Wellness Center. Basketball, volleyball and other court sports as well as fitness classes take place on the gym floor. A walking/running track is also available in the gym. The fitness center houses a variety of cardiovascular and strength training equipment. Locker rooms and shower facilities are also available. Locker rentals and towel services are available for a nominal fee per semester. The gym is also available for rentals. See staff for details.

The facility hours are posted online at https://my.dmacc.edu/sites/RecreationWellness/default.aspx and are subject to change. Guests are welcome for a $2.00 fee. Family members and other guests are welcome as long as they are accompanied by a valid DMACC student or eligible alumni. No children under 12 years of age are allowed in the fitness center. All patrons must follow all posted facility rules. For more information and current hours of operation, contact 964-6333.

INTRAMURAL RECREATION

Intramural sports are available for students, faculty and staff on the Ankeny and Boone Campuses. Opportunities exist year-round for both individual and team recreational sports and activities. Applications for participation are available online at https://my.dmacc.edu/sites/RecreationWellness/default.aspx and in the Recreation and Wellness Center in Building 5 on the Ankeny Campus.

INFORMATION CENTER

The main DMACC Information Center is located in Building 1 on the Ankeny Campus. The Center is designed to help students, prospective students and visitors to the College. Material is available on all college programs, current course listings and general DMACC information. Information can also be obtained at the Student Life or Student Development/Counseling & Advising offices of the Boone, Carroll, Newton and Urban Campuses. Contact 964-6200 or 1-800-TO-DMACC.

STUDENT EMPLOYMENT ASSISTANCE

Services include: lists of job openings (full-time and part-time) available in the area; assistance to students wanting to obtain work in the College Work-Study Program; referrals for internship and summer employment; on-campus recruitment and interviews by employers; labor market information, resource videos and books, and a list of helpful websites for research from home. Individual assistance with resume writing, application letters, interviewing and job-seeking skills is readily available.

Also available is a free online employment service to help students find careers that match their degrees: www.iowacareer.net. To register for assistance, go to www.dmacc.edu/student_services/job_placement.asp.

For further information, contact the Ankeny Student Employment Assistance Office (515-964-6463), or the Student Services Offices on the Boone, Carroll, Newton, Urban and West Campuses.

LIBRARIES

Library services are provided at the Ankeny, Boone, Carroll, Newton and Urban Campuses. The DMACC Libraries’ website provides access to information from any computer on the College network at www.library.dmacc.edu. Remote access is also available to patrons who have a current DMACC library card. DMACC provides access to INNOPAC, the online catalog; several EBSCO host databases, Lexis-Nexis Academic, both of which include full text articles from more than 8,000 periodicals, as well as abstracting and indexing for more than 10,000 titles. Also available are other resources such as CQ Researcher, Grolier Online Encyclopedia, online catalogs of other Iowa libraries, online reference service, and library news and information.

The DMACC Libraries are full members of the Online Computer Library Center, Inc. (OCLC), an internationally recognized bibliographic utility, which provides important products and services to libraries and their users. DMACC is a member of the Polk County Biomedical Consortium, a group of health science libraries affiliated with the National Library of Medicine. DMACC also participates in the State Library of Iowa’s Open Access program, which allows our cardholders to borrow materials from other participating libraries.

Ankeny Campus

The Ankeny Campus Library has 40,000 volumes in the book collection, 200 periodical subscriptions and 3,000 videos and other audiovisual materials. The collections emphasize subjects related to the College curriculum, including the humanities, social sciences, natural and health sciences, business and technology. Interlibrary loan service is available at no charge to DMACC students and staff for books and articles not owned by our libraries. Other services include reference assistance, coin-operated photocopiers, group study rooms, an individualized listening/viewing room and library orientation sessions for individual classes at the request of the instructor.

Boone Campus

The Boone Campus Library has a collection of approximately 19,000 circulating and reference books, 175 periodical subscriptions, compact discs, audio books and a large collection of videos. Material not owned by the Library can be obtained through interlibrary loan at no charge. It also participates in the Open Access program through the State Library. The Library also provides access to the 40-station student computer lab at the Boone Campus. In addition, a Library Instruction class (SDV 171) and an internet Research class (SDV 172) is offered by the staff each semester.

Carroll Campus

The library at the Carroll Campus has a collection of books, periodicals, audiovisual materials and electronic resources. The library collections of all DMACC campuses are located on the INNOPAC, the electronic database, and students can intercampus loan these materials. Library orientation classes and additional instruction on computer database searching are provided upon request at the Carroll Campus Library. These resources provide students with the tools to locate the materials needed for assignments and lifelong learning. The Carroll Campus Library facilities include a computer lab, testing center, academic achievement center, an elementary curriculum library and multimedia storage area for media equipment availability and checkout.

Newton Campus

The Interactive Learning Center (ILC) at the Newton Campus houses a growing collection of academic, research and leisure reading books, as well as a number of periodical, newspaper and audiovisual titles. Students may conduct online research via the DMACC Library website (www.library.dmacc.edu) at the computer stations located in the ILC or from their home computers. The ILC also houses instructor reserve materials and is the designated location for students to take makeup exams and quizzes. Students enrolled in telecourses may view telecourse videotapes for these courses in the ILC. Students may borrow materials housed at any of the other DMACC libraries by processing an interlibrary loan request at the ILC.
STUDENT SERVICES

Urban Campus
The library at Urban Campus has a book collection of more than 13,000 volumes. This collection reflects the courses of study for the College, including a reference collection unique to the Urban Library that complements the legal assistant program.

In addition to the book collection, the Urban Campus Library subscribes to a large number of periodicals and has many more periodicals available online along with other reference databases. There is a collection of videotapes that supplements the textbooks in accounting and mathematics, videotapes for the telecourse division of the College and videotapes to amplify a variety of subjects. There is a pamphlet file of materials to use in research.

Students can access materials from other libraries through interlibrary loan services. Study facilities and audio/visual equipment are available in the Library. Assistance in the use of the Library and its materials can be obtained from the Library staff.

West Campus
The Interactive Learning Center (ILC) at West Campus will assist students in accessing the resources available through the Ankeny Campus and other participating libraries.

VOCATIONAL REHABILITATION COUNSELING
Through an agreement with Iowa Vocational Rehabilitation Services, a vocational rehabilitation counselor is assigned to the College to provide rehabilitation services to eligible students with disabilities. Individualized services to help the student achieve his/her vocational goals are identified in a jointly developed written rehabilitation plan. Vocational rehabilitation counseling is provided to eligible students by a professional counselor who has expertise in disability and vocational areas.

SERVICES FOR STUDENTS WITH DISABILITIES
DMACC is committed to providing an accessible environment that supports students with disabilities in reaching their full potential. Support services are available for students who have visual, hearing, mobility, learning or other types of disabilities to ensure equal access to educational opportunities. Specialized software, adaptive equipment, alternative testing, classroom accommodations and sign language interpreting are examples of the support services offered.

DMACC employs a special needs coordinator to work with students to develop and coordinate services based on individual student need. If you are a student with a disability who requires reasonable accommodation to participate fully at DMACC, follow the steps listed below.
1. Contact the special needs coordinator at (515) 964-6850 V, (515) 964-6809 TTY or the counseling and advising office on any of the six campuses for an Application for Accommodation.
2. Submit the completed application and supporting documentation to: Des Moines Area Community College Attention: Special Needs Coordinator 2006 South Ankeny Boulevard, Bldg. 6-10b Ankeny, Iowa 50023-3993
3. Schedule a time to meet with the special needs coordinator, counselor or advisor to discuss coordination of these services.
4. Contact the special needs coordinator with any questions during this process.

STUDENT HEALTH
Student Health Services is located on the Ankeny Campus in Building 5, with some services extending to other campus locations. Student Health Services offers limited medical care, emergency treatment, and referrals for students who become ill or injured while on campus. The Campus Health Specialist is available during student contact days. A Nurse Practitioner is available for walk-ins, one day per week, during the fall and spring semesters. Please call Student Health to inquire on the time and day. Student Health Insurance information is also available.

STUDENT HOUSING
For student housing options and area apartment information, please refer to www.dmacc.edu/student_services/housing.asp. For more information about student housing at the Boone Campus, contact the housing liaison, Steve Krafcsin, at 515-433-5026. For information about the independently owned and operated housing on the Ankeny Campus, contact the manager of Campus View Apartments at 515-964-7474. The College Information Center in Building 1 of the Ankeny Campus also provides information about other housing options near the Ankeny and Urban Campuses.

Information about housing for the Carroll, Newton and West Campuses is available from the Student Services Offices at the respective campuses or on DMACC’s website.

TESTING CENTERS
The Testing Center provides a site for makeup testing when students have missed class on a test day. The center also serves as a site for administering correspondence tests for courses taken at other institutions and challenge tests for DMACC courses.

Students must arrange with their instructors to have tests sent to the Testing Center. When students arrive to take their exams, they must present a picture identification, such as a driver’s license, and know the instructor’s last name. For Testing Center hours, students should contact the Information Desk at the Newton Campus, the Testing Center or Academic Achievement Center at the Ankeny, Boone, Urban or West Campuses and the Learning Resource Center at the West Campus.

TUTORING
The Tutoring Office provides peer tutors to assist students who have difficulty with a particular course or courses. Knowledgeable tutors can assist students by reviewing the course material, answering questions and reviewing for exams. Students may be scheduled individually or with a group. For more information, call the Tutoring Office on the Ankeny Campus at 515-965-7004 or stop by Building 6, Room 20. Students interested in tutoring on the Boone, Carroll, Newton, Urban and West Campuses should contact the Academic Achievement Center at the campus attended. The College cannot guarantee the availability of tutors.

Employment Opportunities
The tutoring office hires students as peer tutors. Come work in a fun, flexible environment and earn extra money while on campus. Contact the Tutoring Office on the Ankeny Campus at 515-965-7004 or the Academic Achievement Center on the Boone, Carroll, Newton, Urban or West Campuses.

STUDENT HANDBOOK
For more information about services, procedures and policies at Des Moines Area Community College, pick up a copy of the Student Handbook at any Student Services office. The Handbook includes information on student rights and responsibilities, student conduct and discipline policies, parking policies, academic appeals, policies regarding tobacco, alcohol and weapons on campus and more.
STUDENT ACTIVITIES

ACTIVITY ROOM
The Activity Room is available for students on the Ankeny Campus. Located in Building 5, the Activity Room provides a space for students to relax, study, and play various games in a lounge-like setting. Games include pool, ping pong, and various arcade games. The games are provided by Playin Around Games. For more information, contact Recreation and Wellness at 964-6333.

DMACC CHOIRS
The DMACC music program offers students the opportunity to participate in a variety of choral music ensembles. Concert Choir (MUS 143; 2 credits) is offered on the Ankeny and Boone Campuses. The rehearsal schedule is not the same on both campuses, but is always shown in the current DMACC semester course schedule. Concert Choir is open to anyone without an audition; however, it is expected that students who enroll will have the ability to learn and sing the voice part to which they are assigned. On the Ankeny Campus, singers in Concert Choir may audition to sing in the Chamber Ensemble (MUS 150; 1 credit; formerly Chamber Choir), which rehearses on the same days as Concert Choir. Students must have the choral conductor’s permission to enroll in Chamber Ensemble. Choral music credits may be used toward DMACC degrees as electives for four semesters, but, there is no limit to the number of times singers may register for the ensembles. Volunteer choral ensembles, which are open to any DMACC student who can learn and sing choral parts, are organized on the Ankeny Campus on a semester-to-semester basis. These are promoted on flyers posted in many Ankeny Campus buildings. Anyone wanting more information may contact the choral conductor in Building 5, Room 41 on the Ankeny Campus or by checking with the office on the Boone Campus. Ankeny Campus maintains its internet presence at www.dmacc.edu/music/.

DMACC DRAMA
The DMACC drama program offers students the opportunity to gain practical experience in theatre production on the Ankeny and Boone Campuses. Students can earn college credit in a variety of areas, including acting, lighting, costumes, directing, promotion and scenery work. Annual playwriting contests for students may allow them to see their work produced on campus.

INTERCOLLEGIATE ATHLETICS
Student athletes may compete on a national level at the Boone Campus. DMACC is a member of the Iowa Community College Athletic Conference (ICCAC) and the National Junior College Athletic Association. Currently, the College offers women’s intercollegiate athletics in basketball, volleyball and golf, as well as men’s intercollegiate athletics in basketball and baseball on the Boone Campus.

STUDENT ACTIVITIES COUNCIL
The Student Activities Council, as the primary student body representative, is an integral part of the College. Through its work, students are provided an opportunity to participate in the democratic process. Meetings are held on a regular basis. The Council serves as a liaison between the administration, faculty, staff and student body in areas of mutual interest. The purpose of the organization is to promote college spirit, provide a focal point for discussions between students and the College staff and to give students a representative voice in college affairs. Any student, administrator or faculty member may attend meetings of the Student Activities Council and take part in discussion, but only members may vote.

STUDENT ACTIVITIES
Much of a student’s growth is the result of participation in activities and student organizations. It is the philosophy of the College that co-curricular activities complement the academic program. The activities are financed by a portion of the service fee that is charged each term in addition to regular tuition. Student representatives elected to the Student Activities Council are responsible for assessment and disbursement of these funds.
BUSINESS RESOURCES/CONTINUING EDUCATION

TICKET SALES
Discount tickets to various activities and attractions are available at the Student Activities office at Ankeny, the Advising Office at Carroll, or the Business Offices at Boone, Newton, Urban and West Campuses. The Ankeny Campus offers discount tickets to Civic Center events, Worlds and Oceans of Fun, Adventureland Park, Ankeny Springwood Theater, Copper Creek Theater in Pleasant Hill, Woodland Hills Golf Course, Carmike Movie Theaters, Iowa Energy, Buccaneers and Iowa Stars hockey in Des Moines. The Carroll Campus offers Adventureland Park, Carroll Community Theatre, Worlds/Oceans of Fun, and Carroll Theater V discounted tickets. Urban Campus offers discount tickets to Adventureland Park, Carmike Theaters and discounted bus passes for Metro Transit Authority. Ticket offerings vary at the Boone, Newton and West Campuses. Check in the main offices for details. Cash and personal checks are accepted at all campuses. Credit cards are accepted at the Urban Campus.

DMACC BUSINESS RESOURCES (DBR)
Des Moines Area Community College Business Resources (DBR) provides businesses, governmental agencies and nonprofit organizations with the training and consulting they need to optimize performance through improved employee and managerial skills. DBR provides a broad spectrum of training services, including technical training in manufacturing and maintenance, management and supervisory skills, employee workplace skills, organizational change, and waste management and control. From needs assessment to the customized design and implementation of training programs, DBR consultants ensure that schedules and budgets are met. Training can be provided at the business, on one of our six campuses in Central Iowa, online, or at any other convenient location.

CONTINUING EDUCATION AND SPECIALIZED PROGRAMS

ADULT BASIC EDUCATION ABE/HSE/ESL
The Adult Basic Education Program (ABE) provides opportunities for adults in need of literacy skills and refresher basics in reading, writing and math. ABE classes are offered at various locations in and around Des Moines and in cooperation with local schools and organizations.

Individualized instruction allows students to focus on their immediate needs. ABE classes are provided free of charge.

GED classes, or High School Equivalency (HSE) preparation, provide instruction to prepare adults for the General Education Development Test (GED) and earn the High School Equivalency Diploma. Individual and small group instruction allows students to progress through the five subject areas evaluated on the GED exam. These include: Test 1, Writing Skills; Test 2, Social Studies; Test 3, Science; Test 4, Reading; and Test 5, Math.

DMACC GED Testing Centers:
DMACC Ankeny Campus
DMACC Boone Campus
DMACC Carroll Campus
DMACC Urban Campus
DMACC Newton Campus
DMACC Success Center
DMACC West Campus

ENGLISH AS A SECOND LANGUAGE
English as a Second Language is a program for people who speak, read and write best in a language other than English and desire to improve their use of the English language.

DMACC offers English as a Second Language (ESL) COMPASS tests for students whose native language is not English. Starting in the 2008–2009 academic year, all full-time and part-time students whose native language is not English are required to take the ESL COMPASS test as a requirement for admission. Placement in ESL courses, college preparatory courses or college-level courses is based on minimum scores. Please contact the DMACC Assessment Center at the campus nearest you. For more information, call 515-287-8700 or 800-362-2127, ext. 8700, or check our website www.dmacc.edu/success/.

CONFERENCE AND EVENT PLANNING SERVICES
The DMACC campuses provide an ideal location for your meetings, workshops or conferences.

DMACC provides event planning services including:
• Experienced conference planning staff
• Documentation of mandatory professional Continuing Education
• Registration services
• Marketing and brochure development
• Facility and meal planning
• Consulting services
• Campuses-Auditorium Seating, AV & Satellite downlink
• Free parking
• ADA–compliant

Call DMACC for your conference planning needs: 1-800-362-2127, ext. 6214, or 515-964-6214.

Conference Center – Newton
The DMACC Newton Conference Center is located on the DMACC campus in Newton, Iowa. Serving groups from 5 to 350, the DMACC Newton Conference Center offers a 325-seat, state-of-the-art auditorium, a 4,800-square-foot subdividing banquet room, reception area and breakout rooms. Parking is conveniently located at the facility, with access to complete food and beverage service, audio/visual equipment and other conference services.

For further information, please contact the conference center staff at 641-792-1850.

CONTINUING EDUCATION
The Continuing Education division provides a wide range of educational experiences. Activities and courses may begin at any time and do not necessarily coincide with the College’s academic calendar. A variety of noncredit vocational and avocational classes,
seminars, conferences and workshops are offered at various locations to assist individuals in continued professional and personal development. Topic areas may include: business/management, health occupations and personal growth. Specific classes are also designed to meet the continuing education requirements for licensing and recertification of professionals in areas such as child care, insurance, nursing, emergency medical services, cosmetology, real estate, long-term care and social work.

The Continuing Education division works with local businesses, service agencies, institutions, organizations and associations to tailor courses or conferences specifically for employees or members. For more information, call 515-965-6024.

DISTANCE LEARNING

Distance learning provides alternative delivery of credit classes throughout the district, state and nation. College credit classes are provided via Online Courses utilizing the World Wide Web, the Iowa Communications Network (ICN) and through television courses carried on Mediacom Cable, College Channel 16. For more information, see the Distance Learning Homepage at www.dmacc.edu/online or call 515-964-6422.

Noncredit and continuing education opportunities are also available through online classes. For more information regarding noncredit and continuing education classes offered online, call 515-964-6699 or 800-362-2127, ext. 6699.

EVENING/WEEKEND COLLEGE

Courses offered evenings and weekends provide opportunities for degree completion, career development/enhancement and cultural enrichment, in both credit and continuing education format, for students who are unable to take classes during the day.

The Evening/Weekend College provides support to the full range of services offered for students, faculty and staff during evening and weekend hours. These include Registration, Student Accounts, Limited Financial Aid, Student Records and Admissions. Support is also provided for the Distance Learning classes and Continuing Education courses. For further information on the Ankeny Campus, call 515-964-6286 or 1-800-362-2127, ext. 6286.

For services available at the Boone, Carroll, Newton, Des Moines Urban and West Campus in West Des Moines, call their main campus numbers. Evening counselor and advisor appointments available 4:30–7:00 p.m., Monday–Thursday.

TRANSPORTATION INSTITUTE/COMMERCIAL VEHICLE

Commercial Vehicle Operator Program

The Transportation Institute commercial vehicle operator program is one of approximately 50 in the U.S. certified by the Professional Truck Drivers Institute. The 240-hour, noncredit program uses the U.S. Department of Transportation Model Curriculum. Students may complete the program in the daytime in six weeks or during the evenings in 12 weeks.

The Institute provides customized programs and services to individuals and companies including: remediation and evaluation services, advanced driver programs, Defensive Driving Course (DDC), driver/dispatcher relationships and driver retention programs. It also offers a Train the Trainer Program that allows carriers to train their driver finishers, ensuring a higher success rate with their student program and online Web-based course for DOT-mandated entry-level driver certification.

RV Safety and Education Program

RV Safety students become confident when traveling in situations they may encounter in the RV lifestyle after receiving training in all phases of driving, maneuvering and backing a recreational vehicle. The RV program is a total of 8 hours–3 hours in the classroom and 5 hours of hands-on driving. Additional driving time and private lessons are available. The program specializes in safety, respect, patience and confidence in a variety of vehicles of all sizes from class A, B and C motor homes, to fifth-wheel trailers to travel trailers.

We also have RV (Recreational Vehicle) training and educational programs aimed at present and prospective RV drivers to provide the best information and training possible about RVs and the RV lifestyle. DMACC is the second school nationwide to offer this RV training.

MOTORCYCLE/MOPED SAFETY RIDER COURSES

Basic Motorcycle Safety Rider Course

The MSF Basic Rider Course is based on years of scientific research and field experience. It teaches fundamental skills. It provides basic entry-level skills for a new rider to begin practicing and developing the mental and motor skills important for safe street operation. The Basic Rider course is a combination of 5 hour classroom and 10 hours of on-motorcycle instruction.

Moped Rider Course

Learn how to operate and care for a moped, as well as the rights and responsibilities as a moped operator. Must be 13 years or older to take this course.
DMACC INITIATIVES

COMMON COURSE NUMBERING
All of the community colleges in Iowa are participating in a joint project to develop common numbers for all of our courses. Because of this initiative, all of our course subject names and most of our course numbers at DMACC changed effective Fall semester 2006. If you need to know the former acronym and course number for one of our courses, an interactive conversion chart is available on our website at www.dmacc.edu/rod/matrix/. For questions about common course numbering at Des Moines Area Community College, you can call 515 964-6332 in the Ankeny or Des Moines areas or toll-free 800-362-1727, extension 6332.

DES MOINES AREA COMMUNITY COLLEGE CENTERS
In addition to the six campuses that comprise Des Moines Area Community College, the college participates in the Des Moines Higher Education Collaborative at 1200 Grand Ave. in downtown Des Moines and operates two centers:

SUCCESS CENTER
The DMACC Success Center opened its doors in October of 2002. Located on Porter Avenue on Des Moines’ south side, this center provides programming for Youth-at-Risk (YAR), English as Second Language (ESL) and Adult Basic Education (ABE) populations from the metro area and surrounding communities, and college credit courses. More information is available on the website for the Success Center at www.dmacc.edu/success/. The telephone number for the Success Center is 515-287-8700.

DMACC CAREER ACADEMY, HUNZIKER CENTER
The new $5 million DMACC Career Academy, Hunziker Center opened its doors August 14, 2006. The center is located at the northwest corner of Interstate 35 and U.S. Highway 30 in Ames. Through a partnership with Story County’s seven school districts, the Academy offers career and technical programs to high school students during the day. Some of the high school educational programs include state-of-the-art labs for building trades, culinary arts, information technology, health careers, automotive technology and manufacturing technology. In the afternoon and at night there are a wide variety of college-credit liberal arts courses offered through the Boone Campus. The telephone number for the DMACC Career Academy, Hunziker Center is 515-663-6700.

TOBACCO-FREE DMACC
Effective July 1, 2008, Des Moines Area Community College will become tobacco-free. For the purpose of promoting a healthy environment and in accordance with Iowa law, the use of tobacco products is prohibited on the grounds of the College, including all outdoor areas, inside any vehicle located on school grounds and including a perimeter area of ten feet beyond the grounds of the College. Violators may be charged penalties in accordance with Iowa statute.

TRANSFER PROGRAMS FOR BACHELOR’S DEGREES AND PROFESSIONAL PROGRAMS
Students who plan to transfer to a four-year college or university usually select the Associate in Arts or the Associate in Science degree to prepare for transfer. Students may select a concentration area under Liberal Arts to receive specific advising in this area. Des Moines Area Community College advisors work hand-in-hand with colleagues at colleges and universities in Iowa and the surrounding states to provide for a smooth transition for our students. Students should contact educational advisors or counselors to review transfer plans or tailor a transfer plan to their own situation and education goals for a seamless transition. Our staff members also help students get in touch with the appropriate contacts at the college or university of their choice. The receiving institution is the final authority on all transfer credit.

Des Moines Area Community College’s Associate in Arts (AA) and Associate in Science (AS) degrees provide the flexibility and opportunity to get a solid start on your four-year degree while earning an associate degree. Our faculty and staff have worked together to develop plans of study for students who wish to pursue a professional career. Preprofessional tracks for students interested in a bachelor’s degree in education, engineering and physical therapy or interested in a master’s degree to be a physician’s assistant are published on our website at www.dmacc.edu/programs/pdp/.

DMACC has entered into new partnership programs with Iowa State University, the University of Iowa, Northern Iowa University, Drake University, Grand View College and other institutions. DMACC faculty and staff are currently working with Grand View College to jointly offer an evening, accelerated program in business administration and they are working on new partnerships with other colleges and universities. Contact a counselor or academic advisor for details.
DMACC EDUCATIONAL PROGRAMS

= Associate Degree
= Diploma
= Certificate

Accounting
△ Accounting Information Systems
△ Accounting Paraprofessional
△ Accounting Specialist
= Accounting & Bookkeeping
△ Accounting Certificate I
△ Accounting Certificate II

Administrative Assistant/
Legal/Secretarial Careers
△ Administrative Assistant
△ Legal Assistant
△ Medical Office Specialist
= Office Assistant
△ Medical Insurance & Coding
△ Medical Transcriptionist
△ Information Processing Support
△ Office Specialist
= Supervision

Automotive/Diesel
△ ASEPT – General Motors
△ ASSET – Ford
△ Auto Collision Technology
△ Auto Mechanics Technology
△ CAP – Chrysler
△ Caterpillar Technology
△ Diesel Technology
△ Auto Chassis & Power Train
△ Auto Engines & Tune-Up
△ Auto Maintenance & Light Repair

Agribusiness
△ Agribusiness AAS
△ Veterinary Technology
△ Agronomy
△ Animal Science
△ Farm Management
△ Sales and Service

Art
△ Graphic Design
△ Photography*
△ Airbrush Art
△ Production Art

Biotechnology
△ Biotechnology

Business
△ Business Administration
△ G Fashion/Design
△ Marketing
△ G Management
△ G Entrepreneurship
△ Mortuary Science
△ G Retailing
△ G Sales and Management
△ Human Resource Management
△ Interior Design Consultant

Building Trades
△ △ Heating, Air Conditioning
△ △ & Refrigeration Technology
△ Architectural Millwork
△ △ Building Trades
△ △ Electrical Construction Trades
△ △ Building Maintenance

College Transfer – Liberal Arts
△ △ Associate of Arts
△ △ Associate of Science

Community Services
△ △ Early Childhood Education
△ △ Criminal Justice
△ △ Fire Science Technology
△ △ Human Services
△ △ Fire Specialist
△ △ Chemical Dependency Counseling

Computers and Data Processing
△ △ Business Information Systems
△ △ Information Technology/Network
△ △ Administration
△ △ Management Information Systems
△ △ Computer Applications
△ △ Computer Languages
△ △ Database Specialist
△ △ Data Entry I
△ △ E-Commerce Design
△ △ Microcomputers
△ △ Network Security Manager

Culinary Arts, Hotel Management,
Dietary Management
△ △ Culinary Arts
△ △ Hotel & Restaurant Management
△ △ Hospitality Business
△ △ Dietery Manager
△ △ Enology
△ △ Viticulture

Drafting/Design
△ △ Architectural Technologies
△ △ Computer-Aided Design Technology

Engineering & Electronics Technology
△ △ Civil Engineering Technology
△ △ Electronics, Robotics & Automation
△ △ Electronics Systems Servicing Technology
△ △ Land Surveying
△ △ Telecommunications Technology

Fitness
△ △ Fitness & Sports Management

Health Professions
△ △ Aging Services Management
△ △ Associate Degree Nursing (RN)
△ △ Advanced Standing Nursing (RN)
△ △ Dental Hygiene
△ △ Medical Laboratory Technology
△ △ Respiratory Therapy
△ △ Dental Assistant
△ △ Licensed Practical Nursing (LPN)
△ △ Medical Assistant
△ △ Surgical Technology
△ △ Adult Services
△ △ Emergency Medical Tech Basic (EMT)
△ △ Gerontology Specialist
△ △ Long-Term Care Administrator
△ △ Phlebotomy

Horticulture
△ △ Commercial Horticulture
△ △ Greenhouse Production
△ △ Landscape Design
△ △ Turf Maintenance

Interpretation & Translation
△ △ American Sign Language
△ △ Interpreter Training
△ △ Interpretation & Translation
△ △ Interpretation & Translation, Generalist
△ △ Interpretation & Translation, Healthcare
△ △ Interpretation & Translation, Judiciary

Manufacturing
△ △ Graphic Technologies
△ △ Industrial Electro-Mechanical Technology
△ △ Manufacturing Technology
△ △ Tool and Diemaking
△ △ Machinist Technology
△ △ Diemaking
△ △ Welding
△ △ Biomass Operations Technology
△ △ Digital Publishing & Prepress
△ △ Graphic Sales & Customer Service
△ △ Printing Technologies

*Pending approval from the Iowa Department of Education.
Choose a Career Path

The following steps may help you identify a program of study if you are uncertain of a career path.

Complete this Personal Career Profile. Check the items from each category listed below that describe you. Understanding your interests, values, skills and talents is helpful information when selecting a successful career and work environment.

**Values**
The most important values for the workplace are:

- To influence others
- To help others
- To compete
- To think creatively
- To be flexible
- To acquire knowledge/skills
- To be physically challenged
- To have power/prestige
- To be financially secure
- Other _____________

**Skills**
The skill areas I most like to use are:

- Reasoning
- Communicating
- Investigating
- Hands-on
- Organizing
- Managing
- Analyzing
- Working with details
- Initiating
- Working under pressure
- Working as a team
- Serving the customer
- Other ______________

**School Subjects**
The subjects I did well in and enjoy are:

- Office courses
- Math
- English
- Science
- Social Sciences
- Fine Arts
- Computers
- Business courses
- Voc/Tech, e.g., construction, mechanics
- Family/Consumer Science
- Foreign Language
- Other ______________

**Interests**
The interest areas I enjoy most are:

- People
- Things (hands-on)
- Data
- Ideas
- Other ______________

*Other areas to consider are:*
- Special awards received
- Enjoyable work experience
- Hobbies
- Clubs and organizations
- Special talents

*Take the information you circled and write a statement that may help summarize your career profile.*

*My career profile is:*

___________________________________________
___________________________________________
___________________________________________
___________________________________________
___________________________________________
___________________________________________
___________________________________________
___________________________________________

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STEP 2 Are you a match?

Skills, values, interests and subjects that are specific to program areas at Des Moines Area Community College are listed below. Use that information with the Personal Career Profile in Step 1 to help you find a match. Continue on your path with Step 3 and Step 4. Complete the “Are You a Match?” activity. Compare the items you identified in your “Personal Career Profile” to the items checked in the “Are You a Match?” activity. If there is a match, you may want to explore programs offered within that division. Select the programs that appear to meet most of the items you checked in both activities.

Arts & Sciences – College Transfer
- Need credit in an academic area to enter a four-year plan of study
- Want to improve your skill in a certain academic area
- Want to explore courses to determine areas of interest
- Interested in problem-solving, decision-making and critical thinking skills
- Interested in learning about the arts and humanities
- Interested in learning about people, culture and social issues
- Want to use written and oral communication skills

Business & Information Management
- Have organizational and accuracy skills
- Operate computers and other business machines
- Help customers
- Work with detailed forms, records and claims
- Manage a business
- Persuade others
- Enjoy using numerical concepts
- Enjoy business/office subjects
- Like working as a team member
- Have good communication skills

Agricultural/Natural Resources
- Like to work outdoors
- Have knowledge in science
- Would enjoy growing and selling horticulture products
- Would enjoy managing a farm or livestock operation
- Enjoy finding solutions to problems
- Prefer physical activity
- Managing/marketing an ag-related business

Health
- Like to help people
- People trust me
- Enjoy biology, chemistry or physics
- Like working a flexible schedule
- Like to work with the sick or injured
- Think critically and creatively
- Can be physically demanding
- Like to work with data
- Use math principles in practical situations

Industrial Technology
- Enjoy working with data
- Like to install/repair/service equipment
- Enjoy operating equipment and computers
- Like math
- Have good problem-solving skills
- Like computers
- Work alone
- Like vocational technical classes
- Customer service skills

Public & Human Services
- Can take the initiative
- Be involved in helping people with personal problems
- Help people in legal situations
- Work with small children
- Persuade individuals to take certain actions
- Have good communication skills
- A team player
- Have flexible schedule
- Like social science courses

Schedule an appointment with the program counselor/advisor at the campus offering the program(s) that interest you. This appointment will provide you with more details about the program and its requirements and will help confirm your program choice.

Contact the counseling/advising staff at the campus you plan to attend for more in-depth career assistance if needed. The Ankeny and Urban Campuses can also provide additional resources and services through their Career Resource Centers.

VISIT US ONLINE: www.DMACC.edu
PROGRAMS AVAILABLE

Liberal Arts and Sciences
The Liberal Arts and Sciences division of the College offers traditional college freshman/sophomore courses in communications, humanities, math, science and social sciences. It provides liberal arts and preprofessional courses; paraprofessional courses in disciplines such as biotechnology, criminal justice and human services; courses for preprofessional preparation, selected general education courses for vocational programs; and remedial courses in mathematics, reading and writing for students who need academic assistance before undertaking college-level work. Students who graduate with an A.A. or A.S degree are expected to demonstrate the ability to think and to communicate effectively both orally and in writing; to use mathematics meaningfully, not just punch in numbers on a calculator; to understand the modes of inquiry of the major disciplines; to be aware of our culture and of other cultures and times; to achieve insights gained through experience in thinking about ethical problems; to develop the capacity for self-understanding and problem-solving; and finally, to gain sufficient depth in some field of knowledge to contribute to society.

DMACC students will acquire skills for lifelong learning by:
1. Understanding and demonstrating effective communication.
2. Understanding and demonstrating logical and critical thinking.
3. Developing an understanding of fundamental scientific principles and their application.
4. Developing an understanding of fundamental mathematical principles and their application.
5. Developing an understanding of human society and cross-cultural variation and perspectives.
6. Developing a knowledge of and appreciation for the human condition as expressed in works of human imagination and thought.

Professional Preparation
Des Moines Area Community College offers a wide range of preprofessional preparation designed to prepare students for their transfer to four-year colleges and universities. Graduates are awarded the Associate in Arts or Associate in Sciences degree with a major in Liberal Arts.

Four-year colleges and universities vary in the required number and nature of preprofessional and general education courses that should be taken during the freshman and sophomore years. The recommended preprofessional curricula listed on the following pages should be used only as suggested guidelines.

Students who have determined which profession they plan to enter should become familiar with the specific course requirements of the four-year institution to which they plan to transfer. Then with the help of an academic advisor or counselor, students can develop a curriculum best suited to satisfy their particular transfer objectives.

Examples of professional preparation (pre) programs available include:

<table>
<thead>
<tr>
<th>Degree</th>
<th>Accounting</th>
<th>Architecture</th>
<th>Business</th>
<th>Chiropractic</th>
<th>Computer Science</th>
<th>Dentistry</th>
<th>Education</th>
<th>Engineering</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Law</td>
<td>Medicine</td>
<td>Nursing</td>
<td>Optometry</td>
<td>Pharmacy</td>
<td>Physician’s Assistant</td>
<td>Social Work</td>
<td>Veterinary Medicine</td>
</tr>
</tbody>
</table>

Associate in Arts Degree (AA)
The Associate in Arts Degree provides the courses of study equivalent to those offered to freshmen and sophomore-level students attending any four-year college/university. If students receive the AA from DMACC, this degree, in most cases, will meet the lower division requirements of four-year colleges/universities and will admit them to the junior status level. The degree requirements consist of both their general education requirements and elective courses to be used in preparation for a major area of study.

Students should contact the specific institution to which they wish to transfer regarding any unique requirements of that institution. The DMACC Advising and Counseling staff can also assist students with the transfer process. (See transfer tips in the Tips for Student Success section of the catalog.)

College transfer work is offered in the following disciplines:
Many four-year colleges/universities have joined with DMACC to develop articulation agreements and specific major transfer guides to assist students. Students should visit personnel from each college for the most current information.

<table>
<thead>
<tr>
<th>Accounting</th>
<th>Drama</th>
<th>Humanities</th>
<th>Physics and Astronomy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anthropology</td>
<td>Education</td>
<td>Journalism</td>
<td>Political Science</td>
</tr>
<tr>
<td>Architecture</td>
<td>Engineering</td>
<td>Law</td>
<td>Psychology</td>
</tr>
<tr>
<td>Art</td>
<td>English</td>
<td>Literature</td>
<td>Physician’s Assistant</td>
</tr>
<tr>
<td>Biology</td>
<td>Environmental Science</td>
<td>Mathematics</td>
<td>Sociology</td>
</tr>
<tr>
<td>Business Administration</td>
<td>Fitness and Sports Management</td>
<td>Medicine</td>
<td>Social Work</td>
</tr>
<tr>
<td>Chemistry</td>
<td>Foreign Language</td>
<td>Music</td>
<td>Spanish</td>
</tr>
<tr>
<td>Chiropractic</td>
<td>Geography</td>
<td>Optometry</td>
<td>Speech</td>
</tr>
<tr>
<td>Computer Science</td>
<td>Global Studies</td>
<td>Pharmacy</td>
<td>Veterinary</td>
</tr>
<tr>
<td>Criminal Justice</td>
<td>History</td>
<td>Philosophy and Religion</td>
<td></td>
</tr>
</tbody>
</table>

AA Degree requirements
To receive an AA degree, students must:
A. Maintain a 2.0 grade point average on all work applicable to the AA degree.
B. Earn a minimum of 1/3 of the semester credit hours applicable to the degree being pursued at DMACC. No more than 43 transfer semester credit hours may be applied toward the degree.
C. Complete the final 10 semester credit hours at DMACC (or petition to the Credentials Office for an exception).
D. Complete a minimum of 64 semester credit hours.
E. Include at least 48 semester credit hours of Core courses:
   - Communications 9 credits
   - Social & Behavioral Sciences 9 credits
   - Math & Sciences 9 credits
   - Humanities 9 credits
   - Distributed Requirements 12 credits
F. Include at least 16 semester credit hours of elective credit.
   1. Students may include 16 semester credit hours of vocational/technical credit.
   2. Students may have up to 8 semester credit hours of Independent Study Courses; up to 4 semester credit hours of Independent Study may be earned in any single semester.
G. Complete 3 semester credit hours to satisfy the Diversity Requirement with a minimum grade of “C” or better. The Diversity Requirement does not increase the number of credits required for graduation. The course...
used to fulfill the Diversity Requirement may also be used to fulfill three credits of Core requirements in Communications, Social & Behavioral Sciences, Humanities or Distributed Requirements if the diversity course is listed as fulfilling Core requirements in Communications, Social & Behavioral Sciences or the Humanities. If the course does not fall under any of the Core groups, the course used to fulfill the Diversity Requirement may count as an elective.

Courses that satisfy the Diversity Requirement at Des Moines Area Community College may or may not satisfy diversity requirements at other academic institutions. Students planning to transfer should contact their transfer institutions to verify the transferability of courses.

Communications 9 Credits

Students must take three courses:
1. ENG 105 Composition I
2. ENG 106* Composition II or ENG 108 Comp II: Technical Writing
3. One speech course from the following list:
   - SPC 101 Fundamentals of Oral Communication
   - SPC 126 Interpersonal and Small Group Communication

Social & Behavioral Sciences 9 Credits

NOTE: Students must complete at least 3 courses. Each course must be from a distinct discipline (reflected by a distinct acronym).

ECON 120 Principles of Macroeconomics
ECON 130 Principles of Microeconomics
GEO 124 Regional Geography of the Dev World
GEO 125 Regional Geography of the Non Dev World
GEO 126 Intro to Geography
HIS 102 Western Civ: Ancient to Early Modern
HIS 103 Western Civ: Early Modern to Present
HIS 150 US History to 1877
HIS 152 US History since 1877
HIS 257 African-American History
POL 111 American National Government

Diversity Requirement 12 Credits

Complete 12 additional credits from any of the courses in categories of Communications, Social & Behavioral Sciences, Math & Science and Humanities.

Electives 16 Credits

1. Students may include no more than 16 semester credit hours of Vocational courses.
2. Students may include no more than 8 semester credit hours of Independent Study courses; no more than 4 semester credit hours of Independent Study may be earned in any single semester.

Diversity Requirement

One course is required, but this course may count in the areas above. Students must earn a grade of "C" or above for the course that is used to fulfill the Diversity Requirement. The courses marked with an asterisk (*) will satisfy the Diversity Requirement and will also fulfill requirements in Communications, Social & Behavioral Sciences, Humanities or Distributed areas above. The courses that are not marked with an asterisk will satisfy the Diversity Requirement and will count as electives.

VISIT US ONLINE: www.DMACC.edu 41
PROGRAMS AVAILABLE

- **ANT 100** Introduction to Anthropology
- **ANT 105** Cultural Anthropology
- **ANT 110** Faces of Culture
- **ANT 125** Applications of Anthropology
- **ANT 150** Global Issues - Logic Perspec
- **ASL 151** American Sign Language I
- **ASL 181** American Sign Language II
- **ASL 251** American Sign Language III
- **ASL 291** American Sign Language IV
- **ASM 150** Communication with the Elderly
- **ASM 155** Impact of Demographics
- **ASM 160** Aspects of Aging
- **ASM 165** Healthy Aging
- **ASM 180** Cultural Diversity
- **ASM 200** Depression, Death & Grieving
- **BUS 220** Intro International Business
- **CHEM 110** Intro to Chemistry
- **CHEM 120** Intro to Chemistry
- **CHEM 200** The Middle East and Islam

**Total AA Degree Requirements 64 Credits**

### Associates in Science Degree (AS)

The Associate in Science degree is awarded upon satisfactory completion of a program of college-level courses designed to prepare students for transfer to a four-year college/university or for skills preparation for entry-level employment in a specific occupation (Career Option Programs) where a bachelor's degree is usually needed. For advancement in the field, a bachelor’s degree is typically required.

**Career Option Programs available at DMACC are:**

- Accounting Information Systems
- Accounting Paraprofessional
- Aging Services Management
- Biotechnology
- Business Administration
- Early Childhood Education
- Criminal Justice
- Fitness & Sports Management
- Fire Science Technology
- Human Services
- Interpretation & Translation
- Legal Assistant
- Management Information Systems

Information on each program is found in this catalog. See Index for page numbers.

### Associate in Science Requirements

To receive an AS degree, students must:

A. Maintain a 2.0 grade point average on all work applicable to the AS degree.

B. Earn at Des Moines Area Community College a minimum of 1/3 of the semester credit hours applicable to the degree being pursued. No more than 43 transfer semester credit hours may be applied toward the degree.

C. Complete the final 10 semester credit hours at DMACC (or petition to the Credentials Office for an exception).

D. Complete a minimum of 64 semester credit hours.

### Degrees and Diplomas

**Core Requirements 28 credits**

**Communications 9 credits**

1. **ENG 105 Composition I**
2. **ENG 106 Composition II or ENG 108 Comp II: Technical Writing**
   *Students who intend to transfer to a four-year institution are advised to take ENG 105 and ENG 106.
3. **One speech course from the following list:**
   - SPC 101 Fundamentals of Oral Communication
   - SPC 120 Introduction to Interpretation & Translation
   - SPC 126 Interpersonal & Small Group Communication

**Social & Behavioral Sciences 6 credits**

- **ANT 100** Introduction to Anthropology
- **ANT 105** Cultural Anthropology
- **ANT 110** Principles of Macroeconomics
- **ANT 125** Principles of Microeconomics
- **GEO 111** Intro to Geography
- **GEO 124** Reg Geography of the Non West World
- **GEO 125** Regional Geography of the Dev World
- **HIS 112** Western Civ: Ancient to Early Modern
- **HIS 113** Western Civ: Early Modern to Present
- **HIS 150** US History to 1877
- **HIS 153** US History since 1877
- **HIS 155** US History before 1877
- **HIS 201** Iowa History
- **HIS 206** African-American History
- **HIS 211** American in the Movies
- **HIS 215** America after 1877
- **HIS 215** American in the Movies
- **HUM 116** Encounters in Humanities
- **HUM 118** American in the Movies
- **HUM 120** Introduction to Film
- **POL 111** American National Government
- **POL 112** Comparative Gov't & Politics
- **POL 112** Comparative Gov't & Politics
- **POL 121** Comparative Gov't & Politics
- **POL 125** Comparative Gov't & Politics
- **POL 128** Comparative Gov't & Politics
- **POL 129** Comparative Gov't & Politics
- **PSY 101** Introduction to Psychology
- **PSY 121** Developmental Psychology
- **PSY 121** Developmental Psychology
- **PSY 122** Developmental Psychology
- **PSY 123** Developmental Psychology
- **PSY 124** Developmental Psychology
- **PSY 125** Developmental Psychology
- **PSY 126** Developmental Psychology
- **PSY 127** Developmental Psychology
- **PSY 128** Developmental Psychology
- **PSY 129** Developmental Psychology
- **PSY 130** Developmental Psychology
- **PSY 131** Developmental Psychology
- **PSY 132** Developmental Psychology
- **PSY 133** Developmental Psychology
- **PSY 134** Developmental Psychology
- **PSY 135** Developmental Psychology

**E. Include at least 28 semester credit hours of Core courses:**

- **Communications 9 credits**
- **Social & Behavioral Sciences 6 credits**
- **Math & Sciences 6 credits**
- **Humanities 3 credits**
- **Distributed Requirements 4 credits**

**F. Include at least 36 semester credit hours of elective credit.**

1. Students may include 16 semester credit hours of vocational/technical credit.
2. Students may have up to 8 semester credit hours of Independent Study Courses; up to 4 semester credit hours of Independent Study may be earned in any single semester.
3. Complete 3 semester credit hours to satisfy the Diversity Requirement with a minimum grade of “C” or better. The Diversity Requirement does not increase the number of credits required for graduation. The course used to fulfill the Diversity Requirement may also be used to fulfill three credits of Core requirements in Communications, Social & Behavioral Sciences, Humanities or Distributed Requirements if the diversity course is listed as fulfilling Core requirements in Communications, Social & Behavioral Sciences or the Humanities. If the course does not fall under any of the Core groups, the course used to fulfill the Diversity Requirement may count as an elective.

Courses that satisfy the Diversity Requirement at Des Moines Area Community College may or may not satisfy diversity requirements at other academic institutions. Students planning to transfer should contact their transfer institutions to verify the transferability of courses.
Programs Available

Mathematics & Sciences 6 Credits

Students must take one MAT course (or BUS 211) and one science from BIO, CHM, ENV, PHS or PHY.

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENV 115</td>
<td>Environmental Science</td>
</tr>
<tr>
<td>ENV 116</td>
<td>Environmental Science Lab</td>
</tr>
<tr>
<td>BIO 108</td>
<td>Field Ecology</td>
</tr>
<tr>
<td>BIO 156</td>
<td>Human Biology w/Lab</td>
</tr>
<tr>
<td>BIO 104</td>
<td>Introductory Biology w/Lab</td>
</tr>
<tr>
<td>BIO 102</td>
<td>General Biology I</td>
</tr>
<tr>
<td>BIO 103</td>
<td>General Biology II</td>
</tr>
<tr>
<td>BIO 107</td>
<td>Microbiology w/Lab</td>
</tr>
<tr>
<td>BIO 164</td>
<td>Essential Anatomy/Physiology</td>
</tr>
<tr>
<td>BIO 168</td>
<td>Anatomy &amp; Physiology I</td>
</tr>
<tr>
<td>BIO 175</td>
<td>Anatomy &amp; Physiology II</td>
</tr>
<tr>
<td>BUS 211</td>
<td>Business Statistics</td>
</tr>
<tr>
<td>CHM 105</td>
<td>Survey of Chemistry</td>
</tr>
<tr>
<td>CHM 122</td>
<td>Intro to General Chemistry</td>
</tr>
<tr>
<td>CHM 120</td>
<td>Intro to Organic/Physiology</td>
</tr>
<tr>
<td>CHM 165</td>
<td>General/Inorganic Chemistry I</td>
</tr>
<tr>
<td>CHM 175</td>
<td>General/Inorganic Chemistry II</td>
</tr>
<tr>
<td>CHM 265</td>
<td>Organic Chemistry I</td>
</tr>
<tr>
<td>CHM 273</td>
<td>Organic Chemistry II</td>
</tr>
<tr>
<td>MAT 110</td>
<td>Math for Liberal Arts</td>
</tr>
<tr>
<td>MAT 114</td>
<td>Math for Elementary Teachers Math I</td>
</tr>
<tr>
<td>MAT 116</td>
<td>Math for Elementary Teachers Math II</td>
</tr>
<tr>
<td>MAT 141</td>
<td>Finite Mathematics</td>
</tr>
<tr>
<td>MAT 157</td>
<td>Statistics (OR BUS 211 Business Statistics)</td>
</tr>
<tr>
<td>MAT 162</td>
<td>Prin. of Business Statistics</td>
</tr>
<tr>
<td>MAT 166</td>
<td>Calculus for Business/Social Science</td>
</tr>
<tr>
<td>MAT 180</td>
<td>Trigonometry</td>
</tr>
<tr>
<td>MAT 191</td>
<td>Precalculus</td>
</tr>
<tr>
<td>MAT 211</td>
<td>Calculus I</td>
</tr>
<tr>
<td>MAT 217</td>
<td>Calculus II</td>
</tr>
<tr>
<td>MAT 299</td>
<td>Calculus III</td>
</tr>
<tr>
<td>MAT 227</td>
<td>Differential Equations with Laplace (OR MAT 110)</td>
</tr>
<tr>
<td>MAT 232</td>
<td>Analysis</td>
</tr>
<tr>
<td>PHY 152</td>
<td>Astronomy</td>
</tr>
<tr>
<td>PHY 106</td>
<td>Survey of Physics</td>
</tr>
<tr>
<td>PHY 160</td>
<td>General Physics I</td>
</tr>
<tr>
<td>PHY 161</td>
<td>General Physics II</td>
</tr>
<tr>
<td>PHY 213</td>
<td>Classical Physics I</td>
</tr>
<tr>
<td>PHY 223</td>
<td>Classical Physics II</td>
</tr>
</tbody>
</table>

Electives 36 Credits

1. Students may include no more than 16 semester credit hours of Vocational courses.
2. Students may include no more than 8 semester credit hours of Independent Study courses; no more than 4 semester credit hours of Independent Study may be earned in any single semester.

Diversity Requirement

One course is required, but this course may count in the areas above. Students must earn a grade of "C" or above for the course that is used to fulfill the Diversity Requirement. The courses marked with an asterisk (*) will satisfy the Diversity Requirement and will also fulfill requirements in Communications, Social & Behavioral Sciences, Humanities or Distributed areas above. The courses that are not marked with an asterisk will satisfy the Diversity Requirement and will count as electives.

- ART 101 Art Appreciation
- ASL 151 American Sign Language I
- ASL 152 American Sign Language II
- ASL 153 American Sign Language III
- ASL 291 American Sign Language IV
- DRA 101 Intro to Theatre
- FRA 101 Elementary Arabic I
- FRA 101 Elementary Arabic II
- FRA 301 Intermediate Arabic I
- FRA 301 Intermediate Arabic II
- FLC 101 Elementary Chinese I
- FLC 101 Elementary Chinese II
- FLC 201 Intermediate Chinese I
- FLC 201 Intermediate Chinese II
- FFL 101 Elementary French I
- FFL 101 Elementary French II
- FFL 201 Intermediate French I
- FFL 201 Intermediate French II
- FLE 101 Elementary German I
- FLE 101 Elementary German II
- FLE 201 Intermediate German I
- FLE 201 Intermediate German II
- FLE 241 Elementary Italian I
- FLE 241 Elementary Italian II
- FLJ 241 Intermediate Japanese I
- FLJ 241 Intermediate Japanese II
- FLJ 241 Intermediate Japanese I

Total AS Degree Requirements 64 Credits

Distributed Requirement 4 Credits

Complete 4 additional credits from any of the courses in categories of Communications, Social & Behavioral Sciences, Math & Science and Humanities.

Electives 36 Credits

1. Students may include no more than 16 semester credit hours of Vocational courses.
2. Students may include no more than 8 semester credit hours of Independent Study courses; no more than 4 semester credit hours of Independent Study may be earned in any single semester.

Degrees and Diplomas

Visit us online: www.DMACC.edu
### Programs Available

**Associate in General Studies Degree (AGS)**

The Associate in General Studies degree provides students an opportunity to select their coursework to meet specific educational goals and interests. The AGS degree is generally not designed to meet college transfer requirements. Students wishing to complete an AGS degree are encouraged to consult with a counselor or advisor on their campus for assistance.

**Associate in General Studies Requirements**

To receive an AGS degree, students must:

- Maintain a 2.0 grade point average on all work applicable to the AGS degree.
- Earn at Des Moines Area Community College a minimum of 1/3 of the semester credit hours applicable to the degree being pursued. No more than 43 transfer semester credit hours may be applied toward the degree.
- Complete the final 10 semester credit hours at DMACC (or petition to the Credentials Office for, and receive, an exception).
- Complete no more than 8 semester credit hours of Independent Study courses; no more than 4 credits of Independent Study may be earned in a single semester.
- Complete a minimum of 64 semester credit hours at DMACC after the AGS program approval effective date of January 1, 1992.

**Communications**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>COM 101</td>
<td>Language</td>
<td>3</td>
</tr>
<tr>
<td>ENG 101</td>
<td>Composition I</td>
<td>3</td>
</tr>
<tr>
<td>ENG 102</td>
<td>Composition II</td>
<td>3</td>
</tr>
</tbody>
</table>

**Social & Behavioral Sciences**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGB 101</td>
<td>Agricultural Economics</td>
<td>3</td>
</tr>
<tr>
<td>ANT 100</td>
<td>Introduction to Anthropology</td>
<td>3</td>
</tr>
<tr>
<td>ANT 105</td>
<td>Cultural Anthropology</td>
<td>3</td>
</tr>
<tr>
<td>ART 101</td>
<td>Art Appreciation</td>
<td>3</td>
</tr>
<tr>
<td>ART 104</td>
<td>Principles of Photography</td>
<td>3</td>
</tr>
<tr>
<td>ASL 101</td>
<td>American Sign Language I</td>
<td>3</td>
</tr>
<tr>
<td>ASL 102</td>
<td>American Sign Language II</td>
<td>3</td>
</tr>
<tr>
<td>ASL 201</td>
<td>American Sign Language III</td>
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</tr>
<tr>
<td>ASL 202</td>
<td>American Sign Language IV</td>
<td>3</td>
</tr>
<tr>
<td>DRA 101</td>
<td>Intro to Theatre</td>
<td>3</td>
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<tr>
<td>ECN 100</td>
<td>Principles of Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td>ECN 101</td>
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<td>FIA 101</td>
<td>Elementary Arabic I</td>
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</tr>
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<td>FIA 102</td>
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<tr>
<td>FIA 201</td>
<td>Intermediate Arabic I</td>
<td>3</td>
</tr>
<tr>
<td>FIA 202</td>
<td>Intermediate Arabic II</td>
<td>3</td>
</tr>
<tr>
<td>FIA 301</td>
<td>Elementary Chinese I</td>
<td>3</td>
</tr>
<tr>
<td>FIA 302</td>
<td>Elementary Chinese II</td>
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<td>FIA 401</td>
<td>Intermediate Chinese I</td>
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<tr>
<td>FIA 402</td>
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<td>FIA 501</td>
<td>Elementary French I</td>
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<tr>
<td>FIA 502</td>
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**Mathematics & Sciences**

<table>
<thead>
<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>ENV 115</td>
<td>Environmental Science</td>
<td>3</td>
</tr>
<tr>
<td>ENV 116</td>
<td>Environmental Science Lab</td>
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</tr>
<tr>
<td>BIO 101</td>
<td>Intro to Biology</td>
<td>3</td>
</tr>
<tr>
<td>BIO 102</td>
<td>Human Biology</td>
<td>3</td>
</tr>
<tr>
<td>BIO 103</td>
<td>Introductory Biology</td>
<td>3</td>
</tr>
<tr>
<td>BIO 104</td>
<td>General Biology I</td>
<td>3</td>
</tr>
<tr>
<td>BIO 105</td>
<td>General Biology II</td>
<td>3</td>
</tr>
<tr>
<td>BIO 106</td>
<td>Microbiology</td>
<td>3</td>
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<tr>
<td>BIO 107</td>
<td>Essential Anatomy</td>
<td>3</td>
</tr>
<tr>
<td>BIO 108</td>
<td>Anatomy &amp; Physiology</td>
<td>3</td>
</tr>
<tr>
<td>BIO 109</td>
<td>Anatomy &amp; Physiology II</td>
<td>3</td>
</tr>
<tr>
<td>BIO 110</td>
<td>Health Science Microbiology</td>
<td>3</td>
</tr>
<tr>
<td>BIO 111</td>
<td>Health Science Anatomy</td>
<td>3</td>
</tr>
<tr>
<td>BIO 112</td>
<td>Health Psychology</td>
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<tr>
<td>BUS 110</td>
<td>Business Math</td>
<td>3</td>
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<tr>
<td>BUS 211</td>
<td>Business Statistics</td>
<td>3</td>
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<tr>
<td>CHM 105</td>
<td>Survey of Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHM 112</td>
<td>Intro to General Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHM 113</td>
<td>Intro to Organic/Biochemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHM 114</td>
<td>General/Inorganic Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHM 115</td>
<td>General/Inorganic Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHM 201</td>
<td>Organic Chemistry</td>
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</tr>
<tr>
<td>CHM 202</td>
<td>Organic Chemistry II</td>
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**Distributed Requirement**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
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<tbody>
<tr>
<td>GEO 111</td>
<td>Intro to Geography</td>
<td>3</td>
</tr>
<tr>
<td>GEO 112</td>
<td>Regional Geography of the Dev World</td>
<td>3</td>
</tr>
<tr>
<td>GEO 113</td>
<td>Regional Geography of the Non-West World</td>
<td>3</td>
</tr>
<tr>
<td>HIS 110</td>
<td>Western Civ Ancient to Early Modern</td>
<td>3</td>
</tr>
<tr>
<td>HIS 115</td>
<td>Western Civ Early Modern to Present</td>
<td>3</td>
</tr>
<tr>
<td>HIS 150</td>
<td>US History to 1877</td>
<td>3</td>
</tr>
<tr>
<td>HIS 155</td>
<td>US History since 1877</td>
<td>3</td>
</tr>
<tr>
<td>HIS 275</td>
<td>African-American History</td>
<td>3</td>
</tr>
<tr>
<td>HUM 120</td>
<td>Introduction to Film</td>
<td>3</td>
</tr>
<tr>
<td>HUM 121</td>
<td>America in the Movies</td>
<td>3</td>
</tr>
<tr>
<td>LIT 120</td>
<td>Intro to Literature</td>
<td>3</td>
</tr>
<tr>
<td>LIT 121</td>
<td>Major British Writers</td>
<td>3</td>
</tr>
<tr>
<td>LIT 122</td>
<td>American Literature to Mid 1800s</td>
<td>3</td>
</tr>
<tr>
<td>LIT 123</td>
<td>American Literature since Mid 1800s</td>
<td>3</td>
</tr>
<tr>
<td>LIT 124</td>
<td>Contemporary Literature</td>
<td>3</td>
</tr>
<tr>
<td>LIT 125</td>
<td>Science Fiction</td>
<td>3</td>
</tr>
<tr>
<td>LIT 126</td>
<td>Detective Fiction</td>
<td>3</td>
</tr>
<tr>
<td>LIT 127</td>
<td>Human in Literature</td>
<td>3</td>
</tr>
<tr>
<td>LIT 128</td>
<td>African-American Literature</td>
<td>3</td>
</tr>
<tr>
<td>LIT 129</td>
<td>Women Writers</td>
<td>3</td>
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<tr>
<td>MGT 145</td>
<td>Human Relations in Business</td>
<td>3</td>
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</table>

**Biology & Chemistry**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
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<tbody>
<tr>
<td>CHM 101</td>
<td>Fundamentals of Chemistry</td>
<td>3</td>
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<tr>
<td>CHM 102</td>
<td>General Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHM 103</td>
<td>Intro to Organic/Biochemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHM 104</td>
<td>General/Inorganic Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHM 105</td>
<td>General/Inorganic Chemistry</td>
<td>3</td>
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<tr>
<td>CHM 201</td>
<td>Organic Chemistry</td>
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</tr>
<tr>
<td>CHM 202</td>
<td>Organic Chemistry II</td>
<td>3</td>
</tr>
</tbody>
</table>

**Electives**

52 Credits

Total AGS Degree Requirements

64 Credits

---

**Degrees and Diplomas**

- **Mathematics & Sciences** 3 Credits
  - ENV 115 Environmental Science
  - ENV 116 Environmental Science Lab
  - BIO 101 Intro to Biology
  - BIO 102 Human Biology
  - BIO 103 Introductory Biology
  - BIO 104 General Biology I
  - BIO 105 General Biology II
  - BIO 106 Microbiology
  - BIO 107 Essential Anatomy
  - BIO 108 Anatomy & Physiology
  - BIO 109 Anatomy & Physiology II
  - BIO 110 Health Science Microbiology
  - BIO 111 Health Science Anatomy
  - BIO 112 Health Science Physiology
  - BUS 110 Business Math
  - BUS 211 Business Statistics
  - CHM 105 Survey of Chemistry
  - CHM 112 Intro to General Chemistry
  - CHM 113 Intro to Organic/Biochemistry
  - CHM 114 General/Inorganic Chemistry I
  - CHM 115 General/Inorganic Chemistry II
  - CHM 201 Organic Chemistry I
  - CHM 202 Organic Chemistry II

- **Communications** 3 Credits
  - COM 101 Language
  - ENG 101 Composition I
  - ENG 102 Composition II

- **Social & Behavioral Sciences** 3 Credits
  - AGB 101 Agricultural Economics
  - ANT 100 Introduction to Anthropology
  - ANT 105 Cultural Anthropology
  - ART 101 Art Appreciation
  - ART 104 Principles of Photography
  - ASL 101 American Sign Language I
  - ASL 102 American Sign Language II
  - ASL 201 American Sign Language III
  - ASL 202 American Sign Language IV

- **Distributed Requirement** 3 Credits
  - GEO 111 Intro to Geography
  - GEO 112 Regional Geography of the Dev World
  - GEO 113 Regional Geography of the Non-West World
  - HIS 110 Western Civ Ancient to Early Modern
  - HIS 115 Western Civ Early Modern to Present
  - HIS 150 US History to 1877
  - HIS 155 US History since 1877
  - HIS 275 African-American History
  - HUM 120 Introduction to Film
  - HUM 121 America in the Movies
  - LIT 120 Intro to Literature
  - LIT 121 Major British Writers
  - LIT 122 American Literature to Mid 1800s
  - LIT 123 American Literature since Mid 1800s
  - LIT 124 Contemporary Literature
  - LIT 125 Science Fiction
  - LIT 126 Detective Fiction
  - LIT 127 Human in Literature
  - LIT 128 African-American Literature
  - LIT 129 Women Writers
  - MGT 145 Human Relations in Business

- **Electives** 52 Credits

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**Total AGS Degree Requirements** 64 Credits

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Programs Available

ASEP - General Motors

The Automotive Service Educational Program (ASEP), co-sponsored by DMACC and General Motors, is a two-year automotive program designed to prepare students for employment as a GM dealership technician. The curriculum, designed by General Motors and DMACC, leads to the associate degree in Automotive Technology. The program involves classroom lecture, laboratory experience and dealership work experience.

Location: Ankeny

Program Entry Requirements

Complete an application, satisfy the assessment requirement, attend any required information/registration session and be accepted by General Motors as a participant. In addition, all program participants must be employed by a participating General Motors dealership. Students start in October.

Graduation Requirements

To earn an ASEP General Motors AAS degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATG 312</td>
<td>GM Specialized Electronics Training</td>
<td>4</td>
</tr>
<tr>
<td>ATG 316</td>
<td>GM Shop Fund &amp; Minor Service</td>
<td>4</td>
</tr>
<tr>
<td>ATG 320</td>
<td>GM Brake Systems</td>
<td>4</td>
</tr>
<tr>
<td>ATG 322</td>
<td>GM Steering &amp; Suspension</td>
<td>3</td>
</tr>
<tr>
<td>ATG 329</td>
<td>Technical Internship I</td>
<td>3</td>
</tr>
<tr>
<td>ATG 326</td>
<td>GM Auto Air Conditioning Systems</td>
<td>3</td>
</tr>
<tr>
<td>ATG 327</td>
<td>Minor Service/Repair-GM Engines</td>
<td>3</td>
</tr>
<tr>
<td>ATG 328</td>
<td>Diagnosis/Repair-GM Electrical Systems</td>
<td>3</td>
</tr>
<tr>
<td>ATG 330</td>
<td>Technical Internship II</td>
<td>3</td>
</tr>
<tr>
<td>ATG 333</td>
<td>Major Service Procedures/GM Engines</td>
<td>3</td>
</tr>
<tr>
<td>ATG 336</td>
<td>GM Fuel Systems</td>
<td>3</td>
</tr>
<tr>
<td>ATG 337</td>
<td>GM Tune-Up Proc and Emission Control</td>
<td>4</td>
</tr>
<tr>
<td>ATG 340</td>
<td>Technical Internship III</td>
<td>3</td>
</tr>
<tr>
<td>ATG 344</td>
<td>GM Manual Drivetrains</td>
<td>4</td>
</tr>
<tr>
<td>ATG 345</td>
<td>GM Automatic Drivetrains</td>
<td>4</td>
</tr>
<tr>
<td>ATG 350</td>
<td>Technical Internship IV</td>
<td>3</td>
</tr>
<tr>
<td>ATG 354</td>
<td>Advanced GM Motors Systems</td>
<td>5</td>
</tr>
<tr>
<td>BUS 102</td>
<td>Intro to Business</td>
<td>3</td>
</tr>
<tr>
<td>COM 703</td>
<td>Communication Skills</td>
<td>3</td>
</tr>
<tr>
<td>MAT 772</td>
<td>Applied Math</td>
<td>3</td>
</tr>
<tr>
<td>PHY 710</td>
<td>Technical Physics</td>
<td>3</td>
</tr>
<tr>
<td>PSY 102</td>
<td>Human and Work Relations</td>
<td>3</td>
</tr>
</tbody>
</table>

Total credits required to complete this program: 74

ASSET - Ford

The Automotive Student Service Educational Training Program (ASSET), co-sponsored by DMACC and Ford Motor Company, is a two-year automotive program designed to upgrade the technical competence and professional level of the incoming Ford or Lincoln-Mercury dealership technician. The curriculum, designed by Ford Motor Company and DMACC, leads to the associate degree in Automotive Technology and Ford Technician Training Certification. The program involves classroom lecture, laboratory experience and dealership work experience.

Location: Ankeny

Program Entry Requirements

Complete an application, satisfy the assessment requirement, aptitude tests and be accepted by Ford Motor Company as a participant. In addition, all program participants must be employed by a participating Ford or Lincoln-Mercury dealership.

Graduation Requirements

To earn an ASSET-Ford AAS degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATF 312</td>
<td>Ford Automotive Electronics</td>
<td>5</td>
</tr>
<tr>
<td>ATF 317</td>
<td>Ford Shop Fund and Minor Service</td>
<td>3</td>
</tr>
<tr>
<td>ATF 389</td>
<td>Ford Steering/Suspension/Brakes</td>
<td>4</td>
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<tr>
<td>ATF 290</td>
<td>Adv Ford Suspension/Brakes</td>
<td>2</td>
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<tr>
<td>ATF 320</td>
<td>Technical Internship I</td>
<td>3</td>
</tr>
<tr>
<td>ATF 326</td>
<td>Ford Auto AC Systems</td>
<td>3</td>
</tr>
<tr>
<td>ATF 328</td>
<td>Diagnosis/Repair Ford Elec Systems</td>
<td>3</td>
</tr>
<tr>
<td>ATF 330</td>
<td>Technical Internship II</td>
<td>3</td>
</tr>
<tr>
<td>ATF 333</td>
<td>Ford Engine Diagnosis/Repair</td>
<td>4</td>
</tr>
<tr>
<td>ATF 336</td>
<td>Ford Fuel Systems &amp; Injection</td>
<td>3</td>
</tr>
<tr>
<td>ATF 337</td>
<td>Ford Tune-Up Proc and Emission Control</td>
<td>4</td>
</tr>
<tr>
<td>ATF 340</td>
<td>Technical Internship III</td>
<td>3</td>
</tr>
<tr>
<td>ATF 344</td>
<td>Ford Driveline and 4X4 Diagnosis and Repair</td>
<td>2</td>
</tr>
<tr>
<td>ATF 345</td>
<td>Ford Manual Transmissions</td>
<td>2</td>
</tr>
<tr>
<td>ATF 346</td>
<td>Ford Transmissions and Transaxes</td>
<td>4</td>
</tr>
<tr>
<td>ATF 350</td>
<td>Technical Internship IV</td>
<td>3</td>
</tr>
<tr>
<td>ATF 354</td>
<td>Ford Advanced Engine Controls, Electronics</td>
<td>5</td>
</tr>
<tr>
<td>BUS 102</td>
<td>Intro to Business</td>
<td>3</td>
</tr>
<tr>
<td>COM 703</td>
<td>Communication Skills</td>
<td>3</td>
</tr>
<tr>
<td>MAT 772</td>
<td>Applied Math</td>
<td>3</td>
</tr>
<tr>
<td>PHY 710</td>
<td>Technical Physics</td>
<td>3</td>
</tr>
<tr>
<td>PSY 102</td>
<td>Human and Work Relations</td>
<td>3</td>
</tr>
</tbody>
</table>

Total credits required to complete this program: 73

Accounting & Bookkeeping

The Accounting & Bookkeeping program prepares you for a career in accounting. Many career opportunities exist for you upon completion of the Accounting & Bookkeeping program. You will identify, analyze, summarize, communicate and record business transactions.

You will take specialized courses in accounting including payroll, financial and managerial, computers and accounting procedures, equipping you with marketable skills for any business environment. You will receive not only conceptual training but actual “hands-on” training that will provide you with the important abilities needed for success. You will complete an internship in a professional work environment where many of the skills and procedures studied in the classroom are practiced under the combined guidance of a teacher and a cooperating employer. You will find employment opportunities in the profit and nonprofit private and governmental sectors.

Locations: Boone, Urban

Selected courses in this program are offered at other campuses.

Program Entry Requirements

- Complete an application, satisfy the assessment requirement and attend any required information/registration session.
PROGRAMS AVAILABLE

- Successful completion of ADM 105 Intro to Keyboarding or keyboarding skills of 25 NWPM is strongly recommended.
- Students start fall term.

Graduation Requirements
To earn an Accounting and Bookkeeping diploma, a student must complete the requirements for the degree and maintain a 2.0 grade point.

Term 1—Select 1 Course from Each Option

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 131</td>
<td>Principles of Accounting I</td>
<td>4</td>
</tr>
<tr>
<td>ACC 124</td>
<td>Accounting Professionalism</td>
<td>3</td>
</tr>
<tr>
<td>BUS 112</td>
<td>Business Math</td>
<td>3</td>
</tr>
<tr>
<td>CSC 110</td>
<td>Intro to Computers</td>
<td>3</td>
</tr>
<tr>
<td>MGT 145</td>
<td>Human Relations in Business</td>
<td>Opt 1 3</td>
</tr>
<tr>
<td>ECN 120</td>
<td>Principles of Macroeconomics</td>
<td>Opt 1 3</td>
</tr>
<tr>
<td>ECN 130</td>
<td>Principles of Microeconomics</td>
<td>Opt 1 3</td>
</tr>
<tr>
<td>ENG 105</td>
<td>Composition I</td>
<td>Opt 2 3</td>
</tr>
<tr>
<td>ADM 157</td>
<td>Business English</td>
<td>Opt 2 3</td>
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</table>

ECN 120 or ECN 130 is strongly recommended for students pursuing business majors at a four-year institution.

Term 2

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 132</td>
<td>Principles of Accounting II</td>
<td>4</td>
</tr>
<tr>
<td>ACC 193</td>
<td>Accounting Procedures/Mgmt</td>
<td>3</td>
</tr>
<tr>
<td>ACC 311</td>
<td>Computer Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ACC 361</td>
<td>Accounting Spreadsheets</td>
<td>3</td>
</tr>
<tr>
<td>ACC 161</td>
<td>Payroll Accounting</td>
<td>3</td>
</tr>
</tbody>
</table>

Term 3—Select 1 Course from Option 3 and 1 Course from Option 4

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ACC 946</td>
<td>Accounting Career Seminar</td>
<td>1</td>
</tr>
<tr>
<td>ACC 932</td>
<td>Accounting Internship</td>
<td>Opt 3 4</td>
</tr>
<tr>
<td>ENG 106</td>
<td>Composition II</td>
<td>Opt 4 3</td>
</tr>
<tr>
<td>ENG 108</td>
<td>Comp II: Technical Writing</td>
<td>Opt 4 3</td>
</tr>
<tr>
<td>COM 703</td>
<td>Communication Skills</td>
<td>Opt 4 3</td>
</tr>
</tbody>
</table>

Students planning to transfer to a four-year institution should select ENG 106.

Total minimum credits required to complete this program: 42

Accounting Certificate I & Accounting Certificate II
(see Certificate Section page 93)

Accounting Information Systems
The Accounting Information Systems program prepares you for a career in accounting and for a liaison position between accounting and the information systems. You will receive strong information technology skills in addition to traditional accounting skills. You will become proficient in commercial and customized accounting software and spreadsheets.

You will take courses in accounting for taxes and payroll on computers along with programming that will allow you to seek advanced placement in accounting or information systems. Optional courses in programming allow you to select a mainframe or a personal computer environment. You will find employment opportunities in the profit and nonprofit private and governmental sectors.

Degrees and Diplomas

Locations: Ankeny, Boone, Carroll, Urban
Selected courses in this program are offered at other campuses.

Program Entry Requirements
- Complete an application, satisfy the assessment requirement and attend any required information/registration session.
- Successful completion of ADM 105 Intro to Keyboarding or keyboarding skills of 25 NWPM is strongly recommended.
- High school Algebra II or higher with a grade of “C” or better or MAT 073 and/or MAT 141 at DMACC.
- Students start fall term at Boone and Urban Campuses, spring term at Ankeny and Carroll Campuses. Course sequence will vary at Ankeny; see a counselor/advisor for details.

Graduation Requirements
To earn an Accounting Information Systems AS degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

Term 1

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 131</td>
<td>Principles of Accounting I</td>
<td>4</td>
</tr>
<tr>
<td>CSC 110</td>
<td>Intro to Computers</td>
<td>3</td>
</tr>
<tr>
<td>ECN 120</td>
<td>Principles of Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>ENG 105</td>
<td>Composition I</td>
<td>3</td>
</tr>
<tr>
<td>MAT 073</td>
<td>or MAT 141 at DMACC</td>
<td></td>
</tr>
</tbody>
</table>

Students planning to transfer to a four-year institution should check with that institution regarding math requirements before selecting math courses for this program.

Term 2—Select 1 Course from Option 1

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 132</td>
<td>Principles of Accounting II</td>
<td>4</td>
</tr>
<tr>
<td>ACC 193</td>
<td>Accounting Procedures/Mgmt</td>
<td>3</td>
</tr>
<tr>
<td>ACC 311</td>
<td>Computer Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ACC 361</td>
<td>Accounting Spreadsheets</td>
<td>3</td>
</tr>
<tr>
<td>ACC 161</td>
<td>Payroll Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ENG 106</td>
<td>Composition II</td>
<td>3</td>
</tr>
<tr>
<td>CIS 125</td>
<td>Intro to Program Logic w/lang</td>
<td>3</td>
</tr>
<tr>
<td>ACC 311</td>
<td>Computer Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ACC 161</td>
<td>Payroll Accounting</td>
<td>Opt 1 3</td>
</tr>
<tr>
<td>ACC 191</td>
<td>Financial Analysis</td>
<td>Opt 1 3</td>
</tr>
</tbody>
</table>

Term 3—Select 1 Course from Option 2

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 231</td>
<td>Intermediate Accounting I</td>
<td>4</td>
</tr>
<tr>
<td>ECN 130</td>
<td>Principles of Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td>SPC 101</td>
<td>Fundamentals of Oral Communi</td>
<td>3</td>
</tr>
<tr>
<td>CIS 402</td>
<td>COBOL</td>
<td>Opt 2 3</td>
</tr>
<tr>
<td>CIS 604</td>
<td>Visual Basic</td>
<td>Opt 2 3</td>
</tr>
<tr>
<td>CIS 161</td>
<td>C++</td>
<td>Opt 2 3</td>
</tr>
</tbody>
</table>

Any AA/AS degree Core MAT or BUS 211 course: 3-4

Students planning to transfer to a four-year institution should check with that institution regarding math requirements before selecting math courses for this program.

Term 4—Select 1 Course from Option 3

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 261</td>
<td>Income Tax Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ACC 272</td>
<td>Accounting Information Systems</td>
<td>4</td>
</tr>
<tr>
<td>ACC 361</td>
<td>Accounting Spreadsheets</td>
<td>3</td>
</tr>
<tr>
<td>CIS 413</td>
<td>COBOL II</td>
<td>Opt 3 4</td>
</tr>
<tr>
<td>BCA 113</td>
<td>Computer Network Literacy</td>
<td>Opt 3 3</td>
</tr>
<tr>
<td>Any AA/AS degree Core BIO, CHM, ENV or PHY course</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Any AA/AS degree Core Humanities course</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Students planning to transfer to a four-year institution should check with that institution regarding requirements for science and humanities before selecting courses for this program.

Total credits required to complete this program: 67
PROGRAMS AVAILABLE

Accounting Paraprofessional

The Accounting Paraprofessional program prepares you for an accounting career. You will be on a pre-CPA/CMA track that is articulated with selected four-year institutions to facilitate the completion of a Bachelor’s degree. You will be able to identify, analyze, summarize, communicate, record and interpret business transactions and financial statements. You will become proficient in commercial and customized accounting software and spreadsheets. The program is 65 credits and you can complete it in four regular semesters.

You will study professional and ethics case studies for business and obtain oral and written communication skills that are necessary for success in business. Courses in accounting, taxes and payroll with commercial software allow you to seek advanced placement in accounting or information systems departments.

Employment opportunities are found in the profit and nonprofit private and governmental sectors.

Locations: Ankeny, Boone, Carroll, Urban

Selected courses in this program are offered at other campuses.

Program Entry Requirements

- Complete an application, satisfy the assessment requirement and attend any required information/registration session.
- Successful completion of ADM 105 Keyboarding I or keyboarding skills of 25 NWPM is strongly recommended.
- High school Algebra II or higher with a grade of “C” or better or MAT 073 and/or MAT 141 at DMACC.
- Students start fall term at Urban and Boone Campuses, spring term at Ankeny and Carroll Campuses. Course sequence will vary at Ankeny and Carroll; see a counselor/advisor for details.

Graduation Requirements

To earn an Accounting Paraprofessional AS degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average. A grade of “C” or better is required in all ACC coursework.

Term 1

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 131</td>
<td>Principles of Accounting I</td>
<td>4</td>
</tr>
<tr>
<td>CSC 110</td>
<td>Intro to Computers</td>
<td>3</td>
</tr>
<tr>
<td>ECN 120</td>
<td>Principles of Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>ENG 105</td>
<td>Composition I</td>
<td>3</td>
</tr>
<tr>
<td>Any AA/AS degree Core MAT or BUS 211 course</td>
<td>3-4</td>
<td></td>
</tr>
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</table>

Students planning to transfer to a four-year institution should check with that institution regarding math requirements before selecting math courses for this program.

Term 2

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 132</td>
<td>Principles of Accounting II</td>
<td>4</td>
</tr>
<tr>
<td>ACC 191</td>
<td>Financial Analysis</td>
<td>3</td>
</tr>
<tr>
<td>ACC 311</td>
<td>Computer Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ACC 161</td>
<td>Payroll Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ENG 106</td>
<td>Composition II</td>
<td>3</td>
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</tbody>
</table>

Term 3

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 231</td>
<td>Intermediate Accounting I</td>
<td>4</td>
</tr>
<tr>
<td>ACC 222</td>
<td>Cost Accounting</td>
<td>4</td>
</tr>
<tr>
<td>ECN 130</td>
<td>Principles of Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td>SPC 101</td>
<td>Fundamentals of Oral Communication</td>
<td>3</td>
</tr>
<tr>
<td>Any AA/AS degree Core MAT or BUS 211 course</td>
<td>3-4</td>
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</table>

Students planning to transfer to a four-year institution should check with that institution regarding math requirements before selecting math courses for this program.

Term 4–Select 1 Course From Each Option

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 261</td>
<td>Income Tax Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ACC 272</td>
<td>Accounting Information Systems</td>
<td>4</td>
</tr>
<tr>
<td>ACC 361</td>
<td>Accounting Spreadsheets</td>
<td>3</td>
</tr>
<tr>
<td>Any AA/AS degree Core BIO, CHM, ENV or PHY course</td>
<td>Opt 1 3</td>
<td></td>
</tr>
<tr>
<td>Any AA/AS degree Core Humanities course</td>
<td>Opt 2 3</td>
<td></td>
</tr>
</tbody>
</table>

Total minimum credits required to complete this program 65

Accounting Specialist

The Accounting Specialist program prepares you for an accounting career.

You will be able to identify, analyze, summarize, communicate, record and interpret business transactions and financial statements. You will learn commercial and customized accounting software and spreadsheets and you will apply the skills via intensive accounting applications.

You will study professional and ethical behavioral case studies for business, as well as attain oral and written communication skills that are necessary for success. Technical courses in accounting, taxes and payroll with commercial software will allow you to seek advanced placement in accounting or information systems departments. You will experience a professional work environment under the combined guidance of a teacher and a cooperating employer where many of the skills and procedures studied in the classroom are observed and practiced.

You will find employment opportunities in the profit and nonprofit private and governmental sectors.

Locations: Boone, Urban

Selected courses in this program are offered at other campuses.

Program Entry Requirements

- Complete an application, satisfy the assessment requirement and attend any required information/registration session.
- Successful completion of ADM105 Intro to Keyboarding or keyboarding skills of 25 NWPM is strongly recommended.
- High school Algebra II or higher with a grade of “C” or better or MAT 073 and/or MAT 141 at DMACC.
- Students start fall term at Urban and Boone.

Graduation Requirements

To earn an Accounting Specialist AAS degree, a student must complete the requirements for the degree, maintain a 2.0 grade point average and receive a grade of “C” or above in all ACC coursework.

Term 1–Select 1 Course from Option 1

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 131</td>
<td>Principles of Accounting I</td>
<td>4</td>
</tr>
<tr>
<td>ACC 124</td>
<td>Accounting Professionalism</td>
<td>3</td>
</tr>
<tr>
<td>CSC 110</td>
<td>Intro to Computers</td>
<td>3</td>
</tr>
<tr>
<td>ENG 105</td>
<td>Composition I</td>
<td>3</td>
</tr>
<tr>
<td>ADM 157</td>
<td>Business English</td>
<td>Opt 1 3</td>
</tr>
<tr>
<td>Any AA/AS degree Core MAT or BUS 211 course</td>
<td>3-4</td>
<td></td>
</tr>
</tbody>
</table>

Students planning to transfer to a four-year institution should check with that institution regarding math requirements before selecting math courses for this program.

Term 2–Select 1 Course from Option 2

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 132</td>
<td>Principles of Accounting II</td>
<td>4</td>
</tr>
<tr>
<td>ACC 311</td>
<td>Computer Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ACC 161</td>
<td>Payroll Accounting</td>
<td>3</td>
</tr>
</tbody>
</table>

Students planning to transfer to a four-year institution should check with that institution regarding math requirements before selecting math courses for this program.
## PROGRAMS AVAILABLE

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 191</td>
<td>Financial Analysis</td>
<td>3</td>
</tr>
<tr>
<td>ENG 106</td>
<td>Composition II</td>
<td>Opt 2 3</td>
</tr>
<tr>
<td>ENG 108</td>
<td>Comp II: Technical Writing</td>
<td>Opt 2 3</td>
</tr>
<tr>
<td>COM 703</td>
<td>Communication Skills</td>
<td>Opt 2 3</td>
</tr>
<tr>
<td>BCA 212</td>
<td>Intro to Computer Business Applications</td>
<td>3</td>
</tr>
<tr>
<td>ADM 259</td>
<td>Professional Development</td>
<td>3</td>
</tr>
<tr>
<td>BCA 137</td>
<td>Word Processing Skill Development II</td>
<td>3</td>
</tr>
<tr>
<td>BCA 213</td>
<td>Intermed. Computer Business Applications</td>
<td>3</td>
</tr>
<tr>
<td>SDV 153</td>
<td>Pre-Employment Strategies</td>
<td>2</td>
</tr>
<tr>
<td>ADM 162</td>
<td>Office Procedures</td>
<td>3</td>
</tr>
<tr>
<td>BCA 154</td>
<td>Business Communication</td>
<td>3</td>
</tr>
<tr>
<td>ENG 108</td>
<td>Comp II: Technical Writing</td>
<td>Opt 2 3</td>
</tr>
<tr>
<td>BCA 137</td>
<td>Word Processing Skill Development II</td>
<td>3</td>
</tr>
<tr>
<td>BCA 213</td>
<td>Intermed. Computer Business Applications</td>
<td>3</td>
</tr>
<tr>
<td>ADM 259</td>
<td>Professional Development</td>
<td>3</td>
</tr>
<tr>
<td>ECN 120</td>
<td>Principles of Macroeconomics</td>
<td>Opt 4 3</td>
</tr>
<tr>
<td>ACC 222</td>
<td>Cost Accounting</td>
<td>4</td>
</tr>
<tr>
<td>BUS 185</td>
<td>Business Law I</td>
<td>Opt 4 3</td>
</tr>
<tr>
<td>ECN 130</td>
<td>Principles of Microeconomics</td>
<td>Opt 5 3</td>
</tr>
<tr>
<td>ACC 231</td>
<td>Intermediate Accounting I</td>
<td>4</td>
</tr>
<tr>
<td>ACC 222</td>
<td>Cost Accounting</td>
<td>4</td>
</tr>
<tr>
<td>SPC 101</td>
<td>Fundamentals of Oral Communication</td>
<td>3</td>
</tr>
<tr>
<td>ACC 231</td>
<td>Intermediate Accounting I</td>
<td>4</td>
</tr>
<tr>
<td>BCA 212</td>
<td>Intro to Computer Business Applications</td>
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</tr>
<tr>
<td>Term 1</td>
<td></td>
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</tr>
<tr>
<td>BUS 112</td>
<td>Business Math</td>
<td>3</td>
</tr>
<tr>
<td>MGT 145</td>
<td>Human Relations in Business</td>
<td>3</td>
</tr>
<tr>
<td>ADM 157</td>
<td>Business English</td>
<td>3</td>
</tr>
<tr>
<td>BCA 133</td>
<td>Word Processing Skill Development I</td>
<td>4</td>
</tr>
<tr>
<td>ADM 131</td>
<td>Office Calculators</td>
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</tr>
<tr>
<td>BCA 212</td>
<td>Intro to Computer Business Applications</td>
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</tr>
<tr>
<td>Term 2</td>
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<td></td>
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<tr>
<td>SDV 153</td>
<td>Pre-Employment Strategies</td>
<td>2</td>
</tr>
<tr>
<td>ADM 162</td>
<td>Office Procedures</td>
<td>3</td>
</tr>
<tr>
<td>BCA 154</td>
<td>Business Communication</td>
<td>3</td>
</tr>
<tr>
<td>BCA 213</td>
<td>Intermed. Computer Business Applications</td>
<td>3</td>
</tr>
<tr>
<td>ADM 259</td>
<td>Professional Development</td>
<td>3</td>
</tr>
</tbody>
</table>

### Administrative Assistant

Today’s business offices have a need for highly skilled employees who possess the skills and confidence necessary to handle a wide variety of office tasks. The Administrative Assistant degree provides a strong foundation in office skills, including the technological aspects, and combines coursework and hands-on computer experience. The curriculum includes comprehensive work skills preparation necessary for the administrative assistant to work in business, professional offices and other employing agencies.

Students will be prepared to demonstrate good communication skills, problem-solving skills, effective human relations skills, and skilled use of computer applications and office procedures.

**Locations:** Ankeny, Boone, Carroll, Urban

Selected courses in this program are offered at other campuses.

### Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students start any term.

### Graduation Requirements

To earn an Administrative Assistant AAS degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

**Term 1**

- **BUS 112** Business Math 3
- **MGT 145** Human Relations in Business 3
- **ADM 157** Business English 3
- **BCA 133** Word Processing Skill Development I 4
- **ADM 131** Office Calculators 1
- **BCA 212** Intro to Computer Business Applications 3

**Term 2**

- **SDV 153** Pre-Employment Strategies 2
- **ADM 162** Office Procedures 3
- **ADM 154** Business Communication 3
- **BCA 137** Word Processing Skill Development II 3
- **BCA 213** Intermed. Computer Business Applications 3
- **ADM 259** Professional Development 3

### Adult Services (see Certificate Section page 93)

### Aging Services Management

The Aging Services Management program provides students with the opportunity to develop the knowledge and skills needed to perform the duties of a health care administrator in long-term care facilities and residential care facilities; director in assisted living and adult day care programs; or management with adult services agencies. An administrator or director may be responsible for planning, organizing, staffing, directing and budgeting of a facility or agency that works with the older adult population. Students in this program will explore specific administration areas such as management, services, financial, legal regulations and human relations. There are four tracks for students to select a career path. The Aging Services Management programs provide classes on the Web, TV and weekends to meet the needs of the nontraditional student.
Students completing the AS degree will have the option of seeking employment in a health-care-related field, or transferring to a four-year college or university.

Location: Ankeny

Selected courses in this program are offered at other campuses.

Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students may start any term.

Graduation Requirements

To earn an Aging Services Management AS degree with an emphasis in either the Long-Term Care Administration track or the Adult Services track, a student must complete the standard core requirements for the degree, plus the required and option courses and maintain a 2.0 grade point average.

Long-Term Care Administration Track

The Long-Term Care Administration AS degree track provides students with the knowledge and skills needed to perform the duties of a nursing home administrator. Administrators play a vital role in planning, organizing, staffing, directing and controlling the operation of a long-term care facility.

IMPORTANT NOTE: Students are strongly advised to contact one of the staff members in Aging Services Management in Bldg. 9, Room 3 on the Ankeny Campus or call 515-964-6814 or 515-964-6262 regarding additional important information to meet state licensure requirements for nursing home administrator.

Required Courses

Complete AS degree Core Requirements 28
ASM 278 Management in Senior Care Services 3
ASM 279 Health Care Human Resources 3
ASM 280 Health Care Delivery Systems 2
ASM 282 Aging Services in the Continuum/Care 2
ASM 283 Aging Policies & Government Programs 2
SOC 225 Social Gerontology/Applications 4
SOC 226 Issues in Aging 2

Practicum:
ASM 251 Governance of NF/SNF 2
ASM 252 Governance of Supported Living 2
ASM 253 LTC Practicum: Psychosocial Needs 2
ASM 254 LTC Practicum: Physical Needs 2
ASM 255 LTC Practicum: Administration 2
ASM 257 ASM Capstone 2

Option Courses–Select 1 Course from Option 2 and a Minimum of 10 Credits from Option 3
ACC 131 Principles of Accounting I Opt 2 4
ACC 111 Intro to Accounting Opt 2 3
ASM 251 Governance of NF/SNF Opt 3 2
ASM 252 Governance of Supported Living Opt 3 2
ASM 253 Financial Management in Aging Services Opt 3 3
ASM 295 Death and Dying Opt 3 3
ASM 292 Activities in Long-Term Care Opt 3 4
DTM 355 Food Production Management Opt 3 1
DTM 356 Food Service Management Opt 3 2
HCM 236 Human Nutrition Opt 3 3
HSV 130 Interviewing/Interpersonal Relations Opt 3 3
MAP 129 Medical Terminology Opt 3 1
MKT 110 Principles of Marketing Opt 3 3
PEH 102 Health Opt 3 3

Total minimum credits required to complete this program with either track 68

Agribusiness

The Agribusiness program is designed to prepare students for the rapidly expanding food, fiber and natural resources industry. Students are given an option of emphasizing agronomy, animal science, farm management or agricultural supply and service.

This program provides the student with training in the latest developments in technical agriculture in both the classroom and industry settings. The program also includes on-the-job employment experience in the industry. Classroom and laboratory instruction will occur at the Dallas County Farm location where the program maintains a crop and livestock operation.

Students who receive the Agribusiness degree are capable of filling entry-level jobs as an agronomist, livestock specialist, grain or petroleum marketing specialist. Other job opportunities may be found within the seed, chemical, banking and commodity brokerage industry.

Students with a production agricultural interest will benefit from the broad-based approach the degree provides for an ever-changing industry. The agribusiness degree has been designed for those who may enter production agriculture or find employment as a farm management specialist.

The agribusiness degree offers students transfer opportunities to several four-year institutions. Students should visit with program instructors and counselors for information regarding courses that transfer to four-year institutions and their specific program requirements.

VISIT US ONLINE: www.DMACC.edu 49
**Programs Available**

**Location:** Ankeny

Selected courses in this program are offered at other campuses.

**Program Entry Requirements**

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students start any term.

**Graduation Requirements**

To earn an Agribusiness AAS degree, students must complete all coursework as prescribed and maintain a 2.0 grade point average.

**Required Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>AGS 319</td>
<td>Animal Nutrition</td>
<td>3</td>
</tr>
<tr>
<td>AGA 381</td>
<td>Crop Scouting</td>
<td>3</td>
</tr>
<tr>
<td>AGS 323</td>
<td>Animal Nutrition II</td>
<td>3</td>
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<tr>
<td>AGS 113</td>
<td>Survey of the Animal Industry</td>
<td>3</td>
</tr>
<tr>
<td>AGA 114</td>
<td>Principles of Agronomy</td>
<td>3</td>
</tr>
<tr>
<td>AGS 242</td>
<td>Animal Health</td>
<td>3</td>
</tr>
<tr>
<td>AGA 157</td>
<td>Soil Fertility</td>
<td>1</td>
</tr>
<tr>
<td>AGB 235</td>
<td>Intro to Agricultural Markets</td>
<td>3</td>
</tr>
<tr>
<td>AGP 333</td>
<td>Precision Agriculture Applications</td>
<td>3</td>
</tr>
<tr>
<td>AGA 154</td>
<td>Fundamentals of Soil Science</td>
<td>3</td>
</tr>
<tr>
<td>AGB 101</td>
<td>Agricultural Economics</td>
<td>3</td>
</tr>
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<td>AGA 284</td>
<td>Pesticide Application Certification</td>
<td>3</td>
</tr>
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<td>AGB 802</td>
<td>Agribusiness Internship I</td>
<td>2</td>
</tr>
<tr>
<td>AGA 222</td>
<td>Grain Management</td>
<td>2</td>
</tr>
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<td>AGB 812</td>
<td>Agribusiness Internship II</td>
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<tr>
<td>CSC 110</td>
<td>Intro to Computers</td>
<td>3</td>
</tr>
<tr>
<td>SDV 153</td>
<td>Pre-Employment Strategies</td>
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</tr>
<tr>
<td>SPC 101</td>
<td>Fundamentals of Oral Communication</td>
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</table>

**Option Courses—Select 1 Course from Options 1, 2, 3 and 4.**

**Select 4 Courses from Option 5**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAT 141</td>
<td>Finite Math</td>
<td>Opt 1</td>
</tr>
<tr>
<td>MAT 772</td>
<td>Applied Math</td>
<td>Opt 1</td>
</tr>
<tr>
<td>ACC 131</td>
<td>Principles of Accounting I</td>
<td>Opt 2</td>
</tr>
<tr>
<td>ACC 111</td>
<td>Introduction to Accounting</td>
<td>Opt 2</td>
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<tr>
<td>ENG 105</td>
<td>Composition I</td>
<td>Opt 3</td>
</tr>
<tr>
<td>COM 703</td>
<td>Communication Skills</td>
<td>Opt 3</td>
</tr>
<tr>
<td>MGT 145</td>
<td>Human Relations in Business</td>
<td>Opt 4</td>
</tr>
<tr>
<td>PSY 111</td>
<td>Introduction to Psychology</td>
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<tr>
<td>SOC 110</td>
<td>Introduction to Sociology</td>
<td>Opt 4</td>
</tr>
<tr>
<td>AGS 222</td>
<td>Survey of the Aquaculture Industry</td>
<td>Opt 5</td>
</tr>
<tr>
<td>AGS 225</td>
<td>Swine Science</td>
<td>Opt 5</td>
</tr>
<tr>
<td>AGS 226</td>
<td>Beef Cattle Science</td>
<td>Opt 5</td>
</tr>
<tr>
<td>AGA 211</td>
<td>Grain and Forage Crops</td>
<td>Opt 5</td>
</tr>
<tr>
<td>AGB 331</td>
<td>Agribusiness Management</td>
<td>Opt 5</td>
</tr>
<tr>
<td>AGB 330</td>
<td>Farm Business Management</td>
<td>Opt 5</td>
</tr>
<tr>
<td>AGM 335</td>
<td>Petroleum Products in Agriculture</td>
<td>Opt 5</td>
</tr>
<tr>
<td>BUS 185</td>
<td>Business Law I</td>
<td>Opt 5</td>
</tr>
<tr>
<td>MKT 140</td>
<td>Selling</td>
<td>Opt 5</td>
</tr>
</tbody>
</table>

**Total minimum credits required to complete this program** 72

---

**American Sign Language Interpreter Training**

The American Sign Language Interpreter Training Program prepares students for a lifetime of commitment to serving the Deaf Community in the capacity of an ally and an interpreter. All four American Sign Language courses satisfy liberal arts core requirements in the Humanities and are widely accepted as foreign language requirements at colleges and universities. Earning a degree in American Sign Language Interpreting offers many benefits. This demanding and rewarding career offers freelance, part-time and full-time opportunities almost anywhere in the country. Qualified interpreters work in hundreds of thousands of life experience settings. The diversity experienced through serving the Deaf Community is a lifetime of self-journey and discovery.

**Location:** Ankeny

**Program Entry Requirements**

1. Complete an application.
2. Satisfy the required COMPASS assessment and attend any required information/registration session.
3. Complete the following courses with a grade of C (not C-) or better in each:
   - ASL 151 (American Sign Language I) or approved equivalent from another college
   - ASL 181 (American Sign Language II) or approved equivalent from another college
   - ITP 123 (Intro to ASL Interpreting)
   - ITP 133 (Deaf Culture and Community)

4. After the COMPASS assessment requirement has been met, initially students will be admitted to the Liberal Arts AA degree program, with a Preprogram American Sign Language Interpreter Training major. After term two, applicants will be required to participate in a standardized performance activity with standardized rubrics to demonstrate a minimum level of ASL proficiency. An ASL professor(s) and/or a professor and one qualified representative from the Sign Language Interpreting Community will assess the activity. Students with a minimal level of ASL competency will be admitted to the program.

**Graduation Requirements**

To earn an American Sign Language AA degree, a student must complete the standard core requirements for the degree, plus the American Sign Language Interpreter Training required courses and maintain a 2.0 grade point average.

**Term 1**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASL 151</td>
<td>American Sign Language I</td>
<td>5</td>
</tr>
<tr>
<td>ENG 105</td>
<td>Composition I</td>
<td>3</td>
</tr>
<tr>
<td>ITP 133</td>
<td>Deaf Culture and Community</td>
<td>3</td>
</tr>
</tbody>
</table>

**Select 2 Courses from Required Courses (below) and/or**

**Option 1 through 3 (below)** 6

**Term 2**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>ASL 181</td>
<td>American Sign Language II</td>
<td>5</td>
</tr>
<tr>
<td>ITP 123</td>
<td>Intro to ASL Interpreting</td>
<td>3</td>
</tr>
</tbody>
</table>

**Select 2 Courses from Option 4a or 4b** 8

---

**Degrees and Diplomas**

**Airbrush Art** (see Certificate Section, page 94)

**American Sign Language**

**Interpreter Training**

---

**Agribusiness Agronomy, Agribusiness Animal Science, Agribusiness Farm Management & Agribusiness Sales/Service Certificates** (see Certificate Section starting on page 93-94)
## PROGRAMS AVAILABLE

### Term 3

<table>
<thead>
<tr>
<th>Course</th>
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<th>Credits</th>
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<tbody>
<tr>
<td>ASL 251</td>
<td>American Sign Language III</td>
<td>5</td>
</tr>
<tr>
<td>ITP 146</td>
<td>ASL Interp Voice to Sign I</td>
<td>3</td>
</tr>
<tr>
<td>ITP 152</td>
<td>ASL Interp Sign to Voice I</td>
<td>3</td>
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### Term 4

<table>
<thead>
<tr>
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<th>Title</th>
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</thead>
<tbody>
<tr>
<td>ASL 291</td>
<td>American Sign Language IV</td>
<td>5</td>
</tr>
<tr>
<td>ITP 148</td>
<td>ASL Interp Voice to Sign II</td>
<td>3</td>
</tr>
<tr>
<td>ITP 154</td>
<td>ASL Interp Sign to Voice II</td>
<td>3</td>
</tr>
</tbody>
</table>

Select 2 Courses from Required Courses (below) and/or Option 1 through 4  

### Term 5

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITP 932</td>
<td>Internship</td>
<td>6</td>
</tr>
<tr>
<td>ITP 190</td>
<td>Ethics in ASL Interpreting</td>
<td>3</td>
</tr>
</tbody>
</table>

Select 2 Courses from Required Courses (below) and/or Option 1 through 4  

### Total Minimum Credits for American Sign Language Interpreter AA degree

76

**Required Courses - Choose Both Courses Listed**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 106</td>
<td>Composition II</td>
<td>3</td>
</tr>
<tr>
<td>SPC 101</td>
<td>Fund of Oral Communication</td>
<td>3</td>
</tr>
</tbody>
</table>

**Option Courses - Choose 1 Course from Option 1, 2 and 3 (Choices from Options 1, 2, & 3 must each have a different acronym)**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOC 110</td>
<td>Introduction to Sociology</td>
<td>Opt 1</td>
</tr>
<tr>
<td>SOC 120</td>
<td>Marriage &amp; Family</td>
<td>Opt 1</td>
</tr>
<tr>
<td>SOC 200</td>
<td>Minority Group Relations</td>
<td>Opt 1</td>
</tr>
<tr>
<td>PSY 111</td>
<td>Introduction to Psychology</td>
<td>Opt 2</td>
</tr>
<tr>
<td>PSY 261</td>
<td>Human Sexuality</td>
<td>Opt 2</td>
</tr>
<tr>
<td>PSY 121</td>
<td>Developmental Psychology</td>
<td>Opt 2</td>
</tr>
<tr>
<td>HIS 112</td>
<td>West Civ: Ancient to Early Mod.</td>
<td>Opt 3</td>
</tr>
<tr>
<td>HIS 113</td>
<td>West Civ: Early Modern to Pres.</td>
<td>Opt 3</td>
</tr>
<tr>
<td>ANT 100</td>
<td>Introduction to Anthropology</td>
<td>Opt 3</td>
</tr>
<tr>
<td>ANT 105</td>
<td>Cultural Anthropology</td>
<td>Opt 3</td>
</tr>
<tr>
<td>POL 111</td>
<td>American National Government</td>
<td>Opt 3</td>
</tr>
<tr>
<td>POL 112</td>
<td>Amer State &amp; Local Government</td>
<td>Opt 3</td>
</tr>
</tbody>
</table>

**Choose Either Option 4a or Option 4b**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAT 141</td>
<td>Finite Math</td>
<td>Opt 4a</td>
</tr>
<tr>
<td>BIO 168</td>
<td>Anatomy &amp; Physiology I</td>
<td>Opt 4a</td>
</tr>
<tr>
<td>BIO 173</td>
<td>Anatomy &amp; Physiology II</td>
<td>Opt 4a</td>
</tr>
<tr>
<td>MAT 114</td>
<td>Elementary Educators Math I</td>
<td>Opt 4b</td>
</tr>
<tr>
<td>MAT 116</td>
<td>Elementary Educators Math II</td>
<td>Opt 4b</td>
</tr>
<tr>
<td>BIO 164</td>
<td>Essentials Anatomy/Physiology</td>
<td>Opt 4b</td>
</tr>
</tbody>
</table>

### Architectural Millwork

The Architectural Millwork program will give students the training to produce one-of-a-kind cabinetry, millwork (wood trim) and solid surface products, such as solid surface counter tops. Students will receive classroom instruction as well as hands-on training and experience using modern millwork equipment. Graduates of the program will earn a diploma, which will prepare them for entry-level positions in the architectural millwork field.

**Location:** Ankeny

**Program Entry Requirements**

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students start fall term.

**Architectural Technologies**

The Architectural Technologies program is designed to develop the proper manual and computer skills and knowledge required for satisfactory entrance into the field of architectural drafting and detailing. Graduates are employed by architects; structural, mechanical and electrical engineers; contractors, subcontractors and building equipment and material suppliers. Students visit a construction site to observe actual construction practices and architectural offices to experience their future work environment.

**Location:** Ankeny

Selected courses offered at Urban Campus

**Program Entry Requirements**

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Submit evidence of grade “C” or above in one year of high school algebra or the equivalent (DMACC Academic Achievement Center Algebra I & II or MAT 063). Students start summer term.

**Graduation Requirements**

To earn an Architectural Technologies diploma or AAS degree, students must complete all coursework as prescribed and maintain a 2.0 (C) grade point average.

**Term 1**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARC 114</td>
<td>Architectural Drafting I</td>
<td>5</td>
</tr>
<tr>
<td>ARC 165</td>
<td>Materials &amp; Assemblies I</td>
<td>3</td>
</tr>
</tbody>
</table>

**Architectural Millwork**

To earn an Architectural Millwork diploma, complete all coursework as prescribed and maintain a 2.0 (C) grade point average.

**Graduation Requirements**

**Term 1**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MLW 440</td>
<td>Blueprint Reading and Layout</td>
<td>3</td>
</tr>
<tr>
<td>MLW 441</td>
<td>Material Identification and Usage</td>
<td>3</td>
</tr>
<tr>
<td>MLW 442</td>
<td>Introduction to Portable Tools</td>
<td>3</td>
</tr>
<tr>
<td>MLW 443</td>
<td>Stationary Equipment</td>
<td>4</td>
</tr>
<tr>
<td>HSC 102</td>
<td>Emergency Care</td>
<td>1</td>
</tr>
<tr>
<td>MAT 772</td>
<td>Applied Math</td>
<td>3</td>
</tr>
</tbody>
</table>

**Term 2**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>MLW 444</td>
<td>Advanced Equipment Techniques</td>
<td>3</td>
</tr>
<tr>
<td>MLW 445</td>
<td>Millimeter Cabinet Techniques</td>
<td>3</td>
</tr>
<tr>
<td>MLW 446</td>
<td>Millwork Techniques</td>
<td>4</td>
</tr>
<tr>
<td>MLW 447</td>
<td>Introduction to Application</td>
<td>3</td>
</tr>
<tr>
<td>COM 703</td>
<td>Communication Skills</td>
<td>3</td>
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</tbody>
</table>

**Term 3**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MLW 448</td>
<td>Advanced Millwork Applications I</td>
<td>5</td>
</tr>
<tr>
<td>MLW 449</td>
<td>Advanced Millwork Applications II</td>
<td>5</td>
</tr>
</tbody>
</table>

**Total credits required to complete this program**  

43

**Architectural Technologies**

The Architectural Technologies program is designed to develop the proper manual and computer skills and knowledge required for satisfactory entrance into the field of architectural drafting and detailing. Graduates are employed by architects; structural, mechanical and electrical engineers; contractors, subcontractors and building equipment and material suppliers. Students visit a construction site to observe actual construction practices and architectural offices to experience their future work environment.

**Location:** Ankeny

Selected courses offered at Urban Campus

**Program Entry Requirements**

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Submit evidence of grade “C” or above in one year of high school algebra or the equivalent (DMACC Academic Achievement Center Algebra I & II or MAT 063). Students start summer term.

**Graduation Requirements**

To earn an Architectural Technologies diploma or AAS degree, students must complete all coursework as prescribed and maintain a 2.0 (C) grade point average.

**Term 1**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARC 114</td>
<td>Architectural Drafting I</td>
<td>5</td>
</tr>
<tr>
<td>ARC 165</td>
<td>Materials &amp; Assemblies I</td>
<td>3</td>
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Programs Available

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ARC 116</td>
<td>Construction Estimating</td>
<td>2</td>
</tr>
<tr>
<td>CAD 119</td>
<td>Intro to Computer Aided Drafting</td>
<td>3</td>
</tr>
<tr>
<td><strong>Term 2</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ARC 127</td>
<td>Architectural Drafting II</td>
<td>5</td>
</tr>
<tr>
<td>ARC 167</td>
<td>Materials &amp; Assemblies II</td>
<td>3</td>
</tr>
<tr>
<td>CAD 126</td>
<td>Intermediate CADD-Architectural</td>
<td>3</td>
</tr>
<tr>
<td>ENG 105</td>
<td>Composition I</td>
<td>3</td>
</tr>
<tr>
<td>MAT 772</td>
<td>Applied Math</td>
<td>3</td>
</tr>
<tr>
<td><strong>Term 3--Select 1 Course from Option 1</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ARC 128</td>
<td>Architectural Drafting III</td>
<td>5</td>
</tr>
<tr>
<td>ARC 169</td>
<td>Materials &amp; Assemblies III</td>
<td>3</td>
</tr>
<tr>
<td>ARC 180</td>
<td>Building Codes</td>
<td>2</td>
</tr>
<tr>
<td>ARC 181</td>
<td>Construction Documents Technology</td>
<td>2</td>
</tr>
<tr>
<td>MAT 773</td>
<td>Applied Math II</td>
<td>3</td>
</tr>
<tr>
<td>MGT 145</td>
<td>Human Relations in Business</td>
<td>Opt 1</td>
</tr>
<tr>
<td>PSY 111</td>
<td>Intro to Psychology</td>
<td>Opt 1</td>
</tr>
<tr>
<td>PSY 102</td>
<td>Human &amp; Work Relations</td>
<td>Opt 1</td>
</tr>
<tr>
<td>SOC 110</td>
<td>Introduction to Sociology</td>
<td>Opt 1</td>
</tr>
<tr>
<td><strong>Total credits required to complete the diploma</strong></td>
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</table>

Additional Courses Required to Complete this Program

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>HIS 112</td>
<td>Western Civ: Ancient to Early Modern</td>
<td>4</td>
</tr>
<tr>
<td>HIS 113</td>
<td>Western Civ: Modern to Present</td>
<td>4</td>
</tr>
<tr>
<td>BCA 133</td>
<td>Computer Network Literacy</td>
<td>3</td>
</tr>
<tr>
<td>ARC 190</td>
<td>Presentation Graphics</td>
<td>Opt 2</td>
</tr>
<tr>
<td>CAD 162</td>
<td>Introduction to Multimedia</td>
<td>Opt 2</td>
</tr>
<tr>
<td>ENG 106</td>
<td>Composition II</td>
<td>Opt 3</td>
</tr>
<tr>
<td>ENG 108</td>
<td>Comp II: Technical Writing</td>
<td>Opt 3</td>
</tr>
<tr>
<td><strong>Total credits required to complete the AAS degree</strong></td>
<td></td>
<td>65</td>
</tr>
</tbody>
</table>

Auto Collision Technology

The Auto Collision Technology program is designed to prepare students for employment in the highly technological auto collision industry and to update those already employed.

The Auto Collision diploma option prepares graduates for entry into auto collision jobs related to paint, refinishing and major structural repairs. In addition, individual courses may be taken to satisfy the person who wants only specific segments of the complete program.

Location: Ankeny

Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students start fall or spring term.

Graduation Requirements

To earn an Auto Collision Technology diploma or AAS degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

Auto Collision - Diploma

Required Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRR 150</td>
<td>Basic Shop Safety</td>
<td>1</td>
</tr>
<tr>
<td>CRR 125</td>
<td>Sheet Metal Fundamentals</td>
<td>5</td>
</tr>
<tr>
<td>CRR 841</td>
<td>Principles of Refinishing</td>
<td>5</td>
</tr>
<tr>
<td>CRR 742</td>
<td>Estimating Theory</td>
<td>2</td>
</tr>
<tr>
<td>CRR 877</td>
<td>Refinishing Applications</td>
<td>7</td>
</tr>
<tr>
<td>CRR 202</td>
<td>Plastic Repair</td>
<td>3</td>
</tr>
<tr>
<td>CRR 502</td>
<td>Frame Damage Analysis</td>
<td>2</td>
</tr>
<tr>
<td>CRR 876</td>
<td>Refinishing Production</td>
<td>6</td>
</tr>
<tr>
<td>CRR 760</td>
<td>Advanced Estimating</td>
<td>2</td>
</tr>
<tr>
<td>CRR 655</td>
<td>Advanced Collision Repair</td>
<td>5</td>
</tr>
<tr>
<td>COM 703</td>
<td>Communication Skills</td>
<td>3</td>
</tr>
<tr>
<td>MAT 772</td>
<td>Applied Math</td>
<td>3</td>
</tr>
<tr>
<td>CRR 101</td>
<td>Sheet Metal Welding</td>
<td>2</td>
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<tr>
<td><strong>Total credits required to complete the diploma</strong></td>
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</table>

Auto Collision - AAS

<table>
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<tr>
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<th>Course Title</th>
<th>Credits</th>
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<td>Basic Shop Safety</td>
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<tr>
<td>CRR 325</td>
<td>Sheet Metal Fundamentals</td>
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<tr>
<td>CRR 841</td>
<td>Principles of Refinishing</td>
<td>5</td>
</tr>
<tr>
<td>CRR 742</td>
<td>Estimating Theory</td>
<td>2</td>
</tr>
<tr>
<td>CRR 877</td>
<td>Refinishing Applications</td>
<td>7</td>
</tr>
<tr>
<td>CRR 202</td>
<td>Plastic Repair</td>
<td>3</td>
</tr>
<tr>
<td>CRR 502</td>
<td>Frame Damage Analysis</td>
<td>2</td>
</tr>
<tr>
<td>CRR 876</td>
<td>Refinishing Production</td>
<td>6</td>
</tr>
<tr>
<td>CRR 760</td>
<td>Advanced Estimating</td>
<td>2</td>
</tr>
<tr>
<td>CRR 655</td>
<td>Advanced Collision Repair</td>
<td>5</td>
</tr>
<tr>
<td>AUT 603</td>
<td>Basic Automotive Electricity</td>
<td>3</td>
</tr>
<tr>
<td>AUT 652</td>
<td>Advanced Automotive Electricity</td>
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</tr>
<tr>
<td>AUT 704</td>
<td>Auto Heating &amp; AC</td>
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</tr>
<tr>
<td>AUT 503</td>
<td>Automotive Basic Brakes</td>
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</tr>
<tr>
<td>AUT 404</td>
<td>Basic Suspension &amp; Steering</td>
<td>4</td>
</tr>
<tr>
<td>COM 703</td>
<td>Communication Skills</td>
<td>3</td>
</tr>
<tr>
<td>HSC 102</td>
<td>Emergency Care</td>
<td>1</td>
</tr>
<tr>
<td>MAT 772</td>
<td>Applied Math</td>
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<tr>
<td>PHY 710</td>
<td>Technical Physics</td>
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</tr>
<tr>
<td>CRR 101</td>
<td>Sheet Metal Welding</td>
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<tr>
<td><strong>Total credits required to complete the AAS degree</strong></td>
<td></td>
<td>73</td>
</tr>
</tbody>
</table>

Option Courses--Select 1 Course from Each Option

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGT 145</td>
<td>Human Relations in Business</td>
<td>Opt 1</td>
</tr>
<tr>
<td>PSY 102</td>
<td>Human and Work Relations</td>
<td>Opt 1</td>
</tr>
<tr>
<td>PSY 111</td>
<td>Introduction to Psychology</td>
<td>Opt 1</td>
</tr>
<tr>
<td>SOC 110</td>
<td>Introduction to Sociology</td>
<td>Opt 1</td>
</tr>
<tr>
<td>BUS 148</td>
<td>Small Business Management</td>
<td>Opt 2</td>
</tr>
<tr>
<td>BUS 185</td>
<td>Business Law I</td>
<td>Opt 2</td>
</tr>
<tr>
<td><strong>Total credits required to complete the AAS degree</strong></td>
<td></td>
<td>73</td>
</tr>
</tbody>
</table>

Auto Mechanics Technology

The Auto Mechanics Technology program is designed to prepare students for employment in the high-technology automotive service industry and to update those already employed.

The Auto Mechanics Technology Associate of Applied Science (AAS) degree program is a comprehensive training program designed to cover all aspects of automotive repair. Graduates with an AAS degree find employment in dealerships, independent service facilities, corporate repair facilities and automotive parts establishments. They are employed as automotive technicians, insurance claims adjusters, automotive instructors, parts specialists and repair technicians in related fields.
## Programs Available

There are three separate diploma options that can be taken individually or in combination. One option prepares graduates for job entry in current automotive technology tune-up and engine repair. Another option prepares graduates to enter the automotive industry trained in the latest power train and chassis repair techniques. A third option prepares graduates to enter the automotive industry as a maintenance and light repair technician. Diploma recipients may receive an AAS degree by completing the additional courses required for the Auto Mechanics Technology AAS degree.

### Location: Ankeny
Selected courses offered at other campuses.

The Auto Maintenance and Light Repair diploma is available only at the Urban Campus.

### Program Entry Requirements
Complete an application, satisfy the assessment requirement and attend any required information/registration session. Ankeny Campus students start fall and spring term; Urban Campus students start fall term; Carroll Campus students start spring term.

### Graduation Requirements
To earn a diploma in Auto Engines and Tune-Up, Auto Chassis and Power Train or Maintenance Light Repair, or an AAS degree in Auto Mechanics Technology, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

### Auto Engines & Tune-Up
This diploma option prepares graduates for job entry in current automotive technology tune-up and engine repair.

#### Required Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUT 109</td>
<td>Auto Measurement and Tools</td>
<td>3</td>
</tr>
<tr>
<td>AUT 834</td>
<td>Automotive Fuel Systems</td>
<td>4</td>
</tr>
<tr>
<td>AUT 603</td>
<td>Basic Automotive Electricity</td>
<td>3</td>
</tr>
<tr>
<td>AUT 652</td>
<td>Advanced Automotive Electricity</td>
<td>3</td>
</tr>
<tr>
<td>AUT 704</td>
<td>Auto Heating &amp; AC</td>
<td>4</td>
</tr>
<tr>
<td>AUT 163</td>
<td>Automotive Engine Repair</td>
<td>3</td>
</tr>
<tr>
<td>AUT 844</td>
<td>Automotive Electronic Engine Controls</td>
<td>6</td>
</tr>
<tr>
<td>AUT 870</td>
<td>Automotive Service Management</td>
<td>2</td>
</tr>
<tr>
<td>AUT 173</td>
<td>Advanced Automotive Engine Repair</td>
<td>3</td>
</tr>
<tr>
<td>COM 703</td>
<td>Communication Skills</td>
<td>3</td>
</tr>
<tr>
<td>MAT 772</td>
<td>Applied Math</td>
<td>3</td>
</tr>
<tr>
<td>PHY 710</td>
<td>Technical Physics</td>
<td>3</td>
</tr>
</tbody>
</table>

Total credits required to complete Engines & Tune-Up diploma 44

### Auto Chassis & Power Train
This diploma option prepares graduates to enter the automotive industry in the latest power train and chassis repair techniques.

#### Required Courses–Select 1 Course from Option 1

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUT 109</td>
<td>Auto Measurement and Tools</td>
<td>3</td>
</tr>
<tr>
<td>AUT 242</td>
<td>Basic Automotive Power Train</td>
<td>6</td>
</tr>
<tr>
<td>AUT 503</td>
<td>Automotive Brake Systems</td>
<td>3</td>
</tr>
<tr>
<td>AUT 404</td>
<td>Basic Suspension &amp; Steering</td>
<td>4</td>
</tr>
<tr>
<td>AUT 243</td>
<td>Advanced Automotive Power Train</td>
<td>6</td>
</tr>
<tr>
<td>AUT 535</td>
<td>Advanced Auto Brakes &amp; Alignment</td>
<td>5</td>
</tr>
<tr>
<td>COM 703</td>
<td>Communication Skills</td>
<td>3</td>
</tr>
<tr>
<td>HSC 102</td>
<td>Emergency Care</td>
<td>1</td>
</tr>
</tbody>
</table>

Total credits required to complete Chassis & Power Train diploma 34

### Automotive Maintenance & Light Repair Technology at the Urban Campus
This diploma option prepares graduates for a career in automotive maintenance and minor repair. This will include the light repair and maintenance of electrical systems, brakes, suspension, steering, alignment, heating, air conditioning and engines.

#### Required Courses–Select 1 Course from Option 1

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUT 109</td>
<td>Auto Measurement and Tools</td>
<td>3</td>
</tr>
<tr>
<td>AUT 603</td>
<td>Basic Automotive Electricity</td>
<td>3</td>
</tr>
<tr>
<td>AUT 652</td>
<td>Advanced Automotive Electricity</td>
<td>3</td>
</tr>
<tr>
<td>AUT 704</td>
<td>Auto Heating &amp; AC</td>
<td>4</td>
</tr>
<tr>
<td>AUT 163</td>
<td>Automotive Engine Repair</td>
<td>3</td>
</tr>
<tr>
<td>AUT 870</td>
<td>Automotive Service Management</td>
<td>2</td>
</tr>
<tr>
<td>AUT 503</td>
<td>Automotive Brake Systems</td>
<td>3</td>
</tr>
<tr>
<td>AUT 404</td>
<td>Basic Suspension &amp; Steering</td>
<td>4</td>
</tr>
<tr>
<td>AUT 535</td>
<td>Advanced Auto Brakes &amp; Alignment</td>
<td>5</td>
</tr>
<tr>
<td>COM 703</td>
<td>Communication Skills</td>
<td>3</td>
</tr>
<tr>
<td>HSC 102</td>
<td>Emergency Care</td>
<td>1</td>
</tr>
</tbody>
</table>

Total credits required for Auto Maintenance & Light Repair diploma 40

### Automotive Mechanics Technology - AAS degree

#### Required Courses–Select 1 Course from Option 1

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUT 109</td>
<td>Auto Measurement and Tools</td>
<td>3</td>
</tr>
<tr>
<td>AUT 834</td>
<td>Automotive Fuel Systems</td>
<td>4</td>
</tr>
<tr>
<td>AUT 603</td>
<td>Basic Automotive Electricity</td>
<td>3</td>
</tr>
<tr>
<td>AUT 652</td>
<td>Advanced Automotive Electricity</td>
<td>3</td>
</tr>
<tr>
<td>AUT 704</td>
<td>Auto Heating &amp; AC</td>
<td>4</td>
</tr>
<tr>
<td>AUT 163</td>
<td>Automotive Engine Repair</td>
<td>3</td>
</tr>
<tr>
<td>AUT 844</td>
<td>Auto Electronic Engine Controls</td>
<td>6</td>
</tr>
<tr>
<td>AUT 845</td>
<td>Electrical Systems Diagnosis</td>
<td>2</td>
</tr>
<tr>
<td>AUT 242</td>
<td>Basic Automotive Power Train</td>
<td>6</td>
</tr>
<tr>
<td>AUT 503</td>
<td>Basic Suspension &amp; Steering</td>
<td>4</td>
</tr>
<tr>
<td>AUT 243</td>
<td>Advanced Automotive Power Train</td>
<td>6</td>
</tr>
<tr>
<td>AUT 535</td>
<td>Advanced Auto Brakes &amp; Alignment</td>
<td>5</td>
</tr>
<tr>
<td>HSC 102</td>
<td>Emergency Care</td>
<td>1</td>
</tr>
<tr>
<td>COM 703</td>
<td>Communication Skills</td>
<td>3</td>
</tr>
<tr>
<td>MAT 772</td>
<td>Applied Math</td>
<td>3</td>
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</tbody>
</table>

Total credits required for AAS degree 91

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PROGRAMS AVAILABLE

Degrees and Diplomas

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 104</td>
<td>Introductory Biology w/Lab</td>
<td>3</td>
</tr>
<tr>
<td>ENG 105</td>
<td>Composition I</td>
<td>3</td>
</tr>
<tr>
<td>BIO 112</td>
<td>General Biology I</td>
<td>4</td>
</tr>
<tr>
<td>ENG 106</td>
<td>Composition II</td>
<td>3</td>
</tr>
<tr>
<td>MAT 157</td>
<td>Statistics</td>
<td>4</td>
</tr>
<tr>
<td>BIO 113</td>
<td>General Biology II</td>
<td>4</td>
</tr>
<tr>
<td>BIO 187</td>
<td>Microbiology w/Lab</td>
<td>4</td>
</tr>
<tr>
<td>SPC 101</td>
<td>Fundamentals of Oral Communication</td>
<td>3</td>
</tr>
<tr>
<td>BIO 250</td>
<td>Cell &amp; Molecular Biology-Nucleic Acids</td>
<td>5</td>
</tr>
<tr>
<td>BIO 251</td>
<td>Cell and Molecular Biology–Proteins</td>
<td>5</td>
</tr>
<tr>
<td>BIO 146</td>
<td>Genetics</td>
<td>3</td>
</tr>
<tr>
<td>BIO 249</td>
<td>Biotechnology Internship</td>
<td>3</td>
</tr>
</tbody>
</table>

Option Courses—Select 3 Credits From Option 1

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 108</td>
<td>Comp II: Technical Writing</td>
<td>3</td>
</tr>
</tbody>
</table>

Select 6 Credits From Option 2

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSC 110</td>
<td>Intro to Computers</td>
<td>3</td>
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</tbody>
</table>

Select 1 Course from Option 3

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGT 145</td>
<td>Human Relations in Business</td>
<td>3</td>
</tr>
<tr>
<td>PST 111</td>
<td>Introduction to Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PST 102</td>
<td>Human and Work Relations</td>
<td>3</td>
</tr>
<tr>
<td>SOC 110</td>
<td>Introduction to Sociology</td>
<td>3</td>
</tr>
</tbody>
</table>

Total credits required for the Auto Mechanics AAS degree 74

Biomass Operations Technology

(see Certificate Section, page 94)

Biotechnology

The Biotechnology program is designed to prepare students to work as Biotechnology technicians in this rapidly expanding field that includes research and development, quality control, manufacturing or related areas. Biotechnology is a broad term spanning several different disciplines. Specific career opportunities could require skills related to genetic engineering of plants or microorganisms, gene therapy to correct human health problems, DNA fingerprinting, vaccine development, or production of food, drugs and other consumer products.

The program is structured to allow students to develop marketable job skills while incorporating the requirements for a two-year liberal arts degree. Most of the credits will transfer to four-year institutions. The program includes many lab-based courses, which enables students to apply what they learn in chemistry, math and statistics, biology, microbiology, genetics and molecular biology. Specific skills such as written and oral communications, critical thinking, problem-solving, computer skills and small group collaboration are an integral part of the program. Students participate in internships in cooperation with potential employers.

Students planning to transfer to a four-year program after completion of this program should take CHM 165 and 175 instead of CHM 122 and 132. CHM 263 and 273 may also be taken depending on the program being considered. In addition, many four-year programs will require calculus (MAT 211 and/or 217) and physics (PHY 213 and 223), which can be taken at DMACC. Additional credit hours in humanities and the social sciences may also be helpful. Please check with the program chairperson for Biotechnology or an advisor for additional information or assistance.

Location: Ankeny

Selected courses in this program are offered at other campuses.

Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required information/registration session. In addition, students must complete:

1. One year of high school chemistry or Academic Achievement Chemistry I & II or successful completion of CHM 122
2. Two years of high school algebra or MAT 063 and 073
3. Demonstration of satisfactory writing skills on college entrance or assessment exam.

Students start fall or spring term.

Graduation Requirements

To earn a Biotechnology AS degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

Building Maintenance

(see Certificate Section, page 95)

Building Trades

The Building Trades program provides students with the skills and knowledge necessary to enter either residential or commercial construction fields. Classroom work focuses on familiarizing the students with basic knowledge of construction materials. Laboratory activities emphasize practical hands-on skills needed in the building trades. The last term is devoted to applying classroom theory and lab skills in an actual construction job, either residential or commercial.

Location: Ankeny

Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students start fall term.

Graduation Requirements

To earn a Building Trades diploma, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

Term 1

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CON 333</td>
<td>Materials/Construction Theory</td>
<td>5</td>
</tr>
<tr>
<td>CON 334</td>
<td>Construction Techniques</td>
<td>7</td>
</tr>
<tr>
<td>CON 336</td>
<td>Care/Use of Hand/Power Tools</td>
<td>1</td>
</tr>
</tbody>
</table>
**Programs Available**

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CON 337</td>
<td>Construction Blueprint Reading</td>
<td>1</td>
</tr>
<tr>
<td>CON 338</td>
<td>Materials Takeoff</td>
<td>1</td>
</tr>
<tr>
<td>HSC 102</td>
<td>Emergency Care</td>
<td>1</td>
</tr>
<tr>
<td>MAT 772</td>
<td>Applied Math</td>
<td>3</td>
</tr>
</tbody>
</table>

**Term 2**

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CON 346</td>
<td>Concrete Systems &amp; Forming</td>
<td>4</td>
</tr>
<tr>
<td>CON 341</td>
<td>Construction Drafting &amp; Design</td>
<td>2</td>
</tr>
<tr>
<td>CON 342</td>
<td>Interior Trim Practices</td>
<td>3</td>
</tr>
<tr>
<td>CON 480</td>
<td>Construction Procedure/Application I</td>
<td>5</td>
</tr>
<tr>
<td>COM 703</td>
<td>Communication Skills</td>
<td>3</td>
</tr>
</tbody>
</table>

**Term 3**

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CON 481</td>
<td>Construction Procedure/Application II</td>
<td>5</td>
</tr>
<tr>
<td>CON 482</td>
<td>Construction Procedure/Application III</td>
<td>5</td>
</tr>
</tbody>
</table>

**Total credits required to complete this program** 46

**Business**

Students planning to major in business administration or related fields at a four-year college/university can satisfy many of their general education requirements at Des Moines Area Community College. Since degree requirements vary at senior institutions, students should become familiar with the specific course requirements of their selected transfer institution. Students are also encouraged to contact the four-year major advisor as early as possible to develop a transfer plan. DMACC advisors and/or counselors can also help by providing transfer materials and course planning assistance.

**Business Administration - AA or AS**

The Business Administration program offers the student a number of career and educational opportunities. The program allows students to choose either an AA or AS degree. Students who plan to transfer to a four-year college or university should consider the AA degree. The AA degree will satisfy most freshman and sophomore Business Administration required courses and maintain a 2.0 grade point average. The AS degree is designed for students who want to prepare for an immediate career in business.

Unique features of the Business Administration curriculum include: an introduction to American and international business practices, accounting practices and business law concepts. The Student Development Office can provide lists of course requirements from the various colleges, identifying which DMACC courses should be taken for college transfer. Students planning on transferring to a four-year college should contact a counselor or advisor for course planning assistance.

**Program Entry Requirements**

Complete an application, satisfy the assessment requirements and attend any required information/registration session. Students may start any term.

**Graduation Requirements**

To earn a Business Administration AA or AS degree, a student must complete the standard core requirements for the degree, plus the Business Administration required courses and maintain a 2.0 grade point average.

**AA Degree**

**Required Courses**

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 131</td>
<td>Principles of Accounting I</td>
<td>4</td>
</tr>
<tr>
<td>ACC 132</td>
<td>Principles of Accounting II</td>
<td>4</td>
</tr>
<tr>
<td>BUS 102</td>
<td>Intro to Business</td>
<td>3</td>
</tr>
</tbody>
</table>

**Degrees and Diplomas**

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 185</td>
<td>Business Law I</td>
<td>3</td>
</tr>
<tr>
<td>BUS 220</td>
<td>Intro to International Business</td>
<td>3</td>
</tr>
<tr>
<td>ECN 120*</td>
<td>Principles of Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>ECN 130*</td>
<td>Principles of Microeconomics</td>
<td>3</td>
</tr>
</tbody>
</table>

*ECN 120 and ECN 130 are required courses for this program and shall also be used to fulfill 3 credits of Social and Behavioral Science AA Core and 3 credits of Distributive AA Core.

**Complete Remaining AA Degree Core Requirements as follows:**

<table>
<thead>
<tr>
<th>Component</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communications</td>
<td>9</td>
</tr>
<tr>
<td>Social &amp; Behavioral Sciences</td>
<td>9</td>
</tr>
<tr>
<td>Math &amp; Science</td>
<td>9</td>
</tr>
<tr>
<td>Distributive</td>
<td>12</td>
</tr>
</tbody>
</table>

(6 credits + 3 credits for ECN 120 from above)

**Total Minimum Credits for Business Administration AA Degree** 65

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 185</td>
<td>Business Law I</td>
<td>3</td>
</tr>
<tr>
<td>BUS 220</td>
<td>Intro to International Business</td>
<td>3</td>
</tr>
<tr>
<td>ECN 120</td>
<td>Principles of Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>ECN 130</td>
<td>Principles of Microeconomics</td>
<td>3</td>
</tr>
</tbody>
</table>

**AS Degree**

**Required Courses**

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 131</td>
<td>Principles of Accounting I</td>
<td>4</td>
</tr>
<tr>
<td>ACC 132</td>
<td>Principles of Accounting II</td>
<td>4</td>
</tr>
<tr>
<td>BUS 102</td>
<td>Intro to Business</td>
<td>3</td>
</tr>
<tr>
<td>CSC 110</td>
<td>Intro to Computers</td>
<td>3</td>
</tr>
<tr>
<td>BUS 231</td>
<td>Quantitative Methods</td>
<td>3</td>
</tr>
<tr>
<td>BUS 240</td>
<td>Virtual Business Firm</td>
<td>3</td>
</tr>
<tr>
<td>BUS 186</td>
<td>Business Law II</td>
<td>3</td>
</tr>
<tr>
<td>BUS 187</td>
<td>Business Law III</td>
<td>3</td>
</tr>
<tr>
<td>MGT 101</td>
<td>Principles of Management</td>
<td>3</td>
</tr>
<tr>
<td>MGT 248</td>
<td>Systems &amp; Info Management</td>
<td>3</td>
</tr>
<tr>
<td>MGT 248</td>
<td>Systems &amp; Info Management</td>
<td>3</td>
</tr>
<tr>
<td>MGT 248</td>
<td>Systems &amp; Info Management</td>
<td>3</td>
</tr>
<tr>
<td>MKT 110</td>
<td>Principles of Marketing</td>
<td>3</td>
</tr>
<tr>
<td>BUS 240</td>
<td>Virtual Business Firm</td>
<td>3</td>
</tr>
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</table>

**Select 3 Courses from Option 1 below**

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIN 121</td>
<td>Personal Finance</td>
<td>Opt 1</td>
</tr>
<tr>
<td>FIN 101</td>
<td>Principles of Banking</td>
<td>Opt 1</td>
</tr>
<tr>
<td>FIN 180</td>
<td>Intro to Investments</td>
<td>Opt 1</td>
</tr>
<tr>
<td>BUS 231</td>
<td>Quantitative Methods</td>
<td>Opt 1</td>
</tr>
<tr>
<td>BUS 260</td>
<td>Principles of Insurance</td>
<td>Opt 1</td>
</tr>
<tr>
<td>BUS 148</td>
<td>Small Business Management</td>
<td>Opt 1</td>
</tr>
<tr>
<td>BUS 186</td>
<td>Business Law II</td>
<td>Opt 1</td>
</tr>
<tr>
<td>MGT 101</td>
<td>Principles of Management</td>
<td>Opt 1</td>
</tr>
<tr>
<td>MGT 248</td>
<td>Systems &amp; Info Management</td>
<td>Opt 1</td>
</tr>
<tr>
<td>MGT 110</td>
<td>Principles of Marketing</td>
<td>Opt 1</td>
</tr>
</tbody>
</table>

**Complete AS Degree Core Requirements** 28

**Total Minimum Credits for Business Administration AS Degree** 64

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**Business Information Systems**

The Business Information Systems program is intended for the student who is interested in a programming career in a client/server environment or in the areas of electronic commerce or database applications. This is especially true of the career opportunities in the PC-related programming fields, as well as the newer fields of electronic commerce and databases.

The BIS degree will allow a student to study a variety of different areas related to PC programming and related applications. This program emphasizes flexibility to allow a student to take courses that relate to specific areas of interest. It is also possible for the student to take coursework from several different but related areas of study. For example, many electronic commerce applications use databases as an integral part of their business. These combined skills will give the student a more marketable background.

Information Technology careers require more diversity of skills and abilities than in the past. Employers are looking for employees with a variety of skills in related areas. Many projects today require a variety of computer-related skills and business knowledge. This degree will address those demands through more flexible course selection and exposure to a variety of programming skills and tools.

**Location: Ankeny, Urban**

Selected courses in this program are offered at other campuses.

**Program Entry Requirements**

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students start any term.

**Graduation Requirements**

To earn a Business Information Systems AAS degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

**Required Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 131</td>
<td>Principles of Accounting I</td>
<td>4</td>
</tr>
<tr>
<td>BUS 102</td>
<td>Intro to Business</td>
<td>3</td>
</tr>
<tr>
<td>CIS 125</td>
<td>Intro to Programming Logic w/Language</td>
<td>3</td>
</tr>
<tr>
<td>CIS 402</td>
<td>COBOL</td>
<td>3</td>
</tr>
<tr>
<td>CSC 110</td>
<td>Intro to Computers</td>
<td>3</td>
</tr>
<tr>
<td>CIS 604</td>
<td>Visual BASIC</td>
<td>3</td>
</tr>
<tr>
<td>BCA 113</td>
<td>Computer Network Literacy</td>
<td>3</td>
</tr>
<tr>
<td>CIS 303</td>
<td>Introduction to Database</td>
<td>3</td>
</tr>
<tr>
<td>CIS 332</td>
<td>Database and SQL</td>
<td>3</td>
</tr>
<tr>
<td>CIS 505</td>
<td>Structured Systems Analysis</td>
<td>4</td>
</tr>
<tr>
<td>MGT 248</td>
<td>Systems &amp; Information Management</td>
<td>3</td>
</tr>
</tbody>
</table>

Any AA/AS Degree Core MAT or BUS course 3–4

**Option Courses—Select 1 Course From Option 1, Select 1 Course from Option 2, Select 1 Course from Option 3, and Select 18 Credits from Option 4**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 105</td>
<td>Composition I</td>
<td></td>
</tr>
<tr>
<td>COM 703</td>
<td>Communication Skills</td>
<td>3</td>
</tr>
<tr>
<td>SPC 101</td>
<td>Fund of Oral Communication</td>
<td>2</td>
</tr>
<tr>
<td>Any AA/AS Core Speech Course (SPC)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MGT 145</td>
<td>Human Relations in Business</td>
<td>3</td>
</tr>
<tr>
<td>PSY 111</td>
<td>Introduction to Psychology</td>
<td>3</td>
</tr>
<tr>
<td>SOC 110</td>
<td>Intro to Sociology</td>
<td>3</td>
</tr>
<tr>
<td>ACC 311</td>
<td>Computer Accounting</td>
<td>3</td>
</tr>
<tr>
<td>BUS 150</td>
<td>E-Commerce on the Web</td>
<td>3</td>
</tr>
</tbody>
</table>

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PROGRAMS AVAILABLE

<table>
<thead>
<tr>
<th>Program Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATC 350</td>
<td>Technical Internship IV</td>
<td>3</td>
</tr>
<tr>
<td>ATC 354</td>
<td>Chrysler Manual Drivetrains</td>
<td>4</td>
</tr>
<tr>
<td>ATC 355</td>
<td>Chrysler Automatic Drivetrains</td>
<td>4</td>
</tr>
<tr>
<td>ATC 356</td>
<td>Advanced Chrysler Systems</td>
<td>5</td>
</tr>
<tr>
<td>ATC 360</td>
<td>Technical Internship V</td>
<td>2</td>
</tr>
<tr>
<td>COM 703</td>
<td>Communication Skills</td>
<td>3</td>
</tr>
<tr>
<td>MAT 772</td>
<td>Applied Math</td>
<td>3</td>
</tr>
<tr>
<td>PHY 710</td>
<td>Technical Physics</td>
<td>3</td>
</tr>
<tr>
<td>PSY 102</td>
<td>Human and Work Relations</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>Total credits required to complete this program</strong></td>
<td><strong>74</strong></td>
</tr>
</tbody>
</table>

Caterpillar Technology

The Caterpillar Technician program prepares students for a career in the area of diesel repair, focusing on Caterpillar products. Instruction is in the repair, maintenance and testing of diesel engines, power trains and components of trucks and construction equipment. This program is accredited by the AED, Associated Equipment Distributors, www.AEDNET.org.

**Location:** Ankeny

**Program Entry Requirements**

Complete an application, satisfy the assessment requirement, complete a mechanical aptitude and ability test, and attend any required information/registration session. Students start any term.

**Graduation Requirements**

To earn a Caterpillar Technology AAS degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

**Required Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>DSL 356</td>
<td>Diesel Engines I</td>
<td>6</td>
</tr>
<tr>
<td>DSL 366</td>
<td>Diesel Engines II</td>
<td>6</td>
</tr>
<tr>
<td>DSL 546</td>
<td>Power Trains I</td>
<td>6</td>
</tr>
<tr>
<td>DSL 605</td>
<td>Hydraulics and Brakes</td>
<td>5</td>
</tr>
<tr>
<td>DSL 145</td>
<td>Basic Electricity</td>
<td>3</td>
</tr>
<tr>
<td>DSL 733</td>
<td>Air Conditioning</td>
<td>3</td>
</tr>
<tr>
<td>DSL 830</td>
<td>Operation and Maintenance</td>
<td>5</td>
</tr>
<tr>
<td>DSL 555</td>
<td>Power Trains II</td>
<td>5</td>
</tr>
<tr>
<td>DSL 409</td>
<td>Diesel Electronics</td>
<td>5</td>
</tr>
<tr>
<td>CAT 430</td>
<td>Caterpillar Fuel Systems</td>
<td>4</td>
</tr>
<tr>
<td>CAT 431</td>
<td>Caterpillar Failure Analysis</td>
<td>2</td>
</tr>
<tr>
<td>CAT 432</td>
<td>Caterpillar LS/PC Hydraulics</td>
<td>2</td>
</tr>
<tr>
<td>CAT 433</td>
<td>Caterpillar Service Information System</td>
<td>2</td>
</tr>
<tr>
<td>DSL 155</td>
<td>Advanced Electricity</td>
<td>4</td>
</tr>
<tr>
<td>CAT 434</td>
<td>Caterpillar Internship</td>
<td>4</td>
</tr>
<tr>
<td>CAT 435</td>
<td>Caterpillar Multi-Media</td>
<td>2</td>
</tr>
<tr>
<td>AUT 140</td>
<td>Welding for Automotive Mechanics</td>
<td>2</td>
</tr>
</tbody>
</table>

**Option Courses—Select 1 Course from Each Option**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>COM 703</td>
<td>Communication Skills</td>
<td>Opt 1</td>
</tr>
<tr>
<td>ENG 105</td>
<td>Composition I</td>
<td>Opt 1</td>
</tr>
<tr>
<td>MAT 141</td>
<td>Finite Math</td>
<td>Opt 2</td>
</tr>
<tr>
<td>MAT 772</td>
<td>Applied Math</td>
<td>Opt 2</td>
</tr>
<tr>
<td>MAT 130</td>
<td>Trigonometry</td>
<td>Opt 2</td>
</tr>
<tr>
<td>MGT 145</td>
<td>Human Relations in Business</td>
<td>Opt 3</td>
</tr>
</tbody>
</table>

Chemical Dependency Counseling

(see Certificate Section, page 95)

Civil Engineering Technology

The Civil Engineering Technology program prepares the student for a career as a technician in the areas of design, surveying, construction and materials testing. This is designed to be a two-year degree program.

This program is designed to fill an increasing demand for technically skilled people in the civil engineering technology field, and demand is expected to continue well into the 21st century.

Career opportunities with this degree are with construction firms; surveying firms; consulting engineering firms; federal, state and local government agencies; materials testing labs and many other areas of the private sector that support the transportation industry.

**Location:** Boone

**Program Entry Requirements**

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students must have earned a grade of “C” or above in a high school algebra course, or be placed in MAT 773 by the results of a COMPASS test. If students are not placed in MAT 773, they will be required to take remedial math courses to be brought up to the level of MAT 773 before taking that course.

This program is designed to start in the fall semester. Students who desire to start other terms may be accepted, but may not graduate in four semesters due to the sequencing of coursework. If starting other than fall, please contact the Civil Engineering Technology department.

**Graduation Requirements**

To earn a Civil Engineering Technology AAS degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

**Required Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CET 102</td>
<td>Fundamentals of Civil Engineering</td>
<td>3</td>
</tr>
<tr>
<td>CET 119</td>
<td>Survey I</td>
<td>3</td>
</tr>
<tr>
<td>CET 135</td>
<td>Materials I</td>
<td>3</td>
</tr>
<tr>
<td>CET 138</td>
<td>Construction I</td>
<td>3</td>
</tr>
<tr>
<td>CET 169</td>
<td>Survey II</td>
<td>4</td>
</tr>
<tr>
<td>CET 173</td>
<td>Highway Design I</td>
<td>4</td>
</tr>
<tr>
<td>CET 178</td>
<td>Automated Design I</td>
<td>4</td>
</tr>
<tr>
<td>CET 192</td>
<td>Statics</td>
<td>4</td>
</tr>
<tr>
<td>CET 219</td>
<td>Survey III</td>
<td>4</td>
</tr>
<tr>
<td>CET 222</td>
<td>Soils and Foundations</td>
<td>3</td>
</tr>
<tr>
<td>CET 235</td>
<td>Construction II</td>
<td>3</td>
</tr>
<tr>
<td>CET 244</td>
<td>Materials II</td>
<td>3</td>
</tr>
<tr>
<td>CET 278</td>
<td>Automated Design II</td>
<td>4</td>
</tr>
<tr>
<td>CET 283</td>
<td>Highway Design II</td>
<td>4</td>
</tr>
<tr>
<td>CET 291</td>
<td>Structure Design and Construction</td>
<td>3</td>
</tr>
<tr>
<td>MAT 773</td>
<td>Applied Math II</td>
<td>3</td>
</tr>
</tbody>
</table>

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PROGRAMS AVAILABLE

CSC 110 Intro to Computers 3
CET 305 Field Coop 5
With faculty approval, students may take the following in place of CET 305
CET 307 Field Orientation 2
AND 1 of the following courses:
   MGT 145 Human Relations in Business 3
OR
   PSY 111 Intro to Psychology 3
Option Courses–Select Both Option 1 Courses, OR Both Option 2 Courses, AND 1 Course from Option 3
   COM 703 Communication Skills Opt 1 3
   ENG 105 Composition I Opt 1 3
   ENG 105 Composition I Opt 2 3
   ENG 108 Comp II: Technical Writing Opt 2 3
   MGT 145 Human Relations in Business Opt 3 3
   PSY 111 Intro to Psychology Opt 3 3
   PSY 102 Human and Work Relations Opt 3 3
Total credits required to complete AAS degree 72
Recommended Electives (not required for the AAS degree)
   CAD 119 Intro to Computer-Aided Drafting
   SPC 101 Fund of Oral Communication
   MAT 130 Trigonometry
   SRV 215 Intro to Land Information Systems

Commercial Horticulture

The Commercial Horticulture program provides students with technical training in the broad horticultural field through classroom, greenhouse, turf lab, tree nursery and practical on-the-job employment experiences. Graduates of the program will be capable of filling jobs in fields such as greenhouse operator and management involving greenhouse production, scheduling and marketing; landscaping involving design, planting and maintaining trees, shrubs, turf and foliage plants for the beautification of home, commercial, public and recreational grounds. Other jobs may include turf management involving establishing, managing and maintaining grassed areas for ornamental and/or recreational purposes; nursery operation and management concerned with the production of trees, shrubs and turf for the purpose of transplanting or propagating them. Employment may also be found in garden center merchandising and management, merchandising of flowers and foliage plants and their design. Certificates of specialization are offered in Greenhouse Production, Landscape Design and Turf Maintenance. In addition to the required and option courses listed, there are elective courses that may be taken for additional credit. Those courses are AGH 160 Irrigation Systems, AGH 241 Sports Turf.

Location: Ankeny

Program Entry Requirements
Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students start any term.

Graduation Requirements
To earn a Commercial Horticulture AAS degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

Degrees and Diplomas

Required Courses
   AGA 157 Soil Fertility* 1
   AGA 154 Fundamentals of Soil Science* 3
   AGH 159 Landscape Drafting 2
   AGH 221 Principles of Horticulture 3
   AGH 142 Construction, Safety & Maintenance 3
   AGH 123 Woody Plant Materials 3
   AGH 132 Introduction to Greenhouse 3
   AGH 111 Intro to Turfgrass Management* 2
   AGH 154 Residential Landscape Design I 3
   AGH 805 Horticulture Internship I 2
   AGH 233 Plant Propagation I 3
   AGH 155 Landscape Design II 2
   AGH 251 Insects and Diseases 2
   AGH 120 Herbaceous Plant Materials 3
   AGH 283 Pesticide Application Certification* 2
   SDV 153 Pre-Employment Strategies 2
   AGH 281 Arboriculture 3
   AGH 292 Garden Center Management 3
   AGH 815 Horticulture Internship II 2
   AAS Degree Core science course 3
For the Turf Maintenance Emphasis, the following course is required
   AGH 211 Advanced Turfgrass Management* 3
For the Greenhouse Production Emphasis, the following course is required
   AGH 133 Greenhouse Production Techniques 3
Option Courses Either Plan–Select 1 Course from Option 1, 2 and 3
   MAT 141 Finite Mathematics Opt 1 4
   MAT 772 Applied Math* Opt 1 3
   ENG 105 Composition I Opt 2 3
   COM 703 Communication Skills Opt 2 3
   MGT 145 Human Relations in Business Opt 3 3
   PSY 111 Introduction to Psychology Opt 3 3
   PSY 102 Human and Work Relations Opt 3 3
Either Plan–Select 2 Courses from Option 4
   ACC 111 Intro to Accounting Opt 4 3
   MKT 140 Selling Opt 4 3
   CSC 110 Intro to Computers Opt 4 3
Either Plan–Select 1 Course from Option 5
   AGH 262 Fruit and Vegetable Science Opt 5 3
   AGH 272 Nursery Production I Opt 5 3
Total minimum credits required for the Greenhouse Production emphasis 71
Total minimum credits required for the Turf Maintenance emphasis 71
In addition to the courses required for this degree, students may take the following courses to enhance their background or for personal enrichment:
   AGH 160 Irrigation Systems* 2
   AGH 241 Sports Turf* 2
   AGH 103 Floral Design I 1
   AGH 104 Floral Design II 1
(Courses marked with * are required for the Turf Maintenance Certificate)
Computer-Aided Design Technology

Computer-Aided Design (CAD) Technology prepares students for a career in a variety of design and drafting disciplines. The CAD technology student will be exposed to and operate different CAD software packages and related equipment. Students will learn how to create CAD models and drawings to meet international and U.S. customary design and drafting standards.

Students can obtain a one-year diploma or a two-year Associate Degree in CAD technology. Students enrolled in the one-year diploma will be taught basic drafting and CAD practices with emphasis on entry-level drafting job skills. Students enrolled in the Associate Degree program will complete the first-year diploma requirements and in the second year apply advanced CAD software operations including three-dimensional parametric (solid) modeling, model/assembly analysis and geometric dimensioning and tolerancing. Associate Degree students will also be taught a variety of specialized design and drafting standards that are used in several different industries.

Engineering and manufacturing design and drafting, computer animation, technical publishing and independent CAD contracting are areas where Computer-Aided Design Technology program graduates may find employment.

Location: Ankeny
Selected courses in this program are offered at other campuses.

Program Entry Requirements
Complete an application, satisfy the assessment requirement and attend any required information/registration session. Successful completion of CSC 110 (Introduction to Computers) or equivalent; or approval of the program counselor. Students start fall term.

Graduation Requirements
To earn a Computer-Aided Design Technology diploma or AAS degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

Term 1—Select 1 Course from Option 1
CAD 151 CAD Graphics I 6
CAD 155 Networking Systems Involving CAD 3
MAT 772 Applied Math 3
MGT 145 Human Relations in Business Opt 1 3
PSY 102 Human and Work Relations Opt 1 3

Term 2
MAT 773 Applied Math II 3
CAD 242 Manufacturing Interfaces 3
ENG 105 Composition I 3
CAD 152 CAD Graphics II 6

Term 3
CAD 182 SolidWorks CAD I 3
CAD 196 Engineering Disciplines & Practices 3
CAD 240 Applied Materials and Processes 3

Total credits required to complete the diploma 39

Term 4
CAD 153 CAD Applications I 3
CAD 246 Parametric CAD I 3
CAD 215 Mechanical Systems 3
CAD 252 Design Project I 4
ENG 108 Comp II: Technical Writing 3

Total credits required to complete this AAS degree 69

Computer Applications and Computer Languages Certificates
(see Certificate Section, page 95)

Criminal Justice - AA or AS

The Criminal Justice program prepares students for a career in such areas as law enforcement, corrections, security and juvenile justice. The program allows students to choose either an AA or AS degree. All students must complete the basic Criminal Justice requirements, then select other Criminal Justice classes in areas of primary interest.

Note: Students who have a criminal background history may make it through the program, but it is NOT likely that they will find employment in the Criminal Justice field, and students with a criminal history may NOT be eligible for an internship that is required for the AS degree.

Location: Ankeny
Selected courses in this program are offered at other campuses.

Program Entry Requirements
Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students start any term.

Graduation Requirements
To earn a Criminal Justice AA or AS degree, a student must complete the standard core requirements for the degree, plus the Criminal Justice required courses and options and maintain a 2.0 grade point average.

AA Degree - Law Enforcement

Term 1
CRJ 100 Intro to Criminal Justice 3
CRJ 132 Constitutional Law 3
Select 3 courses from AA Degree Core Requirements 9

Term 2
CRJ 130 Criminal Law 3
Select 3 courses from AA Degree Core Requirements 9
Select 1 course from Option Courses 3

Term 3
CRJ 141 Criminal Investigation 3
Select 3 courses from AA Degree Core Requirements 9
Select 1 course from Option Courses 3

Term 4
CRJ 248 Scientific Investigation 3
Select 3 courses from AA Degree Core Requirements 9
Select 1 course from Option Courses 3
**Programs Available**

**Term 5**
- SOC 200* Minority Group Relations 3
- Select 3 courses from AA Degree Core Requirements 9
- Select 1 course from Option Courses 3

**AA Degree Core Requirements (mentioned above) are as follows:**
- Communications 9
- Social & Behavioral Sciences 9
- *SOC 200 is a required course for this program which may be used to fulfill 3 credits of Social & Behavioral Science AA Core. And POL 171 is an option course that may also be used to fulfill 3 credits of Social & Behavioral Science AA Core.
- Math & Science 9
- Humanities 9
- Distributive 12

**Option Courses–Select 12 Credits from Option 1**
- CRJ 101 Ethics in Criminal Justice Opt 1 3
- CRJ 107 Survey/Criminal Justice Agencies Opt 1 3
- CRJ 109 Theories of Interviewing Opt 1 3
- CRJ 119 Community Relations Opt 1 3
- CRJ 137 Juvenile Law Opt 1 3
- CRJ 165 Intro to Electronic Crime Opt 1 3
- CRJ 195 Crime Scene Investigation Opt 1 4
- POL 171* Intro to Public Administration Opt 1 3
- SOC 240 Criminology Opt 1 3

**Total minimum credits required to complete the AA degree** 75

**AS Degree - Law Enforcement**

**Term 1**
- CRJ 100 Intro to Criminal Justice 3
- CRJ 132 Constitutional Law 3
- Select 2 courses from AS Degree Core Requirements 7
  *(one must be a 4-credit course)*
- Select 1 course from Option Courses 3

**Term 2**
- CRJ 130 Criminal Law 3
- CRJ 141 Criminal Investigation 3
- Select 3 courses from AS Degree Core Requirements 9
- Select 1 course from Option Courses 3

**Term 3**
- CRJ 248 Scientific Investigation 3
- SOC 200* Minority Group Relations 3
- Select 2 courses from AS Degree Core Requirements 6
- Select 1 course from Option Courses 3

**Term 4**
- CRJ 932 Internship 3
- Select 2 courses from AS Degree Core Requirements 6
- Select 2 courses from Option Courses 6

**AA Degree Core Requirements (mentioned above) are as follows:**
- Communications 9
- Social & Behavioral Sciences 9
- *SOC 200 is a required course for this program which may be used to fulfill 3 credits of Social & Behavioral Science AA Core. And POL 171 is an option course that may also be used to fulfill 3 credits of Social & Behavioral Science AA Core.
- Math & Science 9
- Humanities 9
- Distributive 12

**Option Courses–Select 12 Credits from Option 1**
- CRJ 101 Ethics in Criminal Justice Opt 1 3
- CRJ 107 Survey/Criminal Justice Agencies Opt 1 3
- CRJ 109 Theories of Interviewing Opt 1 3
- CRJ 119 Community Relations Opt 1 3
- CRJ 137 Juvenile Law Opt 1 3
- CRJ 141 Criminal Investigation Opt 1 3
- CRJ 195 Crime Scene Investigation Opt 1 4
- POL 171* Intro to Public Administration Opt 1 3
- SOC 240 Criminology Opt 1 3

**Total minimum credits required to complete the AA degree** 75

**Degrees and Diplomas**

**Option Courses–Select 15 Credits from Option 1**
- CRJ 101 Ethics in Criminal Justice Opt 1 3
- CRJ 107 Survey/Criminal Justice Agencies Opt 1 3
- CRJ 109 Theories of Interviewing Opt 1 3
- CRJ 119 Community Relations Opt 1 3
- CRJ 137 Juvenile Law Opt 1 3
- CRJ 165 Intro to Electronic Crime Opt 1 3
- CRJ 195 Crime Scene Investigation Opt 1 4
- POL 171* Intro to Public Administration Opt 1 3
- SOC 240 Criminology Opt 1 3

**Total minimum credits required to complete the AS degree** 64

**AA Degree - Corrections**

**Term 1**
- CRJ 100 Intro to Criminal Justice 3
- CRJ 132 Constitutional Law 3
- Select 3 courses from AA Degree Core Requirements 9

**Term 2**
- CRJ 136 Correctional Law 3
- Select 3 courses from AA Degree Core Requirements 9
- Select 1 course from Option Courses 3

**Term 3**
- CRJ 222 Correctional Treatment Methods 3
- Select 3 courses from AA Degree Core Requirements 9
- Select 1 course from Option Courses 3

**Term 4**
- CRJ 229 Penology 3
- Select 3 courses from AA Degree Core Requirements 9
- Select 1 course from Option Courses 3

**Term 5**
- SOC 200* Minority Group Relations 3
- Select 3 courses from AA Degree Core Requirements 9
- Select 1 course from Option Courses 3

**AA Degree Core Requirements (mentioned above) are as follows:**
- Communications 9
- Social & Behavioral Sciences 9
- *SOC 200 is a required course for this program which may be used to fulfill 3 credits of Social & Behavioral Science AA Core. And POL 171 is an option course that may also be used to fulfill 3 credits of Social & Behavioral Science AA Core.
- Math & Science 9
- Humanities 9
- Distributive 12

**Option Courses–Select 15 Credits from Option 1**
- CRJ 101 Ethics in Criminal Justice Opt 1 3
- CRJ 107 Survey/Criminal Justice Agencies Opt 1 3
- CRJ 109 Theories of Interviewing Opt 1 3
- CRJ 119 Community Relations Opt 1 3
- CRJ 137 Juvenile Law Opt 1 3
- CRJ 141 Criminal Investigation Opt 1 3
- CRJ 195 Crime Scene Investigation Opt 1 4
- POL 171* Intro to Public Administration Opt 1 3
- SOC 240 Criminology Opt 1 3

**Total minimum credits required to complete the AA degree** 75

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## Programs Available

### AS Degree - Corrections

**Term 1**
- CRJ 100 Intro to Criminal Justice 3
- CRJ 132 Constitutional Law 3
- Select 2 courses from AS Degree Core Requirements 6
- Select 1 course from Option Courses 3

**Term 2**
- CRJ 136 Correctional Law 3
- CRJ 229 Penology 3
- Select 3 courses from AS Degree Core Requirements 9
- Select 1 course from Option Courses 3

**Term 3**
- CRJ 222 Correctional Treatment Methods 3
- SOC 200* Minority Group Relations 3
- Select 2 courses from AS Degree Core Requirements 7
  
  *(one must be a 4-credit course)*
- Select 1 course from Option Courses 3

**Term 4**
- CRJ 932 Internship 3
- Select 2 courses from AS Degree Core Requirements 6
- Select 2 courses from Option Courses 6

**AS Degree Core Requirements (mentioned above) are as follows:**
- Communications 9
- Social & Behavioral Sciences 6
- Math & Science 6
- Humanities 3
- Distributive 4

### Option Courses—Select 15 Credits from Option 1

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>CRJ 101</td>
<td>Ethics in Criminal Justice</td>
<td>Opt 1 3</td>
</tr>
<tr>
<td>CRJ 107</td>
<td>Survey/Criminal Justice Agencies</td>
<td>Opt 1 3</td>
</tr>
<tr>
<td>CRJ 109</td>
<td>Theories of Interviewing</td>
<td>Opt 1 3</td>
</tr>
<tr>
<td>CRJ 119</td>
<td>Community Relations</td>
<td>Opt 1 3</td>
</tr>
<tr>
<td>CRJ 137</td>
<td>Juvenile Law</td>
<td>Opt 1 3</td>
</tr>
<tr>
<td>CRJ 141</td>
<td>Criminal Investigation</td>
<td>Opt 1 3</td>
</tr>
<tr>
<td>CRJ 195</td>
<td>Crime Scene Investigation</td>
<td>Opt 1 4</td>
</tr>
<tr>
<td>POL 171*</td>
<td>Intro to Public Administration</td>
<td>Opt 1 3</td>
</tr>
<tr>
<td>SOC 240</td>
<td>Criminology</td>
<td>Opt 1 3</td>
</tr>
</tbody>
</table>

Total minimum credits required to complete the AS degree: 64

### AS Degree - Electronic Crime

**Term 1**
- CRJ 100 Intro to Criminal Justice 3
- NET 123 Computer Hardware Basics 4
- CRJ 167 Operating Sys. for Forensics 3
- Select 1 course from AS Degree Core Communications 3
- Select 1 course from AS Degree Social & Behavioral Sci. 3

**Term 2**
- CRJ 130 Criminal Law 3
- CRJ 141 Criminal Investigation 3
- CRJ 176 Computer Forensics I 3
- Select 1 course from AS Degree Core Communications 3
- Select 1 course from AS Degree Core Math & Sciences 3

**Term 3**
- CRJ 178 E-Crime Investigative Methods 3
- Select 1 course from AS Degree Core Social & Behavioral Sci. 3

**Term 4**
- CRJ 276 Computer Forensics II 3
- CRJ 132 Constitutional Law 3
- NET 213 CISCO Networking 4
- Select 1 course from AS Degree Core Communications 3
- Select 1 course from AS Degree Core Humanities 3

**Term 5**
- CRJ 277 Adv. Digital Forensic Methods 4
- CRJ 932 Internship 3
- Select 1 4-credit course from AS Degree Core Requirements 4
- Select 1 course from AS Degree Core Math & Sciences 3

AS Degree Core Requirements (mentioned above) are as follows:
- Communications 9
- Social & Behavioral Sciences 6
- Math & Science 6
- Humanities 3
- Distributive 4

Total minimum credits required to complete the AS degree: 67

### Culinary Arts

The DMACC Culinary Arts program has been designated the Iowa Culinary Institute, signifying the world-class prominence of the program. The Culinary Arts program is accredited by the American Culinary Federation. The Culinary Arts program prepares students to enter culinary positions with hotels, restaurants, clubs or institutions and some select jobs in dining room service, catering or management. By the end of the program, graduates will have taken courses in food preparation, nutrition, menu planning, purchasing, garde manger and baking. International cuisine, restaurant management and advanced culinary cuisine are practicum courses and a valuable part of the training. These courses are management, designed and offer students practical knowledge of the restaurant industry.

*In order to facilitate student success, the Culinary Arts program offers a learning community where students complete HCM 320 Intro to Hospitality Industry and SPC 101 Fundamentals of Oral Communication (speech) together. Students are required to enroll in the learning community during their first or second semester and will receive details about this when they attend orientation and registration after being admitted to the program. Only students who completed speech at DMACC prior to entering the Culinary Arts program or by transferring credit from another college or university will be permitted to fulfill this requirement with an option course other than SPC 101.

Terms A and B are the first two terms of the program. For the first two semesters, students are divided into groups A and B. Students in group A take the courses listed below under Term A their first semester and then complete term B in their second semester. Students in group B take the courses listed below under Term B their first semester and then complete term A in their second semester. All students complete the same courses in terms 3, 4 and 5.

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PROGRAMS AVAILABLE

Upon successful completion of terms A through 5, students will receive a Culinary Arts AAS degree. Students with a shorter-term educational goal may receive a diploma upon completion of terms A, B and 3. The first three terms must be completed before enrollment is allowed in terms 4 and 5.

Location: Ankeny

Program Entry Requirements
Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students start fall or spring term.

Graduation Requirements
To earn a Culinary Arts AAS degree or diploma, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

Term A
HCM 100 Sanitation and Safety (lec) 2
HCM 104 Sanitation and Equipment Lab 1
HCM 143 Food Preparation I (lec) 3
HCM 144 Food Preparation I Lab 3
HCM 320* Intro to Hospitality Industry (lec) 2
SPC 101* Fund of Oral Communication Opt 1 3
Any SPC course designated as AAS Core (see paragraph above for explanation) Opt 1 3

Term B–Select 1 Course from Option 2 and 1 Course from Option 3
HCM 200 Dining Room Service (lec) 2
HCM 231 Nutrition (lec) 2
HCM 310 Work Experience 3
MGT 145 Human Relations in Business 3
COM 703 Communication Skills Opt 2 3
Any ENG course designated as AAS Core Opt 2 3
BUS 112 Business Math Opt 3 3
MAT 772 Applied Math Opt 3 3
Any MAT or BUS course designated as AAS Core Opt 3 3

Term 3
HCM 152 Food Preparation II (lec) 2
HCM 153 Food Preparation II Lab 2
HCM 270 Garde Manger (lab) 2
HCM 167 Culinary Skills Development (lab) 2
Total credits required to complete the diploma 38

Term 4
HCM 240 Menu Planning & Design (lec) 2
HCM 250 Purchasing (lec) 2
HCM 173 International Cuisine (lec) 2
HCM 172 International Cuisine (lab) 3
HCM 210 Dining Management (lec) 2
HCM 167 Culinary Skills Development (lab) 3

Term 5
HCM 175 International Cuisine Lab II 3
HCM 124 Advanced Baking/Buffet Decorating (lab) 2
HCM 169 Culinary Cuisine Lab 4
HCM 168 Advanced Culinary Cuisine (lec) 2
HCM 300 Beverage Management (lec) 2
SDV 153 Pre-Employment Strategies 2
Total credits required to complete the AAS degree 67

Data Entry I and Database Specialist
Certificates (see Certificate Section, page 96)

Dental Assistant

The Dental Assistant program prepares the student, as a member of the dental health team, to assist the dentist in all phases of dentistry. The program includes general and specialty dentistry, chairside procedures, radiology and laboratory and business office assisting.

An integral part of the educational program is clinical experience; this is provided by rotation through various dental facilities.

The Dental Assistant program is accredited by the Commission on Dental Accreditation, a specialized accrediting body recognized by the Council of Postsecondary Accreditation and the United States Department of Education.

Note: Criminal background checks will be completed on each student. Criminal convictions or documented history of abuse may delay or prevent students from participating in clinical education experiences. Students unable to participate in clinical education will be unable to complete the Dental Assistant program.

Location: Ankeny

Program Entry Requirements
Complete an application, satisfy the assessment requirement and attend any required information/registration session. Keyboard skills of 35 WPM with no more than 5 errors is strongly recommended. High school biology is strongly recommended. Submit proof of high school graduation or GED prior to enrollment. Students start fall term.

Graduation Requirements
To earn a Dental Assistant diploma, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

Term 1
DEA 253 Dental Science I 4
DEA 256 Dental Anatomy 2
DEA 424 Dental Materials Lab 1
DEA 507 Principles of Dental Assisting 6
DHY 221 Dental Materials 2
DHY 161 Oral Radiology 3

Term 2
DEA 321 Dental Radiography II 2
DEA 591 Dental Assisting Seminar 1
DEA 576 Dental Assisting Clinic I 3
DEA 263 Dental Science II 2
DEA 615 Clinical Dental Assisting 5
DEA 702 Dental Office Procedures 2
ENG 105 Composition I 3

Term 3
DEA 297 Ethics/Jurisprudence Seminar 1
DEA 577 Dental Assisting Clinic II 4
PSY 102 Human & Work Relations 3
SPC 101 Fund of Oral Communication 3
Grades may immediately sit for the National Board exam to become a Certified Dental Assistant.

Total credits required to complete this program 47
PROGRAMS AVAILABLE

Dental Hygiene

The Dental Hygiene curriculum is designed to prepare graduates for positions in general and specialty dental offices, hospitals, schools, public health agencies and industrial agencies.

Students are trained in educational methods and preventive clinical services that qualify them as dental health educators and competent clinicians. Emphasis is placed on the correlation between prevention, education and the clinical phases of dental hygiene practice, as well as basic and social sciences.

The Dental Hygiene program is accredited by the Commission on Dental Accreditation, a specialized accrediting body recognized by the Council of Postsecondary Accreditation and the United States Department of Education.

Location: Ankeny

Program Entry Requirements

Complete an application. Attend a Dental Hygiene program information session. Provide proof of high school graduation or GED completion. Complete required COMPASS testing, obtaining satisfactory scores in reading (81 or above) and writing (70 or above) or ACT scores in Reading (19 or above) and English (19 or above). Complete the following courses with a grade of “C” (not C-) or better in each:

1. BIO 164 Essential Anatomy/Physiology OR BOTH BIO 733 Health Science Anatomy AND BIO 734 Health Science Physiology
2. CHM 122 Introduction to General Chemistry
3. BIO 187 Microbiology w/lab OR BIO 732 Health Science Microbiology

When transferring equivalent courses to DMACC, an official transcript must be sent to the Admissions Office as courses are completed.

Wait List Processing

Position on the Wait List will be determined by the number of support courses completed.

CHM 132 Introduction to Organic/Biochemistry, PSY 111 Introduction to Psychology, SOC 110 Introduction to Sociology, ENG 105 Composition I, SPC 101 Fundamentals of Oral Communication OR SPC 126 Interpersonal & Small Group Communication

When there is no completion of any remaining support courses for three years from the date the student’s name went on the Wait List, the applicant will be deleted from the list.

Graduation Requirements

To earn a Dental Hygiene AAS degree, a student must successfully complete all dental hygiene and liberal arts support courses required in the curriculum, achieving a grade of “C” (not C-) or better in each course. In order to progress to the next term of the Dental Hygiene program, all required courses in the current term must be completed with a grade of “C” or better.

Note: Criminal background checks will be completed on each student. Criminal convictions or documented history of abuse may prevent students from participating in clinical experiences. Students who do not participate in clinical education will be unable to complete the program.

Term 1–CPR Certification

CHM 132 Introduction to Organic/Biochemistry 4
DHY 170 Principles of Dental Hygiene 2
DHY 171 Principles of Dental Hygiene Practicum 3
DHY 121 Oral Histology and Embryology 2
DHY 114 Dental Hygiene Anatomical Sciences 4
DHY 161 Oral Radiology 3

Term 2–Select the Option 1 Course or both Option 2 Courses

DHY 181 Dental Hygiene I 2
DHY 182 Clinical Dental Hygiene I 4

Degrees and Diplomas

DHY 164 Oral Radiography II 2
DHY 141 General and Oral Pathology 3
DHY 232 Nutrition & Preventative Dentistry Opt 1 4
HCM 236 Human Nutrition Opt 2 3
DHY 234 Nutrition/Dental Counseling Opt 2 1

Term 3

DHY 281 Dental Hygiene II 2
DHY 282 Clinical Dental Hygiene II 2
DHY 211 Periodontology 2
DHY 133 Pharmacology 3
PSY 111 Intro to Psychology 3

Term 4

DHY 221 Dental Materials 2
DHY 223 Dental Materials Lab 1
DHY 261 Dental Health Education 3
DHY 291 Dental Hygiene III 2
DHY 292 Clinical Dental Hygiene III 5

SOC 110 Introduction to Sociology 3

Term 5–Select 1 Course from Option 3

DHY 251 Community Oral Health 3
DHY 301 Dental Hygiene IV 2
DHY 302 Clinical Dental Hygiene IV 5
ENG 105 Composition I 3
SPC 101 Fund of Oral Communication Opt 3 3
SPC 126 Interpersonal & Small Group Communication Opt 3 3

Total credits required to complete this program 77

Diemaking (See Tool & Diemaking, page 90)

Diesel Technology

The Diesel Technology program prepares students for a career in the area of diesel repair. Instruction is in the repair, maintenance and testing of diesel engines, power trains and components of trucks and heavy construction equipment.

This program is accredited by the AED Associated Equipment Distributors www.AEDnet.org

Location: Ankeny

Program Entry Requirements

Complete an application, satisfy the assessment requirement, complete a mechanical aptitude and ability test, and attend any required information/registration session. Students start any term.

Graduation Requirements

To earn a Diesel Technology diploma or AAS degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

Required Courses–Diploma

DSL 356 Diesel Engines I 6
DSL 366 Diesel Engines II 6
DSL 546 Power Trains I 6
DSL 605 Hydraulics and Brakes 5
### Early Childhood Education

The Early Childhood Education program prepares students for careers working with young children in a variety of settings. Students who successfully complete the program are competent to assume a position of responsibility in early childhood education.

Coursework includes early childhood development, guidance techniques, assessment, curriculum planning, infant and toddler care, health, safety and nutrition and emergency care.

Students will have the opportunity to participate in the Des Moines Area Community College Child Care Center as well as a community-based program as they develop their competencies in the field of early childhood education.

When coursework is completed, students will assume positions in a variety of settings such as child care centers, preschools, child development homes and public and private schools working with infants and toddlers, preschoolers or school-age children. A second degree option, Early Childhood Education Associate, is also available.

DHS criminal history record checks will be completed on each student. Criminal convictions or documented history of abuse will prevent students from participating in practicum and participation experiences. Students unable to complete these classes will not receive a degree in Early Childhood Education.

#### Location: Ankeny

Selected courses in this program are offered at other campuses.

#### Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend required information/registration session. Students start any term.

#### Graduation Requirements

To earn an Early Childhood Education diploma, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

#### Recommended Course of Study

A recommended course of study, listed below, has been created to ensure that each student completes the program in the minimal amount of time required. However, the course of study can be tailored to meet the specific needs of each student.

**Term 1**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECE 173</td>
<td>Early Childhood Development</td>
<td>3</td>
</tr>
<tr>
<td>ECE 101</td>
<td>Intro to Early Childhood Education</td>
<td>1</td>
</tr>
<tr>
<td>ECE 242</td>
<td>Early Childhood Guidance</td>
<td>2</td>
</tr>
<tr>
<td>ECE 147</td>
<td>Assessment Planning-Young Children</td>
<td>1</td>
</tr>
<tr>
<td>ECE 148</td>
<td>Group Exp. for Early Childhood Programs</td>
<td>2</td>
</tr>
<tr>
<td>ECE 149</td>
<td>Curriculum–Preschool Children</td>
<td>3</td>
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<tr>
<td>ECE 130</td>
<td>Emergency Care</td>
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<tr>
<td>ECE 263</td>
<td>Student Participation I</td>
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</table>

**Total 16**

**Term 2**

<table>
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<td>ECE 133</td>
<td>Child Health, Safety &amp; Nutrition</td>
<td>3</td>
</tr>
<tr>
<td>ECE 220</td>
<td>Infant/Toddler Care &amp; Education</td>
<td>3</td>
</tr>
<tr>
<td>ECE 121*</td>
<td>Professional Relationships</td>
<td>2</td>
</tr>
<tr>
<td>ECE 266</td>
<td>Student Participation II</td>
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</tr>
<tr>
<td>ECE 281</td>
<td>Practicum</td>
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</tbody>
</table>

* ECE 121 is only offered in the Spring Semester
PROGRAMS AVAILABLE

Option Courses—Select 1 Course from Each Option

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Option</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 105</td>
<td>Composition I</td>
<td>Opt 1</td>
<td>3</td>
</tr>
<tr>
<td>COM 703</td>
<td>Communication Skills</td>
<td>Opt 1</td>
<td>3</td>
</tr>
<tr>
<td>ADM 157</td>
<td>Business English</td>
<td>Opt 1</td>
<td>3</td>
</tr>
<tr>
<td>SOC 110</td>
<td>Introduction to Sociology</td>
<td>Opt 2</td>
<td>3</td>
</tr>
<tr>
<td>PSY 111</td>
<td>Intro to Psychology</td>
<td>Opt 2</td>
<td>3</td>
</tr>
<tr>
<td>PSY 102</td>
<td>Human and Work Relations</td>
<td>Opt 2</td>
<td>3</td>
</tr>
<tr>
<td>MGT 145</td>
<td>Human Relations in Business</td>
<td>Opt 2</td>
<td>3</td>
</tr>
</tbody>
</table>

Total 19

Total credits required to complete this program 35

Early Childhood Education-Associate

The Early Childhood Education Associate program is designed to build on those skills developed in the Early Childhood Education diploma program and to broaden the student’s background in general education. Further competence in early childhood education is developed through coursework in administration of programs for children and field practicum settings.

Students completing the Early Childhood Education diploma program plus the additional requirements listed will earn an Early Childhood Education Associate in Science degree. They may take one of the many jobs available in early childhood education including teaching in child care centers, preschools, child development homes and public and private schools, working with infants and toddlers, preschoolers and school-age children, as well as administrative positions in early childhood programs. Students who intend to transfer should contact the Early Childhood Education program chair or program counselor regarding important information concerning articulation agreements with four-year institutions. This program is not intended for students who are in Elementary Education.

DHS criminal history record checks will be completed on each student. Criminal convictions or documented history of abuse will prevent students from participating in practicum and participation experiences. Students unable to complete these classes will not receive a degree in Early Childhood Education.

Location: Ankeny

Selected courses in this program are offered at other campuses.

Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students start any term.

Graduation Requirements

To earn an Early Childhood Education AS degree, a student must complete the standard core requirements for the degree plus the Early Childhood Education program required courses and options and maintain a 2.0 grade point average.

Recommended Course of Study

A recommended course of study, listed below, has been created to ensure that each student completes the program in the minimal amount of time required. However, the course of study can be tailored to meet the specific needs of each student.

Term 1

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>ECE 173</td>
<td>Early Childhood Development</td>
<td>3</td>
</tr>
<tr>
<td>ECE 101</td>
<td>Intro to Early Childhood Education</td>
<td>1</td>
</tr>
<tr>
<td>ECE 242</td>
<td>Early Childhood Guidance</td>
<td>2</td>
</tr>
<tr>
<td>ECE 147</td>
<td>Assessment &amp; Planning–Young Children</td>
<td>1</td>
</tr>
<tr>
<td>ECE 148</td>
<td>Group Exp. for Early Childhood Programs</td>
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</table>

Total 13

Term 2

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<tr>
<th>Course Code</th>
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<td>ECE 133</td>
<td>Child Health, Safety &amp; Nutrition</td>
<td>3</td>
</tr>
<tr>
<td>ECE 220</td>
<td>Infant/Toddler Care &amp; Education</td>
<td>3</td>
</tr>
<tr>
<td>ECE 121</td>
<td>Professional Relationships</td>
<td>2</td>
</tr>
<tr>
<td>ECE 266</td>
<td>Student Participation II</td>
<td>3</td>
</tr>
<tr>
<td>ECE 281</td>
<td>Early Childhood Education Practicum</td>
<td>2</td>
</tr>
</tbody>
</table>

Total 16

Required Courses for Remaining Semesters

Additional AS Degree Core Requirements 28

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ECE 290</td>
<td>Early Childhood Program Administration</td>
<td>3</td>
</tr>
<tr>
<td>ECE 267</td>
<td>Early Childhood Assoc Practicum</td>
<td>3</td>
</tr>
</tbody>
</table>

Elective courses 2

Total minimum credits required to complete this program 65

Education

Students planning to major in secondary or elementary education at a four-year college/university can satisfy many of their general education requirements at Des Moines Area Community College. Since degree requirements vary at senior institutions, students should become familiar with the specific course requirements of their selected transfer institution. Students are also encouraged to contact the four-year major advisor as early as possible to develop a transfer plan. DMACC advisors and/or counselors can also help by providing transfer materials and course planning assistance.

Electrical Construction Trades

The Electrical Construction Trades program prepares students for entry-level positions in residential, commercial and industrial wiring. At the completion of the program, students should be able to install electrical wiring to meet National Electric Code® (NEC code) in residential and commercial settings. In addition, students should be able to install motor-controlled equipment in industrial operations using more complex systems such as Programmable Logic Controllers.

Location: Newton

Selected courses in this program are offered at other campuses.

Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students start fall term.

Graduation Requirements

To earn an Electrical Construction Trades diploma, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

Term 1

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAT 772</td>
<td>Applied Math</td>
<td>3</td>
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<tr>
<td>CON 337</td>
<td>Construction Blueprint Reading</td>
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</tr>
<tr>
<td>ELT 303</td>
<td>Principles of Electricity</td>
<td>3</td>
</tr>
<tr>
<td>ELT 158</td>
<td>NEC® Residential</td>
<td>3</td>
</tr>
<tr>
<td>ELT 159</td>
<td>NEC® Residential Lab</td>
<td>3</td>
</tr>
</tbody>
</table>

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Programs Available

Electronics, Robotics & Automation

The Electronics, Robotics & Automation program prepares students for a career as a technician in industrial manufacturing. At the end of the program, students should be able to diagnose and repair industrial equipment ranging from the basic motor control devices used in hard automation to the sophisticated industrial robots and computer-integrated manufacturing cells that utilize microprocessors for programming and servo control.

The curriculum includes both the fundamental technologies and system applications. Upon program completion, students may seek employment with area manufacturers, maintaining plant equipment, or with companies that produce process control or robotic devices.

Location: Ankeny

Program Entry Requirements

1. Complete an application.
2. Satisfy the assessment requirement and attend any required information/registration session.
3. Complete the required COMPASS testing, obtaining a satisfactory score in algebra (49 or higher) or ACT scores with a math sub score of 19 or higher, or completion of MAT 063 with a grade of “C” or better.
4. Successful completion of CSC 110 Intro to Computers or equivalent; or approval of the program counselor.

Students start fall term.

Graduation Requirements

To earn an Electronics, Robotics & Automation AAS degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

Term 1—Select 1 Course from Option 1

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELT 385</td>
<td>Electric Circuit Analysis I</td>
<td>4</td>
</tr>
<tr>
<td>ELT 386</td>
<td>Electric Circuit Analysis I Lab</td>
<td>2</td>
</tr>
<tr>
<td>ELT 389</td>
<td>Fabrication Techniques</td>
<td>3</td>
</tr>
<tr>
<td>ELT 108</td>
<td>Math for Electronics &amp; Computers</td>
<td>4</td>
</tr>
<tr>
<td>ENG 105</td>
<td>Composition I</td>
<td>Opt 1</td>
</tr>
<tr>
<td>COM 703</td>
<td>Communication Skills</td>
<td>Opt 1</td>
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</table>

Term 2—Select 1 Course from Option 2

<table>
<thead>
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<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ELT 325</td>
<td>Digital Electronics</td>
<td>3</td>
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<tr>
<td>ELT 326</td>
<td>Digital Electronics Lab</td>
<td>3</td>
</tr>
<tr>
<td>ELT 387</td>
<td>Electronic Circuit Analysis II</td>
<td>3</td>
</tr>
</tbody>
</table>

Total credits required to complete this program 40

Electronics Systems Servicing Technology

The Electronics Systems Servicing Technology program prepares the student for a career as a technician for servicing electronic systems. Upon completion of this program, students should be able to diagnose and repair electronic equipment including personal security systems, business machines and medical electronics.

The curriculum includes the fundamental technologies, systems applications and an internship. Upon program completion, graduates may seek employment with local and regional electronic systems servicing companies.

The last term of the ESST program requires an internship (ELT 932). Before students enroll in the ELT 932 Internship course, they will be required to achieve a grade of “C” or higher in the DMACC courses pertaining to their chosen internship area. Students may choose an internship emphasis from one of the following four categories:

- **Consumer Electronics**: Courses requiring a grade of “C” or higher are ELT 474 and 475.
- **Security Systems**: Courses requiring a grade of “C” or higher are ELT 482 and 483.
- **Business Machines**: Courses requiring a grade of “C” or higher are ELT 478 and 479.
- **Medical Electronics**: Courses requiring a grade of “C” or higher are ELT 484 and 485.

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELT 388</td>
<td>Elec. Circuit Analysis II Lab</td>
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</tr>
<tr>
<td>ELT 181</td>
<td>Adv. Math for Electronics Technicians</td>
<td>1</td>
</tr>
<tr>
<td>MGT 145</td>
<td>Human Relations in Business</td>
<td>Opt 2</td>
</tr>
<tr>
<td>PSY 111</td>
<td>Intro to Psychology</td>
<td>Opt 2</td>
</tr>
<tr>
<td>PSY 102</td>
<td>Human &amp; Work Relations</td>
<td>Opt 2</td>
</tr>
<tr>
<td>SOC 310</td>
<td>Introduction to Sociology</td>
<td>Opt 2</td>
</tr>
</tbody>
</table>

Total credits required to complete this program 78

Degrees and Diplomas


PROGRAMS AVAILABLE

Location: Ankeny

Program Entry Requirements
1. Complete an application.
2. Satisfy the assessment requirement and attend any required information/registration session.
3. Complete the required COMPASS testing, obtaining a satisfactory score in algebra (49 or higher) or ACT scores with a math sub score of 19 or higher, or completion of MAT 063 with a grade of “C” or better.
4. Successful completion of CSC 110 Intro to Computers or equivalent; or approval of the program counselor.

Students start fall term.

Graduation Requirements
To earn an Electronics Systems Servicing Technology AAS degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

Term 1–Select 1 Course from Option 1

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELT 385</td>
<td>4</td>
</tr>
<tr>
<td>ELT 386</td>
<td>2</td>
</tr>
<tr>
<td>ELT 389</td>
<td></td>
</tr>
<tr>
<td>ELT 108</td>
<td>4</td>
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<tr>
<td>ENG 105</td>
<td>3</td>
</tr>
<tr>
<td>COM 703</td>
<td></td>
</tr>
</tbody>
</table>

Term 2–Select 1 Course from Option 2

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELT 325</td>
<td>3</td>
</tr>
<tr>
<td>ELT 326</td>
<td>3</td>
</tr>
<tr>
<td>ELT 387</td>
<td>3</td>
</tr>
<tr>
<td>ELT 388</td>
<td>3</td>
</tr>
<tr>
<td>ELT 181</td>
<td>1</td>
</tr>
<tr>
<td>MGT 145</td>
<td>3</td>
</tr>
<tr>
<td>PSY 111</td>
<td>3</td>
</tr>
<tr>
<td>PSY 102</td>
<td>3</td>
</tr>
<tr>
<td>SOC 110</td>
<td>3</td>
</tr>
</tbody>
</table>

Term 3

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELT 781</td>
<td>2</td>
</tr>
<tr>
<td>ELT 782</td>
<td>2</td>
</tr>
<tr>
<td>ELT 478</td>
<td>3</td>
</tr>
<tr>
<td>ELT 479</td>
<td>3</td>
</tr>
<tr>
<td>ECN 120</td>
<td>3</td>
</tr>
</tbody>
</table>

Term 4

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELT 474</td>
<td>3</td>
</tr>
<tr>
<td>ELT 475</td>
<td>3</td>
</tr>
<tr>
<td>ELT 652</td>
<td>4</td>
</tr>
<tr>
<td>ELT 482</td>
<td>3</td>
</tr>
<tr>
<td>ELT 483</td>
<td>4</td>
</tr>
</tbody>
</table>

Term 5

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELT 484</td>
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</tr>
<tr>
<td>ELT 485</td>
<td>3</td>
</tr>
<tr>
<td>ELT 816</td>
<td>2</td>
</tr>
<tr>
<td>ELT 817</td>
<td>3</td>
</tr>
<tr>
<td>ELT 932</td>
<td>5</td>
</tr>
</tbody>
</table>

Total credits required to complete the AAS degree 78

Emergency Medical Tech Basic
(see Certificate Section, page 96)

Engineering

Students planning to major in an engineering field at a four-year college/university can satisfy many of their general education requirements at Des Moines Area Community College. Since degree requirements vary at senior institutions, students should become familiar with the specific course requirements of their selected transfer institution. Students are also encouraged to contact the four-year major advisor as early as possible to develop a transfer plan. DMACC advisors and/or counselors can also help by providing transfer materials and course planning assistance.

Enology
(see Certificate Section, page 97)

Entrepreneurship

The many rewards and challenges of owning your own business are being realized by increasing numbers of people. The Entrepreneurship program will help you put together or improve your plans for being successful in owning or operating a small business. In addition to innovative marketing strategies, creative financing methods and employee development skills, the program emphasizes personal development in accounting, supervision, communication and relationship management. Both day and evening courses are offered.

Location: Ankeny, Boone, Urban
Selected courses in this program are offered at other campuses.

Program Entry Requirements
Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students start any term.

Graduation Requirements
To earn an Entrepreneurship diploma, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 311</td>
<td>3</td>
</tr>
<tr>
<td>BUS 112</td>
<td>3</td>
</tr>
<tr>
<td>BUS 220</td>
<td>3</td>
</tr>
<tr>
<td>BUS 131</td>
<td>3</td>
</tr>
<tr>
<td>BUS 138</td>
<td>3</td>
</tr>
<tr>
<td>BUS 141</td>
<td>3</td>
</tr>
<tr>
<td>BUS 148</td>
<td>3</td>
</tr>
<tr>
<td>BUS 150</td>
<td>3</td>
</tr>
<tr>
<td>BUS 181</td>
<td>2</td>
</tr>
</tbody>
</table>

Option Courses–Select 1 Course From Each Option

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 131</td>
<td>4</td>
</tr>
<tr>
<td>ACC 111</td>
<td>3</td>
</tr>
<tr>
<td>ENG 105</td>
<td>3</td>
</tr>
<tr>
<td>COM 703</td>
<td>3</td>
</tr>
</tbody>
</table>

VISIT US ONLINE: www.DMACC.edu 67
### Programs Available

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGT 145</td>
<td>Human Relations in Business</td>
<td>Opt 3</td>
</tr>
<tr>
<td>PSY 111</td>
<td>Introduction to Psychology</td>
<td>Opt 3</td>
</tr>
<tr>
<td>BUS 240</td>
<td>Virtual Business Firm</td>
<td>Opt 4</td>
</tr>
<tr>
<td>CSC 110</td>
<td>Intro to Computers</td>
<td>Opt 4</td>
</tr>
<tr>
<td>MKT 140</td>
<td>Selling</td>
<td>Opt 4</td>
</tr>
<tr>
<td>BCA 212</td>
<td>Intro Computer Business Appl</td>
<td>Opt 4</td>
</tr>
</tbody>
</table>

Total credits required to complete this program 38

### Entrepreneurship

(see Certificate Section, page 97)

### Fashion

(see Certificate Section, page 97)

### Fashion/Design

Challenges and rapid advancement opportunities set in an exciting atmosphere of change, fast-paced business decisions and competition are offered to you in a fashion career. Take part in the action where style becomes a way of expression in apparel and accessories, as well as interior design. A career in the fashion industry could include management, designing, buying, marketing or promotion, sales, customer service or visual merchandising.

The curriculum has been designed with the help of employers in both the apparel and interior design industries. Many students achieve management positions upon graduation or shortly thereafter because of the specialized coursework and individual effort. Graduates interested in apparel design or interior design usually transfer to a four-year program.

Instruction is based on lectures, labs, internships, speakers and a variety of conferences and field studies in fashion centers such as New York City. These activities offer the student a chance to interact with key industry professionals and develop an invaluable employment network.

Two awards are offered in the Fashion program. Upon successful completion of the Fashion/Design program, students will receive an AAS degree. Students with a shorter-term educational goal may receive a diploma.

Fashion/Design emphasizes career development along with transfer options for students planning on attending a four-year college. Contact a DMACC Fashion/Design instructor, counselor or advisor for transfer planning assistance.

**Location: Ankeny**

Selected courses in this program are offered at other campuses.

### Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students start any term.

### Graduation Requirements

To earn a Fashion diploma or AAS degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.
### Programs Available

**Option Courses—Select 1 Course from Each Option**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Option</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MKT 160</td>
<td>Principles of Retailing</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>BUS 102</td>
<td>Introduction to Business</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>MGT 145</td>
<td>Human Relations in Business</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>PSY 111</td>
<td>Introduction to Psychology</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>BUS 112</td>
<td>Business Math</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>MAT 141</td>
<td>Finite Math</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>ENG 105</td>
<td>Composition I</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>COM 703</td>
<td>Communication Skills</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

**Total credits required to complete the diploma** 45

### Fire Science Technology

The Fire Science Technology program provides a fundamental base of knowledge for people seeking career opportunities in the broad field of fire protection.

During the program, students complete general education core requirements and specific fire science courses. The latter examine the causes and behavior of fire and the means of minimizing its destructive effects through design, detection, suppression and prevention.

Students who possess a Fire Fighter I Certification can apply for four elective credits toward the AS degree in Fire Science Technology. Students who possess a Fire Fighter II Certification can apply for three elective credits toward the AS degree in Fire Science Technology. The Certification is based on the National Fire Protection Association Standard NEPA 1001 and accredited by a nationally recognized fire service accreditation agency.

**Location:** Ankeny

**Program Entry Requirements**

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students start any term.

**Graduation Requirements**

To earn a Fire Science Technology AS degree, a student must complete the standard core requirements for the degree, plus the Fire Science Technology required courses and maintain a 2.0 grade point average.

**Required Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>CHM 122</td>
<td>Intro to General Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>ENG 105</td>
<td>Composition I</td>
<td>3</td>
</tr>
<tr>
<td>ENG 106</td>
<td>Composition II</td>
<td>3</td>
</tr>
<tr>
<td>ENG 108</td>
<td>Composition II: Technical Writing</td>
<td>3</td>
</tr>
<tr>
<td>FIR 230</td>
<td>Fire Behavior and Investigation</td>
<td>3</td>
</tr>
<tr>
<td>FIR 232</td>
<td>Property Insurance–Fraud Investigation</td>
<td>3</td>
</tr>
<tr>
<td>FIR 124</td>
<td>Building Construction</td>
<td>3</td>
</tr>
<tr>
<td>FIR 152</td>
<td>Fire Protection Systems</td>
<td>3</td>
</tr>
<tr>
<td>FIR 182</td>
<td>Hazardous Materials</td>
<td>3</td>
</tr>
<tr>
<td>FIR 220</td>
<td>Planning for Fire Prevention</td>
<td>3</td>
</tr>
<tr>
<td>FIR 212</td>
<td>Emergency Scene Management</td>
<td>3</td>
</tr>
<tr>
<td>FIR 200</td>
<td>Occupational Safety/Health in Emergency Services</td>
<td>3</td>
</tr>
<tr>
<td>FIR 138</td>
<td>Principles of Fire Prevention</td>
<td>3</td>
</tr>
<tr>
<td>MGT 101</td>
<td>Principles of Management</td>
<td>3</td>
</tr>
<tr>
<td>PHI 105</td>
<td>Introduction to Ethics</td>
<td>3</td>
</tr>
<tr>
<td>POL 112</td>
<td>American State &amp; Local Government</td>
<td>3</td>
</tr>
</tbody>
</table>

### Degrees and Diplomas

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSY 111</td>
<td>Introduction to Psychology</td>
<td>3</td>
</tr>
<tr>
<td>AS Degree Core MAT</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>AS Degree Core SPC</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td></td>
<td>6–7</td>
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</tbody>
</table>

**The Courses Below are Recommended to Fulfill the Elective 6–7 Credits**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGT 130</td>
<td>Principles of Supervision</td>
<td>3</td>
</tr>
<tr>
<td>MGT 145</td>
<td>Human Relations in Business</td>
<td>3</td>
</tr>
<tr>
<td>MGT 147</td>
<td>Leadership Development</td>
<td>3</td>
</tr>
<tr>
<td>PSY 102</td>
<td>Human and Work Relations</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total minimum credits required to complete this program** 64

### Fire Specialist (see Certificate Section, page 97)

### Fitness and Sports Management

Fitness and Sports Management is designed to give students three different areas to choose from: Fitness Management, Sports Management, or Health.

This degree is designed to be a two-year degree. The degree is designed for individuals who would like to pursue a career in the fitness, sports, recreation or health fields.

The Fitness and Sports Management AS degree is a transfer degree, designed to prepare students for a Fitness Management, Sports Management and Health program at a four-year school. Graduates from the program may also be able to find entry-level positions at parks and recreation departments, YMCAs/YWCAs, private health clubs, golf courses, schools, hospitals or other facility management positions.

**Location:** Boone

Selected courses in this program are offered at other campuses.

**Program Entry Requirements**

Complete an application, satisfy the assessment requirement and attend any required information/registration session. A program orientation will be required for all students entering the program. Students start any term.

**Graduation Requirements**

To earn a Fitness and Sports Management AS degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

**Required Courses—All Students**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 168</td>
<td>Anatomy &amp; Physiology I</td>
<td>4</td>
</tr>
<tr>
<td>BIO 173</td>
<td>Anatomy &amp; Physiology II</td>
<td>4</td>
</tr>
<tr>
<td>CSC 110</td>
<td>Intro to Computers</td>
<td>3</td>
</tr>
<tr>
<td>ECN 130</td>
<td>Principles of Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td>ENG 105</td>
<td>Composition I</td>
<td>3</td>
</tr>
<tr>
<td>ENG 106</td>
<td>Composition II</td>
<td>3</td>
</tr>
<tr>
<td>PEH 920</td>
<td>Field Experience</td>
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</tr>
<tr>
<td>PEA 144</td>
<td>Physical Fitness &amp; Conditioning</td>
<td>2</td>
</tr>
<tr>
<td>HCM 236</td>
<td>Human Nutrition</td>
<td>3</td>
</tr>
<tr>
<td>PEH 162</td>
<td>Intro to Physical Education</td>
<td>3</td>
</tr>
<tr>
<td>PEH 102</td>
<td>Health</td>
<td>3</td>
</tr>
<tr>
<td>SPC 101</td>
<td>Fund of Oral Communication</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Required Courses—All Students** 36

In addition to the required courses for all students, each student must choose one of the following emphasis plans: Fitness Management, Health, or Sports Management and complete the requirements for their chosen emphasis.

**Visit us online:** www.DMACC.edu
## Programs Available

### Fitness Management Emphasis

**Required Courses**
- PEH 141 First Aid   2
- PEH 265 Leadership Techniques for Fitness Program   2
- MCT 101 Principles of Management   3
- PET 110 Intro to Athletic Training   2
- PSY 121 Developmental Psychology   3
- Any AS degree Core Humanities   6
- Any AS degree Core Social Sciences   3
- Elective   1

**Option Courses—Select 1 Course from Each Option**
- MAT 130 Trigonometry   Opt 1 3
- MAT 157 Statistics   Opt 1 4
- PHY 106 Survey of Physics   Opt 2 4
- PHY 160 General Physics I   Opt 2 5

### Health Emphasis

**Required Courses**
- BIO 112 General Biology I   4
- PEH 141 First Aid   2
- MAT 157 Statistics   4
- MKT 110 Principles of Marketing   3
- PSY 121 Developmental Psychology   3
- PSY 261 Human Sexuality   3
- Any AS degree Core Humanities   6
- Any AS degree Core Social Sciences   3
- Elective   2

### Sports Management Emphasis

**Required Courses**
- ACC 131 Principles of Accounting I   4
- PEH 255 Principles–Sports Management   3
- MAT 157 Statistics   4
- MCT 101 Principles of Management   3
- MKT 110 Principles of Marketing   3
- SOC 110 Introduction to Sociology   3
- Any AS degree Core Humanities   6
- Elective   3

**Option Courses—Select 1 Course from Option 3**
- PSY 111 Introduction to Psychology   Opt 3 3
- PSY 121 Developmental Psychology   Opt 3 3

### Graphic Design (previously Commercial Art)

The Graphic Design program prepares students for a career in graphic communications. Skills emphasized stress the ability to successfully design and produce a wide variety of materials for use in this challenging field.

- Courses utilizing the traditional methods along with desktop publishing prepare students for entry-level positions. Required courses such as design, typography, electronic photo editing and computer graphics allow students to seek advanced opportunities. Electives in photography, web design, printing, airbrush and advanced computer graphics will allow students to specialize.

- Internship and portfolio preparation courses focus on the placement of students in the “real world.” Instructors have all been employed in the career field and are teaching courses directly related to their expertise.

- When the program is completed, students may find employment in design studios, advertising agencies, in-house art departments, printing companies, publishing firms and other businesses in need of creative communications.

**Location:** Ankeny

**Program Entry Requirements**

Complete an application and attend a Graphic Design Realities Exploration Day, obtaining a satisfactory score on an art portfolio. Although not a requirement for acceptance into this program, students are encouraged to take the COMPASS assessment. Students start fall term, but some courses are available summer term.

**Graduation Requirements**

To earn a Graphic Design AAS degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

**Required Courses**
- GRD 401 Graphic Design Orientation   3
- GRD 403 Communication Design I   3
- GRD 404 Typography II   3
- GRD 405 Typography I   3
- GRD 407 Production Art I   3
- GRD 410 Illustration I   3
- GRD 411 Communication Design II   3
- GRD 415 Production Art II   3
- GRD 421 Internship Preparation   2
- GRD 424 Graphic Design Internship I   3
- GRD 426 Communication Design III   3
- GRD 430 Production Art III   3
- GRD 436 Portfolio Preparation I   3
- GRD 437 Communication Design IV   3
- GRD 440 Production Art IV   3
- GRD 444 Portfolio Preparation II   3
- GRD 459 Computer Graphics   3
- GRD 463 Electronic Photo Editing   3
- GRD 301 Intro to Desktop Publishing   3

**Option Courses—Select 2 Courses from Option 1**
- GRD 414 Illustration II   Opt 1 3
- GRD 419 Lettering and Sign Art   Opt 1 2
- GRD 425 Graphic Design Internship II   Opt 1 3

---

**Degrees and Diplomas**

**Gerontology Specialist**

(see Certificate section, page 97)

**Graphic Design (previously Commercial Art)**
PROGRAMS AVAILABLE

GRD 428  Illustration III  Opt 1 3
GRD 449  Airbrush I  Opt 1 4
GRD 451  Airbrush II  Opt 1 4
GRD 462  Computer Graphics II (Web Design)  Opt 1 3
GRT 400  Intro to Printing Methods  Opt 1 4
GRT 401  Intro to Graphic Communication  Opt 1 3
GRT 416  Desktop Publishing II  Opt 1 3
GRT 425  Electronic Image Control  Opt 1 4
ART 292  Studio Photography  Opt 1 3
MKT 150  Principles of Advertising  Opt 1 3

Option Courses—Select 1 Course from Each Option
Opt 2 3
AAS degree Core Communications
AAS degree Core Social & Behavioral Sciences/Humanities
ART 184 or ART 186 recommended
AAS degree Core Mathematics or Sciences
Opt 4 3
AAS degree Core Distributed Requirement
Opt 5 3

Total minimum credits required to complete this program 73

Graphic Sales and Customer Service
(see Certificate section, page 97)

Graphic Technologies

The Graphic Technologies program is designed to fill an increasing demand for technically skilled people in printing and publishing. Students learn technical skills including basic layout, digital publishing, digital photo editing, digital prepress functions, variable data publishing, database management, and printing methods in the areas of offset, screen, flexography and digital. Cost estimating and print job management and planning are also stressed. Students work individually and collaboratively to accurately develop and produce printed projects. The goal is for all students to leave the program with advanced skills and a technical portfolio. In addition to working on class projects, students experience real-world work situations through internship and working with customers in the classroom setting.

In the third term, students choose an emphasis in either printing technologies or digital publishing. Students choosing a printing technologies emphasis take advanced courses in offset and specialty printing technologies. Students choosing a digital publishing emphasis take advanced digital publishing image enhancement courses. By taking some additional courses, students can also apply for one of three specialty certificates: Printing Technologies, Digital Publishing & Prepress, or Graphic Sales and Customer Service.

Upon successful completion of Terms 1, 2 and 3 of the Graphic Technologies curriculum or the required courses, students may receive a diploma. By completing the entire program, students receive an AAS degree. When students complete the program, they may find employment in a variety of graphic communications companies including small and large printing companies, in-house publishing and printing departments, publishing firms, full-service graphic services providers and other companies in need of individuals with printing and digital publishing expertise.

Location: Ankeny

Program Entry Requirements
Complete an application and attend a Graphic Technologies Information Session. Students must obtain a minimum score of 42 in English and 25 in Math on the COMPASS test. Basic keyboarding skills are recommended. Students start fall term.

Degrees and Diplomas

Graduation Requirements
To earn a Graphic Technologies diploma or AAS degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

Term 1—Select 1 Course from Option 1
GRT 400  Intro to Printing Methods  4
GRT 401  Intro to Graphic Communication  3
GRT 406  Digital Publishing I  3
BCA 212  Intro to Computer Business Appl  3
AAS  Core Communications  3

Term 2
GRT 410  Printing Methods I  4
GRT 409  Project Planning & Management  3
GRT 421  Electronic Prepress I  4
GRT 416  Desktop Publishing II  3
AAS Core Math & Sciences (MAT 772 or BUS 112 recommended )  3
AAS Core Course List (see list of courses below)  3

Total credits required to complete the diploma 47

Term 3
• Students who choose an emphasis in Printing Technologies should select Option 1.
• Students who choose an emphasis in Digital Publishing should select Option 2.
• All students must choose one course from the Option 4 course list.

GRT 420  Advanced Printing Methods  Opt 1 4
GRT 427  Specially Printing Methods  Opt 1 4
GRT 425  Electronic Image Control  Opt 2 4
GRT 426  Digital Publishing III  Opt 2 4
AAS Core Math & Sciences (MAT 772 or BUS 112 recommended )  3
Option 4 Course (see list of courses below)  3

Total credits required to complete the diploma 47

Term 4
• Students must successfully complete all GRT courses in terms 1, 2 and 3 before enrolling in term 4 courses.
• Students who chose a printing technologies emphasis in term 3 should select GRT 453.
• Students who chose a digital publishing emphasis in term 3 should select GRT 455 for 4 credits.
• All students must select 1 Course from the Option 4 Course List (see list of courses below).

GRT 453  Printing Methods Capstone  Opt 3 4
GRT 455  Digital Publishing Capstone  Opt 3 4
GRT 431  Electronic Prepress II  4
GRT 932  Internship (variable credit)  3-4
AAS Core Distributed Requirement  3
Option 4 Course (see list of courses below)  3

Option 4 Course List:
ART 184  Principles of Photography  Opt 4 3
ART 186  Principles of Digital Photography  Opt 4 3
MKT 110  Principles of Marketing  Opt 4 3
MKT 140  Selling  Opt 4 3
MKT 150  Principles of Advertising  Opt 4 3
MGT 130  Principles of Supervision  Opt 4 3

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**Programs Available**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>JOU 125</td>
<td>Newspaper Production</td>
<td>Opt 4 3</td>
</tr>
<tr>
<td>GRD 403</td>
<td>Communication Design I</td>
<td>Opt 4 3</td>
</tr>
<tr>
<td>GRD 405</td>
<td>Typography I</td>
<td>Opt 4 3</td>
</tr>
<tr>
<td>GRD 462</td>
<td>Computer Graphics II</td>
<td>Opt 4 3</td>
</tr>
<tr>
<td>ADM 259</td>
<td>Professional Development</td>
<td>Opt 4 3</td>
</tr>
<tr>
<td>CIS 207</td>
<td>Fund of Web Programming</td>
<td>Opt 4 3</td>
</tr>
<tr>
<td>BCA 213</td>
<td>Inter Computer Business Appl</td>
<td>Opt 4 3</td>
</tr>
<tr>
<td>CIS 204</td>
<td>Intro to Website Development</td>
<td>Opt 4 3</td>
</tr>
</tbody>
</table>

**Degrees and Diplomas**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCR 290</td>
<td>Commercial HVAC and Refrigeration</td>
<td>5</td>
</tr>
<tr>
<td>HCR 840</td>
<td>Computer Load Calculations</td>
<td>2</td>
</tr>
<tr>
<td>HCR 801</td>
<td>Environmental Controls</td>
<td>5</td>
</tr>
<tr>
<td>MGT 145</td>
<td>Human Relations in Business</td>
<td>Opt 2 3</td>
</tr>
<tr>
<td>PSI 111</td>
<td>Introduction to Psychology</td>
<td>Opt 2 3</td>
</tr>
<tr>
<td>SOC 110</td>
<td>Introduction to Sociology</td>
<td>Opt 2 3</td>
</tr>
<tr>
<td>SOC 115</td>
<td>Social Problems</td>
<td>Opt 2 3</td>
</tr>
</tbody>
</table>

**Total credits required to complete the AAS degree** 64

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**Greenhouse Production**

(see Certificate Section, page 98)

**Heating, Air Conditioning, Refrigeration Technology**

The Heating, Air Conditioning, Refrigeration Technology program provides the theory, knowledge and skills of refrigeration, air conditioning, heating and ventilation equipment for systems in residential and light commercial structures. Students in air conditioning and refrigeration are taught in the classroom and laboratory on models and equipment to prepare the student for satisfactory entrance and advancement in the HVAC-R field.

By completing the first three terms, a student can receive a diploma. An AAS degree will be awarded upon completion of all five terms.

**Location: Ankeny**

**Program Entry Requirements**

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Obtain a satisfactory score on a math proficiency assessment. Students start fall term.

**Graduation Requirements**

To earn a Heating, Air Conditioning, Refrigeration Technology diploma or AAS degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

**Term 1**

- HCR 307 Fundamentals of Refrigeration 5
- HCR 260 HVAC Trade Skills I 3
- HCR 404 Electricity 5
- MAT 772 Applied Math 3

**Term 2—Select 1 Course from Option 1**

- HCR 253 Residential Heating and AC 5
- HCR 440 Electrical Controls and Circuits 5
- HCR 515 Sheet Metal Fabrication 3
- ENG 105 Composition I Opt 1 3
- COM 703 Communication Skills Opt 1 3

**Term 3**

- HCR 256 Applied Heating and AC 5
- HCR 932 Internship 4

**Total credits required to complete the diploma** 41

**Term 4**

- HCR 270 Advanced Heating and AC 5
- HCR 506 Air Distribution 3
- HCR 717 Blueprint Reading 3
- PHY 710 Technical Physics 3

**Total minimum credits required to complete this program** 38

---

**Hospitality Business**

The Hospitality Business program prepares students to enter either the food service field or lodging industry at an entry-level position.

Students who have completed the program will have taken courses in subject areas including sanitation, dining room fundamentals, business math, food preparation, career-seeking skills and marketing. Positions that are filled by graduates include guest services clerk, night auditor and cooks.

**Location: Ankeny**

**Program Entry Requirements**

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students start fall term.

**Graduation Requirements**

To earn a Hospitality Business diploma, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

**Term 1**

- COM 703 Communication Skills 3
- HCM 100 Sanitation and Safety 2
- HCM 200 Dining Room Service 2
- HCM 320 Intro to Hospitality Industry 2
- MGT 145 Human Relations in Business 3
- ADM 131 Office Calculators 1
- ADM 105 Intro to Keyboarding 1

**Term 2**

- BUS 112 Business Math 3
- HCM 143 Food Preparation I 3
- HCM 104 Sanitation and Equipment Lab 1
- HCM 144 Food Preparation I Lab 3
- MKT 140 Selling 3
- BCA 212 Intro to Computer Business Appl 3

**Term 3**

- Students seeking a restaurant management emphasis should select the option 1 courses.
- Students seeking a hotel management emphasis should select the option 2 course.

- SDV 153 Pre-Employment Strategies 2
- HCM 510 Work Experience 3
- HCM 152 Food Preparation II (Lec) Opt 1 2
- HCM 153 Food Preparation II Lab Opt 1 2
- MKT 110 Principles of Marketing Opt 2 3

**Total minimum credits required to complete this program** 38
**PROGRAMS AVAILABLE**

**Hotel and Restaurant Management**

The Hotel and Restaurant Management program prepares students for a career in the hospitality field. Most graduates will enter the industry either in cooking positions or line management positions with hotels, restaurants and clubs.

Students who complete the program will have taken courses in sanitation, dining room fundamentals, business math, food preparation, marketing, purchasing, hotel services, menu planning and hotel administration. These courses are management designed and offer the student practical knowledge of either the restaurant management industry or the hotel management industry, depending on the student’s chosen emphasis.

Terms 1, 2 & 3 must be completed before entry is allowed into terms 4 & 5 to receive the AAS degree. Students planning on transferring to a four-year college should see an advisor or the program chair before registration.

**Location:** Ankeny

**Program Entry Requirements**

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students start fall term.

**Graduation Requirements**

To earn a Hotel and Restaurant Management AAS degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

**Required Courses**

**Term 1—Select 1 Course from Option 1**

- HCM 100 Sanitation and Safety 2
- HCM 200 Intro to Hospitality Industry 2
- MGT 145 Human Relations in Business 3
- ADM 131 Office Calculators 1
- ADM 105 Intro to Keyboarding 1
- COM 703 Communication Skills Opt 1 3
- Any ENG course designated as Core Opt 1 3

**Term 2—Select 1 Course from Option 2**

- HCM 143 Food Preparation 1 3
- HCM 104 Sanitation and Equipment Lab 1
- HCM 144 Food Preparation I Lab 3
- MKT 140 Selling 3
- BCA 212 Intro to Food Production 1
- BUS 112 Business Math Opt 2 3
- Any MAT course designated as Core Opt 2 3

**Term 3**

- SDV 153 Pre-Employment Strategies 2
- HCM 510 Work Experience 3
  - Students seeking a hotel management emphasis should select the option 3 courses.

**Term 4**

- HCM 152 Food Preparation II Opt 3 2
- HCM 153 Food Preparation II Lab Opt 3 2
  - Students seeking a hotel management emphasis should select the option 4 course.
- MKT 110 Principles of Marketing Opt 4 3

**Term 5**

Terms 1, 2 & 3 must be completed before enrolling in terms 4 & 5. All students must take the following three courses:

- ACC 111 Intro to Accounting 3
- BUS 148 Small Business Management 3
- HCM 250 Purchasing (Lec) 2
  - Students seeking a restaurant management emphasis should select the option 5 courses.

**HCM 210 Dining Management (Lec) Opt 5 2**

**HCM 167 Culinary Skill Development Opt 5 3**

**HCM 604 Hotel Services Internship Opt 6 5**

**HCM 600 Intro to Lodging Operations Opt 6 2**

**Human Resource Management**

(see Certificate Section, page 98)

**Human Services**

The Human Services program prepares students for entry-level jobs or for transfer to a four-year degree program. By the end of the program, students will be able to interact effectively with clients in a human services agency. The program emphasizes skills needed in working with clients such as interviewing, determining eligibility for services, making appropriate referrals and assisting with counseling. A supervised field experience allows students to apply their skills in a work setting.

A specialization certificate is offered in chemical dependency counseling. When the program is completed, students may find employment in a wide variety of settings, including public and private social services agencies, treatment centers, group homes, hospitals, supported living and work programs and state or county departments of social services.

**Locations:** Ankeny, Newton, Urban

Selected courses in this program are offered at other campuses.

**Program Entry Requirements**

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students start any term.

**Graduation Requirements**

To earn a Human Services AS degree, a student must complete the standard core requirements for the degree, plus the Human Services required courses and options and maintain a 2.0 grade point average.
PROGRAMS AVAILABLE

Required Courses
HSV 109 Introduction to Human Services 3
HSV 230 Community Organization 3
HSV 220 Survey Mental Health Treatment 3
HSV 130 Interviewing/Interpersonal Relations 3
HSV 286 Intervention Theories/Practice I 3
HSV 287 Intervention Theories/Practice II 3
HSV 802 Field Experience 3
HSV 185 Discrimination and Diversity 3
PSY 121 Developmental Psychology 3
PSY 241 Abnormal Psychology 3

Option Courses—Select 2 Courses from Option 1 and 1 Course from Option 2

Option 1
ANT 100 Introduction to Anthropology Opt 1 3
PHI 105 Introduction to Ethics Opt 1 3
POL 112 American State & Local Government Opt 1 3
HSV 135 Counseling with Women Opt 1 3
HSV 813 Pract: Chemical Depend Counseling I Opt 1 3
HSV 814 Pract: Chemical Depend Counseling II Opt 1 3
HSV 255 Addictive Disease Concepts Opt 1 3
SOC 120 Marriage and Family Opt 1 3
SOC 200 Minority Group Relations Opt 1 3
SOC 230 Juvenile Delinquency Opt 1 3
SOC 240 Criminology Opt 1 3
SOC 225 Social Gerontology/Applications Opt 1 4
PSY 111 Introduction to Psychology Opt 1 3
PSY 251 Social Psychology Opt 1 3
PSY 102 Human and Work Relations Opt 1 3
PSY 291 Principles of Behavior Modification Opt 1 3
PSY 261 Human Sexuality Opt 1 3
PSY 281 Educational Psychology Opt 1 3
SOC 110 Introduction to Sociology Opt 2 3
SOC 115 Social Issues Opt 2 3

Complete Remaining AS degree Core Requirements 28
Total minimum credits required to complete this program 67

Degrees and Diplomas

Term 1
MAT 772 Applied Math 3
CSC 110 Introduction to Computers 3
MFG 276 Hand & Bench Machine Tools 1
ELT 303 Principles of Electricity 3

Select Emphasis 1 or Emphasis 2:

Emphasis 1 Manufacturing Maintenance Technologies
MFG 121 Machine Trade Printreading I 2
CON 336 Care/Use of Hand/Power Tools 1

Emphasis 2 Biomass Maintenance Technologies
BPT 102 Intro to Biomass Process Tech 2
RRO 101 Railcar Safety 2

Term 2
MAT 773 Applied Math II 3
COM 703 Communication Skills 3
IND 146 Mechanical Power Transmission I 3
ELT 134 Motor Controls 3

Emphasis 1 Manufacturing Maintenance Technologies
MGT 164 Total Quality Management 3

Emphasis 2 Biomass Maintenance Technologies
BPT 111 Biomass Equipment and Systems 3

Term 3
IND 147 Mechanical Power Transmission II 4

Emphasis 1 Manufacturing Maintenance Technologies
MFG 250 Engine Lathe Theory 1
MFG 251 Engine Lathe Operations Lab 2
MFG 260 Mill Operations Theory 1
MFG 261 Mill Operations Lab 2

Emphasis 2 Biomass Maintenance Technologies
BPT 112 Biomass Tech Health/Safety 3
BPT 125 Piping & Instrument Diagrams 2

Term 4
ELE 141 Advanced Motor Controls 3
ELT 791 Hydraulics & Pneumatics 3
ELT 792 Hydraulics & Pneumatics Lab 2
IND 144 Pump Overhaul and Repair 4

Emphasis 1 Manufacturing Maintenance Technologies
BMA 177 Industrial Plumbing & Pipefitting 3

Emphasis 2 Biomass Maintenance Technologies
BMA 167 Steam Plant Operations 2

Term 5
MFG 172 Related Welding–Indust Maint 3
ELT 119 Programmable Logic Controllers 3
MGT 145 Human Relations in Business 3
CAD 319 Intro to Computer-Aided Drafting 3

Emphasis 1 Manufacturing Maintenance Technologies
MFG 524 PM & Diagnosing Mech/Elec Sys 3

Emphasis 2 Biomass Maintenance Technologies
BPT 128 Operator Biomass Lab Process 3

Total minimum credits required to complete this program 66

Industrial Electro-Mechanical Technology

The Industrial Electro-Mechanical Technology program prepares students for a career as a maintenance technician in industrial manufacturing. At the completion of the program, students should be able to troubleshoot and repair industrial equipment ranging from basic mechanical equipment and electrical motor controls to the more complex systems used in manufacturing environments.

Locations: Ankeny, Newton

Selected courses in this program are offered at other campuses.

Program Entry Requirements
Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students start fall term.

Graduation Requirements
To earn an Industrial Electro-Mechanical Technology AAS degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.


PROGRAMS AVAILABLE

Information Processing Support
(see Certificate Section, page 98)

Information Technology/Network Administration

The ITNA program will provide students with a foundation in the basic technologies of computer networking, both as an objective and measurable skill set, as well as a preface to certification. In addition, students may also prepare for CISCO certification by choosing to take the CISCO option courses. The modular design of the core/certification integration is designed to allow the future addition of other professional certifications.

Location: Ankeny
Selected courses in this program are offered at other campuses.

Program Entry Requirements
1. Complete an application.
2. Satisfy the assessment requirement and attend any required information/registration session.
3. Complete the required COMPASS testing, obtaining a satisfactory score in pre-algebra (44 or higher) or ACT scores with a math sub score of 19 or higher, or completion of MAT 053 with a grade of “C” or better.
4. Successful completion of CSC 110 Intro to Computers or equivalent; or approval of the program counselor.

Students start fall term.

Graduation Requirements
To earn an Information Technology Network Administration AAS degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

All students take the first three terms.

Term 1—Select 1 Course from Each Option

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>NET 144</td>
<td>Digital &amp; Computer Electronics</td>
<td>3</td>
</tr>
<tr>
<td>NET 213</td>
<td>CISCO Networking</td>
<td>4</td>
</tr>
<tr>
<td>MGT 145</td>
<td>Human Relations in Business</td>
<td>3</td>
</tr>
<tr>
<td>PSY 102</td>
<td>Human &amp; Work Relations</td>
<td>3</td>
</tr>
<tr>
<td>ENG 105</td>
<td>Composition I</td>
<td>2</td>
</tr>
<tr>
<td>COM 703</td>
<td>Communication Skills</td>
<td>2</td>
</tr>
<tr>
<td>ETL 106</td>
<td>Basic Math for Electronics</td>
<td>3</td>
</tr>
<tr>
<td>ETL 108</td>
<td>Math for Electronics &amp; Computers</td>
<td>3</td>
</tr>
<tr>
<td>BUS 211</td>
<td>Business Statistics</td>
<td>3</td>
</tr>
<tr>
<td>Any AA/AS degree Core MAT</td>
<td></td>
<td>Opt 3–4</td>
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</table>

Term 2

<table>
<thead>
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<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>NET 123</td>
<td>Computer Hardware Basics</td>
<td>4</td>
</tr>
<tr>
<td>NET 223</td>
<td>CISCO Routers</td>
<td>4</td>
</tr>
<tr>
<td>NET 402</td>
<td>Linux Network Administration</td>
<td>3</td>
</tr>
<tr>
<td>CIS 130</td>
<td>Computer Programming</td>
<td>3</td>
</tr>
</tbody>
</table>

Select 1 Course from AA/AS degree Core Social & Behavioral Sciences/Humanities

Term 3

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>NET 623</td>
<td>Network Applications</td>
<td>4</td>
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<tr>
<td>NET 628</td>
<td>Network Applications Lab</td>
<td>2</td>
</tr>
<tr>
<td>NET 139</td>
<td>MCSE Desktop Operating System</td>
<td>4</td>
</tr>
</tbody>
</table>

After Term 3, students must declare a Microsoft or Linux emphasis and take the respective Microsoft or Linux courses. To fulfill the program credit requirements, the student must select courses from the option list.

By selecting all CISCO courses as options, the student will be prepared to test for CISCO CCNA certification.

For Microsoft Specialization, students must complete the following:

<table>
<thead>
<tr>
<th>Term 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course</td>
</tr>
<tr>
<td>-----------</td>
</tr>
<tr>
<td>NET 333</td>
</tr>
<tr>
<td>NET 664</td>
</tr>
<tr>
<td>NET 343</td>
</tr>
<tr>
<td>Courses from the Option 5 Course List</td>
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</table>

<table>
<thead>
<tr>
<th>Term 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Courses from the Option 5 Course List</td>
</tr>
</tbody>
</table>

For Linux Specialization, students must complete the following:

<table>
<thead>
<tr>
<th>Term 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course</td>
</tr>
<tr>
<td>-----------</td>
</tr>
<tr>
<td>NET 412</td>
</tr>
<tr>
<td>NET 512</td>
</tr>
<tr>
<td>CIS 210</td>
</tr>
<tr>
<td>Courses from the Option 5 Course List</td>
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</table>

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Courses from the Option 5 Course List</td>
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</table>

Option 5 Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>NET 233</td>
<td>CISCO Switches</td>
<td>4</td>
</tr>
<tr>
<td>NET 243</td>
<td>CISCO Wide Area Networks (WAN)</td>
<td>4</td>
</tr>
<tr>
<td>NET 324</td>
<td>Windows Network Management</td>
<td>4</td>
</tr>
<tr>
<td>NET 333</td>
<td>Imp Windows Network Infrastructure</td>
<td>3</td>
</tr>
<tr>
<td>NET 343</td>
<td>Windows Directory Service</td>
<td>3</td>
</tr>
<tr>
<td>NET 365</td>
<td>Design MS Active Dir &amp; Network</td>
<td>3</td>
</tr>
<tr>
<td>NET 376</td>
<td>Designing Security for MS Net</td>
<td>3</td>
</tr>
<tr>
<td>NET 412</td>
<td>Linux System Administration</td>
<td>3</td>
</tr>
<tr>
<td>NET 422</td>
<td>Linux System Programming</td>
<td>3</td>
</tr>
<tr>
<td>NET 432</td>
<td>Linux Network Security</td>
<td>3</td>
</tr>
<tr>
<td>NET 434</td>
<td>Linux Systems and Certification</td>
<td>3</td>
</tr>
<tr>
<td>NET 435</td>
<td>Linux Programming for Administration</td>
<td>3</td>
</tr>
<tr>
<td>NET 436</td>
<td>Linux Network Programming</td>
<td>3</td>
</tr>
<tr>
<td>NET 512</td>
<td>Linux Enterprise Admin I</td>
<td>3</td>
</tr>
<tr>
<td>NET 532</td>
<td>Linux Enterprise Administration II</td>
<td>3</td>
</tr>
<tr>
<td>NET 612</td>
<td>Fund of Network Security</td>
<td>3</td>
</tr>
<tr>
<td>NET 653</td>
<td>Microsoft Exchange Server</td>
<td>4</td>
</tr>
<tr>
<td>NET 664</td>
<td>MS Windows Prof/Server</td>
<td>5</td>
</tr>
</tbody>
</table>
PROGRAMS AVAILABLE

NET 711 Internetworking MS TCP/IP 3
NET 715 Database Security & Auditing 3
NET 730 Computer Forensics & Inv. 3
NET 932 Internship 3
CIS 178 Java Programming I 2
CIS 179 Java Programming II 2
CIS 210 Web Development I 3
CIS 211 Web Development II 3
CIS 303 Introduction to Database 3

Minimum number of credits required to complete this degree – Linux specialization 67
Minimum number of credits required to complete this degree – Microsoft specialization 68

Interior Design Consultant
(see Certificate Section, page 98)

Interpretation and Translation

The Interpretation and Translation program prepares functionally bilingual students for entry-level employment in the rapidly expanding language interpretation and translation field or for transfer to a four-year degree program in translation/interpretation studies. At the completion of the program, students will be able to provide basic interpreting and translation service between English and their other language(s) in general contexts, as well as in at least one specialty area: judicial or healthcare. The program is designed for students who wish to add interpretation and translation skills to their current set of job skills, as well as those students who wish to prepare themselves for the certification exams and further academic studies that are necessary to become professional interpreters and translators.

Students in the program complete general education core requirements, a generalist track in interpretation/translation, and one of the following emphases in interpretation/translation: judicial or healthcare. All students complete an internship under the supervision of a professional interpreter/translator, during which they use the skills and apply the knowledge gained in the classroom. Interested applicants who hold a prior college degree may seek the Interpretation and Translation-Generalist Certificate, plus one or both of the following: Interpretation and Translation-Judicial Certificate or Interpretation and Translation-Healthcare Certificate.

A program chairperson and a program counselor are available to assist students with educational and career planning.

Graduates of the Interpretation and Translation program may find employment in the courts, law enforcement agencies, healthcare institutions, social services agencies, educational institutions, nonprofit organizations, government agencies and businesses. The program also prepares students for certification exams or for further studies in the field.

Location: Urban

Selected courses in this program may be offered at other campuses or through distance learning.

Program Entry Requirements
1. Complete an application.
2. Attend any required information/registration session or a program conference.

Degrees and Diplomas

3. Provide evidence of proficiency in English with one of the following:
   a. ACT score on the English subtest of 19 or above
   b. A minimum COMPASS writing score of 70
   c. Completion of ENG 105 with a grade of “C” or better
   d. TOEFL score of 173 on the computer test or 500 on the paper test
   e. Completion of two years of college study with a minimum GPA of 2.0 (or equivalent) at an institution where English is the medium of instruction
   f. Other evidence demonstrating English proficiency may be approved by the program chair

4. Show proficiency in a second language with one of the following:
   a. Evidence of completion of high school in a country where the second language is spoken
   b. Two years of college study with a minimum GPA of 2.0 (or equivalent) at an institution in a country where the second language is spoken
   c. Completion of a college minor in the second language with a minimum grade of “C” for all courses taken in the second language
   d. Proficiency may be demonstrated with other evidence, but must be approved by the program chair

Note: Students will need computer skills to be successful in the program. If students do not have these skills, completion of CSC 110 or BCA 212 is strongly recommended.

Students start any term; however, close contact with an academic advisor is recommended for planning, because many courses are only offered once per year.

Graduation Requirements

To earn an Interpretation and Translation AS degree, a student must complete the standard core requirements for the degree, plus the Interpretation and Translation required courses and options, maintain a 2.0 grade point average and receive a grade of “C” or above in all ITR coursework.

Required Courses

Complete AS degree Core Requirements 28
ITR 101 Introduction to Interpretation and Translation 3
ITR 102 Tools for the Interpreter and Translator 3
ITR 111 Fundamentals of Interpretation 3
ITR 115 Fundamentals of Translation 3
ITR 910 Emphasis Seminar 3
ITR 120 Ethics for the Interpreter/Translator 1

In addition to the required courses, students are required to select one of the following Emphasis Options:

Judicial Interpretation/Translation Emphasis
(17 credits)

PRL 103 Introduction to Law 3
ITR 128 Legal Terminology & Sight Translation 3
ITR 130 Judiciary Interpreting I 3
ITR 132 Judiciary Interpreting II 3
ITR 137 Judiciary Translation 3
ITR 800 Judiciary Interpreting/Translation Internship 2
Electives 3

Students in the Judiciary Interpreting/Translation Emphasis are encouraged to take POL 111 or POL 112 as part of their core requirements, and PRL 112 as their elective choice.
PROGRAMS AVAILABLE

**Healthcare Interpreting/Translation Emphasis**  
(17 credits)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 156</td>
<td>Human Biology w/Lab</td>
<td>3</td>
</tr>
<tr>
<td>ITR 148</td>
<td>Healthcare Terminology &amp; Sight Translation</td>
<td>3</td>
</tr>
<tr>
<td>ITR 150</td>
<td>Healthcare Interpreting I</td>
<td>3</td>
</tr>
<tr>
<td>ITR 152</td>
<td>Healthcare Interpreting II</td>
<td>3</td>
</tr>
<tr>
<td>ITR 158</td>
<td>Healthcare Translation</td>
<td>3</td>
</tr>
<tr>
<td>ITR 810</td>
<td>Healthcare Interpreting &amp; Translation Internship</td>
<td>2</td>
</tr>
</tbody>
</table>

**Electives**  
3 credits

Students in the Healthcare Interpreting/Translation Emphasis are encouraged to take CHM 105 as part of their core requirements, and BIO 733 or BIO 734 as their elective choice.

**Total minimum credits required to complete this program**  64

**Interpretation and Translation-Generalist, Healthcare, Judiciary**  
(see Certificate Section, page 98-100)

**Land Surveying**

The Land Surveying program prepares students for a career as a land surveyor in the state of Iowa. This program is designed to fill an increasing demand for technically skilled people in the land surveying field, and demand is expected to continue well into the 21st century. A graduate of this program may be eligible to sit for the Iowa Professional Land Surveying exam after completing state licensing board requirements.

Career opportunities are with surveying firms; construction firms; consulting engineering firms; federal, state and local government agencies; and many other areas of the private sector that support the surveying industry. Many licensed surveyors own and operate their own surveying firms.

**Location: Boone**

**Program Entry Requirements**

Complete an application, satisfy the assessment requirement and attend any required information/registration session.

- Students must have earned a grade of “C” or above in a high school Algebra course.
- Or be placed in MAT 773 by the results of a COMPASS test.

If students are not placed in MAT 773, they will be required to take remedial math courses to be brought up to the level of MAT 773 before taking that course.

This program is designed to start in the fall semester. Students who desire to start other terms may be accepted but may not graduate in four semesters due to the sequencing of coursework. If starting other than fall, please contact the Land Surveying department.

**Graduation Requirements**

To earn a Land Surveying AAS degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

**Required Courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CET 102</td>
<td>Fundamentals of Civil Engineering</td>
<td>3</td>
</tr>
<tr>
<td>CET 119</td>
<td>Survey I</td>
<td>3</td>
</tr>
<tr>
<td>CET 135</td>
<td>Material I</td>
<td>3</td>
</tr>
<tr>
<td>CET 138</td>
<td>Construction I</td>
<td>3</td>
</tr>
</tbody>
</table>

**Degrees and Diplomas**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CET 169</td>
<td>Survey II</td>
<td>4</td>
</tr>
<tr>
<td>CET 178</td>
<td>Automated Design I</td>
<td>4</td>
</tr>
<tr>
<td>CET 219</td>
<td>Survey III</td>
<td>4</td>
</tr>
<tr>
<td>SRV 120</td>
<td>U.S. Public Lands Survey System</td>
<td>5</td>
</tr>
<tr>
<td>SRV 215</td>
<td>Intro to Land Information Systems</td>
<td>2</td>
</tr>
<tr>
<td>SRV 220</td>
<td>Boundary Surveying</td>
<td>3</td>
</tr>
<tr>
<td>SRV 225</td>
<td>Surveying Ethics</td>
<td>2</td>
</tr>
<tr>
<td>SRV 230</td>
<td>Land Subdivision</td>
<td>3</td>
</tr>
<tr>
<td>SRV 235</td>
<td>Intro to Geodesy</td>
<td>5</td>
</tr>
<tr>
<td>SRV 240</td>
<td>Boundary Law</td>
<td>4</td>
</tr>
<tr>
<td>MAT 773</td>
<td>Applied Math II</td>
<td>3</td>
</tr>
<tr>
<td>CSC 110</td>
<td>Introduction to Computers</td>
<td>3</td>
</tr>
<tr>
<td>BUS 185</td>
<td>Business Law I</td>
<td>3</td>
</tr>
<tr>
<td>SRV 305</td>
<td>Field Coop</td>
<td>5</td>
</tr>
</tbody>
</table>

With faculty approval, students may take the following in place of SRV 305:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CET 307</td>
<td>Field Orientation</td>
<td>2</td>
</tr>
</tbody>
</table>

AND 1 of the following courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGT 145</td>
<td>Human Relations in Business</td>
<td>3</td>
</tr>
<tr>
<td>OR</td>
<td>Introduction to Psychology</td>
<td>3</td>
</tr>
</tbody>
</table>

**Option Courses—Select Both Option 1 Courses, OR Both Option 2 Courses, AND 1 Course from Option 3**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>COM 703</td>
<td>Communication Skills</td>
<td>Opt 1 3</td>
</tr>
<tr>
<td>ENG 105</td>
<td>Composition I</td>
<td>Opt 1 3</td>
</tr>
<tr>
<td>ENG 105</td>
<td>Composition II</td>
<td>Opt 2 3</td>
</tr>
<tr>
<td>ENG 108</td>
<td>Comp II: Technical Writing</td>
<td>Opt 2 3</td>
</tr>
<tr>
<td>PSY 111</td>
<td>Introduction to Psychology</td>
<td>Opt 3 3</td>
</tr>
<tr>
<td>MGT 145</td>
<td>Human Relations in Business</td>
<td>Opt 3 3</td>
</tr>
<tr>
<td>PSY 102</td>
<td>Human and Work Relations</td>
<td>Opt 3 3</td>
</tr>
</tbody>
</table>

**Total credits required to complete AAS degree**  71

**Recommended Electives (not required for the degree)**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPC 101</td>
<td>Fund of Oral Communication</td>
<td>3</td>
</tr>
<tr>
<td>MAT 130</td>
<td>Trigonometry</td>
<td>3</td>
</tr>
<tr>
<td>MGT 145</td>
<td>Human Relations in Business</td>
<td>3</td>
</tr>
<tr>
<td>ACC 111</td>
<td>Intro to Accounting</td>
<td>3</td>
</tr>
<tr>
<td>BUS 148</td>
<td>Small Business Management</td>
<td>3</td>
</tr>
<tr>
<td>BUS 186</td>
<td>Business Law II</td>
<td>3</td>
</tr>
<tr>
<td>HIS 201</td>
<td>Iowa History</td>
<td>3</td>
</tr>
</tbody>
</table>

**Landscape Design**  
(see Certificate Section, page 100)

**Law**

Students planning to major in pre-law or go to law school after receiving a bachelor’s degree at a four-year college/university can satisfy many of their general education requirements at Des Moines Area Community College. Since degree requirements vary at senior institutions, students should become familiar with the specific course requirements of their selected transfer institution. Students are also encouraged to contact the four-year major advisor as early as possible to develop a transfer plan. DMACC advisors and/or counselors can also help by providing transfer materials and course planning assistance.

**VISIT US ONLINE: www.DMACC.edu**
Legal Assistant

Legal Assistants perform a variety of legal tasks under the supervision of an attorney. Legal Assistants are also known as Paralegals. They work for attorneys in private practice, state agencies and public service organizations. Legal assistants work with the attorney in virtually every area of legal practice. They do not give advice or represent clients since that would be the actual practice of law.

Our objective is to educate students to become legal assistants who are capable of performing a variety of legal tasks. Graduates of the program should be able to provide a broad spectrum of services needed by attorneys. This objective is met by providing intensive and practical instruction by attorneys with experience and expertise in their fields of instruction. This program is approved by the American Bar Association.

Students in the program complete general education core requirements and legal specialty courses. Course offerings include torts and litigation, family law, business law, probate and income tax. All students complete an internship, under the supervision of an attorney, during which they use the skills and apply the knowledge gained in the classroom. Interested applicants who hold a prior college degree may seek the Legal Assistant Certificate.

A program chairperson and a program counselor are available to assist students with educational and career planning.

Graduates of the Legal Assistant program are employed in private law firms, the courts, public agencies and legal departments of large companies. Additionally, some students work in law-related jobs such as investigation, collections and bank trust departments.

Location: Urban

Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students may start any term.

Important Note: Students entering the program need satisfactory computer skills.

BCA 212 Intro Computer Business Applications is highly recommended as a developmental course.

Graduation Requirements

To earn a Legal Assistant AAS degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

Required Courses

Complete AS degree Core Requirements  28

PRL 103  Introduction to Law  3
PRL 131  Torts & Litigation I  3
PRL 141  Business & Corporate Law I  3
PRL 280  Legal Internship & Ethics  4
PRL 112  Legal Research and Writing I  3
PRL 113  Legal Research and Writing II  3

Option Courses—Select 15 Credits From Option 1

PRL 132  Torts & Litigation II  Opt 1  3
PRL 161  Family Law  Opt 1  3
PRL 142  Business & Corporate Law II  Opt 1  3
PRL 151  Real Estate Law  Opt 1  3
PRL 167  Probate Procedure  Opt 1  3
PRL 169  Wills, Estate Planning & Taxation  Opt 1  3
PRL 171  Administrative Practice  Opt 1  3
PRL 125  Evidence: Theory and Practice  Opt 1  3
PRL 137  Debtor/Creditor Law  Opt 1  3
PRL 118  Computerized Legal Research  Opt 1  1

Total credits required to complete this program  64

Legal Assistant

(see Certificate Section, page 101)

Long-Term Care Administrator

(see Certificate Section, page 101)

Machinist Technology

(see Tool & DieMaking, page 90)

Management

The Management program will prepare you with people skills and organizational system knowledge to succeed and earn promotions in the company or institutional environment of your choice. Experience and leadership skills are gained through on-the-job training and participation in a local, state and national management development association.

Coursework in the Management program includes communications and human relations, management and supervision, information processing, problem-solving and computer applications, team-building and leadership development, and organizational and human resource development.

Graduates of the program have found positions as general managers, supervisors, assistant personnel managers, office managers, manufacturing and distribution managers, production supervisors, parts and inventory managers, business owners, customer service representatives, training coordinators, sales managers, buyers and purchasing agents. Advanced management positions are available to those who enter the work force and demonstrate strong, individual skills and knowledge.

The Management program emphasizes career development along with transfer options for students planning on attending a four-year college. Contact a DMACC Management instructor, counselor or advisor for transfer planning assistance.

Location: Ankeny, Newton

Selected courses in this program are offered at other campuses.

Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students start any term.

Graduation Requirements

To earn a Management AAS degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.
**PROGRAMS AVAILABLE**

**Required Courses**
- MGT 130 Principles of Supervision 3
- MGT 101 Introduction to Management 3
- MKT 145 Sales Management 3
- MGT 128 Organizational Behavior 3
- MGT 170 Human Resource Management 3
- MGT 802 Business Internship Seminar I 2
- MGT 800 Business Internship I 6
- MGT 194 Relationship Strategies in Business 2
- MGT 164 Total Quality Management 3
- MGT 147 Leadership Development 3
- MGT 802 Business Internship Seminar I 2
- MGT 194 Relationship Strategies in Business 2
- MGT 164 Total Quality Management 3
- MGT 147 Leadership Development 3
- MGT 145 Human Relations in Business 3
- PSY 111 Introduction to Psychology 3
- BUS 112 Business Math 3
- MAT 141 Finite Math 4
- MGT 145 Principles of Accounting I 4
- ACC 132 Principles of Accounting II 4

**Option Courses—Select 1 Course from Options 1–6 and 3 Courses from Option 7**
- CSC 110 Intro to Computers Opt 1 3
- GRD 301 Intro to Desktop Publishing Opt 1 3
- BCA 212 Intro to Computer Applications Opt 1 3
- ENG 105 Composition I Opt 2 3
- COM 703 Communication Skills Opt 2 3
- ACC 131 Principles of Accounting I Opt 3 4
- ACC 111 Intro to Accounting Opt 3 3
- SPC 101 Fundamentals of Oral Communication Opt 4 3
- SPC 126 Interpersonal & Small GroupComm Opt 4 3
- MGT 145 Human Relations in Business Opt 5 3
- PSY 111 Intro to Psychology Opt 5 3
- BUS 112 Business Math Opt 6 3
- MAT 141 Finite Math Opt 6 4
- MGT 248 Systems & Information Management Opt 7 3
- BUS 102 Intro to Business Opt 7 3
- BUS 148 Small Business Management Opt 7 4
- BUS 150 E-Commerce on the Web Opt 7 3
- BUS 278 Employment Law Opt 7 3
- MKT 160 Principles of Retailing Opt 7 3
- BUS 185 Business Law I Opt 7 3
- ECN 120 Principles of Macroeconomics Opt 7 3
- ACC 132 Principles of Accounting II Opt 7 4

**Total minimum credits required to complete this program** 66

**Management**

*(see Certificate Section, page 101)*

**Management Information Systems (MIS)**

The Management Information Systems (MIS) program is designed to allow students to transfer to a four-year program and additionally qualifies the students for positions as programmers and programmer analysts. The program emphasizes business applications programming. The student studies several programming languages, various levels of operating systems, various types of computer systems, and the peripheral equipment available in the field.

**Degrees and Diplomas**

**Location: Urban**

Selected courses in this program are offered at other campuses.

**Program Entry Requirements**

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Submit evidence of grade “C” or better in one year of high school Algebra or equivalent (DMACC Academic Achievement Center Algebra I & II or MAT 063). Students start any term.

**Graduation Requirements**

To earn a Management Information Systems (MIS) AS degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

**Term 1**
- ACC 131 Principles of Accounting I 4
- CIS 125 Computers and Program Logic w/Lang 3
- CSC 110 Intro to Computers 3
- ENG 105 Composition I 3
- Any AA/AS Degree Core BIO, CHM, ENV or PHY course 4

**Term 2**
- CIS 152 Data Structures 3
- CIS 402 COBOL 3
- ACC 132 Principles of Accounting II 4
- ENG 106 Composition II 3
- SPC 101 Fund of Oral Communication 3

**Term 3—Select 1 Course from Option 1**
- CIS 505 Structured Systems Analysis 4
- CIS 604 Visual Basic 3
- CIS 303 Introduction to Database 3
- ECN 120 Principles of Macroeconomics 3
- MAT 141 Finite Mathematics Opt 1 4
- BUS 211 Business Statistics Opt 1 4

**Term 4—Select 2 Courses from Option 2**
- CIS 154 Computational Structures 3
- ECN 130 Principles of Microeconomics 3
- AA/AS degree Core Humanities course 3
- AA/AS degree Core Distributed course 4
- CIS 413 COBOL II Opt 2 3
- CIS 182 JSP and Servlets Opt 2 3
- CIS 215 Server Side Web Programming Opt 2 3
- CIS 588 Computer Organization Opt 2 3
- CIS 612 Advanced Visual Basic Opt 2 3
- CIS 332 Database and SQL Opt 2 3
- CIS 338 SQL/Oracle Opt 2 3

**Total minimum credits required to complete this program** 69

**Manufacturing Technology**

The DMACC Manufacturing Technology program prepares applicants for a wide variety of manufacturing tasks in the industry. Successful applicants will learn the basic elements of welding, automation, computer numerical controlled machine operation, computer-aided drafting and design, machining and workplace skills. Graduates will be positioned for employment by a wide variety of manufacturers throughout the state and nation.

**Location:** Urban

Selected courses in this program are offered at other campuses.

**Program Entry Requirements**

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Submit evidence of grade “C” or better in one year of high school Algebra or equivalent (DMACC Academic Achievement Center Algebra I & II or MAT 063). Students start any term.

**Graduation Requirements**

To earn a Manufacturing Technology AS degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

**Term 1**
- ACC 131 Principles of Accounting I 4
- CIS 125 Computers and Program Logic w/Lang 3
- CSC 110 Intro to Computers 3
- ENG 105 Composition I 3
- Any AA/AS Degree Core BIO, CHM, ENV or PHY course 4

**Term 2**
- CIS 152 Data Structures 3
- CIS 402 COBOL 3
- ACC 132 Principles of Accounting II 4
- ENG 106 Composition II 3
- SPC 101 Fund of Oral Communication 3

**Term 3—Select 1 Course from Option 1**
- CIS 505 Structured Systems Analysis 4
- CIS 604 Visual Basic 3
- CIS 303 Introduction to Database 3
- ECN 120 Principles of Macroeconomics 3
- MAT 141 Finite Mathematics Opt 1 4
- BUS 211 Business Statistics Opt 1 4

**Term 4—Select 2 Courses from Option 2**
- CIS 154 Computational Structures 3
- ECN 130 Principles of Microeconomics 3
- AA/AS degree Core Humanities course 3
- AA/AS degree Core Distributed course 4
- CIS 413 COBOL II Opt 2 3
- CIS 182 JSP and Servlets Opt 2 3
- CIS 215 Server Side Web Programming Opt 2 3
- CIS 588 Computer Organization Opt 2 3
- CIS 612 Advanced Visual Basic Opt 2 3
- CIS 332 Database and SQL Opt 2 3
- CIS 338 SQL/Oracle Opt 2 3

**Total minimum credits required to complete this program** 69
At completion of this two-year Associate of Applied Science degree program, graduates will be prepared for a large number of skilled careers in the manufacturing industry. Opportunities exist in many different types of manufacturing.

To apply for this program, call 515-964-6277 during business hours to request information.

Location: Ankeny, Newton

Program Entry Requirements
Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students start fall term.

Graduation Requirements
To earn a Manufacturing Technology AAS degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

### Term 1
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MFG 523</td>
<td>Controlling Mfg. Business Costs</td>
<td>2</td>
</tr>
<tr>
<td>COM 703</td>
<td>Communication Skills</td>
<td>3</td>
</tr>
<tr>
<td>MAT 772</td>
<td>Applied Math</td>
<td>3</td>
</tr>
<tr>
<td>MFG 171</td>
<td>Manufacturing Welding I</td>
<td>2</td>
</tr>
<tr>
<td>MFG 121</td>
<td>Machine Trade Printreading I</td>
<td>2</td>
</tr>
<tr>
<td>MFG 105</td>
<td>Machine Shop Measuring</td>
<td>3</td>
</tr>
</tbody>
</table>

### Term 2
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MFG 250</td>
<td>Engine Lathe Theory</td>
<td>1</td>
</tr>
<tr>
<td>MFG 251</td>
<td>Engine Lathe Operations Lab</td>
<td>2</td>
</tr>
<tr>
<td>MFG 260</td>
<td>Mill Operations Theory</td>
<td>1</td>
</tr>
<tr>
<td>MFG 261</td>
<td>Milling Operations Lab I</td>
<td>2</td>
</tr>
<tr>
<td>MFG 132</td>
<td>Machine Trade Printreading II</td>
<td>3</td>
</tr>
<tr>
<td>MFG 350</td>
<td>CNC Lathe Operations Theory</td>
<td>1</td>
</tr>
<tr>
<td>MFG 351</td>
<td>CNC Lathe Operations Lab</td>
<td>2</td>
</tr>
<tr>
<td>MFG 330</td>
<td>CNC Mill Operations Theory</td>
<td>1</td>
</tr>
<tr>
<td>MFG 331</td>
<td>CNC Mill Operations Lab</td>
<td>2</td>
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</tbody>
</table>

### Term 3
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MFG 818</td>
<td>IMT Internship</td>
<td>5</td>
</tr>
<tr>
<td>MFG 152</td>
<td>Related Welding Blueprint–Mfg. Tech</td>
<td>1</td>
</tr>
<tr>
<td>WEL 181</td>
<td>Gas Metal Arc Welding</td>
<td>2</td>
</tr>
</tbody>
</table>

### Term 4—Select 1 Course from Option 1
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGT 164</td>
<td>Total Quality Management</td>
<td>3</td>
</tr>
<tr>
<td>CAD 119</td>
<td>Intro Computer-Aided Drafting/CADD</td>
<td>3</td>
</tr>
<tr>
<td>ELT 721</td>
<td>Robotics</td>
<td>2</td>
</tr>
<tr>
<td>ELT 303</td>
<td>Principles of Electricity</td>
<td>3</td>
</tr>
<tr>
<td>MGT 145</td>
<td>Human Relations in Business</td>
<td>3</td>
</tr>
<tr>
<td>MGT 160</td>
<td>Principles of Retailing</td>
<td>3</td>
</tr>
<tr>
<td>MGT 124</td>
<td>Intermediate CADD–Mechanical</td>
<td>3</td>
</tr>
<tr>
<td>MGT 130</td>
<td>Principles of Supervision</td>
<td>3</td>
</tr>
<tr>
<td>MGT 145</td>
<td>Leadership Development</td>
<td>3</td>
</tr>
<tr>
<td>MGT 800</td>
<td>Business Internship I</td>
<td>6</td>
</tr>
<tr>
<td>MGT 802</td>
<td>Business Internship Seminar I</td>
<td>2</td>
</tr>
<tr>
<td>MGT 805</td>
<td>Business Internship II</td>
<td>4</td>
</tr>
<tr>
<td>MGT 807</td>
<td>Business Internship Seminar II</td>
<td>1</td>
</tr>
<tr>
<td>MGT 194</td>
<td>Relationship Strategies in Business</td>
<td>2</td>
</tr>
<tr>
<td>SPC 101</td>
<td>Fund of Oral Communications</td>
<td>3</td>
</tr>
<tr>
<td>SDV 153</td>
<td>Pre-Employment Strategies</td>
<td>2</td>
</tr>
</tbody>
</table>

Many graduates of the Marketing program have gone on to become marketing managers, regional marketing supervisors, professional sales and customer service representatives. Some have gone on to own their own businesses and others have found careers as managers, merchandisers and buyers in the retail community. Graduates from the Marketing program are responsible for creating and/or executing marketing strategies, hiring, training and supervising employees. They are also responsible for buying and selling product offerings and planning promotions and advertising campaigns. Careers in marketing are listed as one of the fastest-growing areas for the foreseeable future. Research indicates that about one-third of the labor force is now employed in marketing. Marketing careers offer flexibility, mobility and pay to match your ability.

The Marketing program emphasizes career development along with transfer options for students planning on attending a four-year college.

Contact a DMACC Marketing instructor, counselor or advisor for transfer planning assistance.

Location: Ankeny
Selected courses in this program are offered at other campuses.
PROGRAMS AVAILABLE

Option Courses—Select 1 Course From Each Option

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSC 110</td>
<td>Intro to Computers</td>
<td>1</td>
</tr>
<tr>
<td>GRD 301</td>
<td>Intro to Desktop Publishing</td>
<td>1</td>
</tr>
<tr>
<td>BCA 212</td>
<td>Intro to Business Computer Appl</td>
<td>1</td>
</tr>
<tr>
<td>BUS 112</td>
<td>Business Math</td>
<td>2</td>
</tr>
<tr>
<td>MAT 141</td>
<td>Finite Mathematics</td>
<td>2</td>
</tr>
<tr>
<td>ENG 105</td>
<td>Composition I</td>
<td>3</td>
</tr>
<tr>
<td>COM 703</td>
<td>Communication Skills</td>
<td>3</td>
</tr>
<tr>
<td>ACC 131</td>
<td>Principles of Accounting I</td>
<td>4</td>
</tr>
<tr>
<td>ACC 111</td>
<td>Intro to Accounting</td>
<td>4</td>
</tr>
<tr>
<td>MKT 165</td>
<td>Retail Management II</td>
<td>5</td>
</tr>
<tr>
<td>ECN 120</td>
<td>Principles of Macroeconomics</td>
<td>5</td>
</tr>
<tr>
<td>MGT 101</td>
<td>Principles of Management</td>
<td>5</td>
</tr>
<tr>
<td>BUS 148</td>
<td>Small Business Management</td>
<td>5</td>
</tr>
<tr>
<td>MGT 145</td>
<td>Human Relations in Business</td>
<td>6</td>
</tr>
<tr>
<td>PSY 111</td>
<td>Intro to Psychology</td>
<td>6</td>
</tr>
<tr>
<td>MKT 199</td>
<td>Sports/Entertainment Marketing</td>
<td>7</td>
</tr>
<tr>
<td>BUS 150</td>
<td>E-Commerce on the Web</td>
<td>7</td>
</tr>
<tr>
<td>MKT 120</td>
<td>E-Marketing</td>
<td>7</td>
</tr>
<tr>
<td>MKT 182</td>
<td>Customer Relationship Mgmt</td>
<td>7</td>
</tr>
</tbody>
</table>

Total minimum credits required to complete this program 68

Medical Assistant

The Medical Assistant program is designed to prepare students to be employed in a private physician’s office, a clinic, hospital or laboratory. As multidisciplined health professionals, medical assistants perform a variety of clinical procedures and administrative functions in these settings.

Students gain a basic knowledge of anatomy and physiology, laboratory procedures, administrative procedures and patient care techniques. These subjects are presented in the classroom, through laboratory experience and in a 10-week supervised clinical experience in the field. The students will not receive pay during the clinical rotation.

The DMACC Medical Assisting program is accredited by the Commission on Accreditation of Allied Health Education Programs (www.caahep.org) upon the recommendation of the Curriculum Review Board of the American Association of Medical Assistants Endowment (AAMAE). Commission on Accreditation of Allied Health Education Programs, 1361 Park Street, Clearwater, FL 33756. Phone 727-210-2350. DMACC graduates are eligible to take the certification examination (CMA (AAMA)) given by the Certifying Board of the American Association of Medical Assistants. Graduates are also able to take the State of Iowa Limited Radiographer examination upon completion of the program.

Criminal background checks will be completed on each student. Criminal convictions or documented history of abuse may delay or prevent students from participating in clinical education experiences. Students unable to participate in clinical education will be unable to complete the Medical Assistant program. A felony conviction may prevent applicants from being eligible for the AAMA Certified Medical Assistant examination.

Location: Ankeny

Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Submit evidence of grade “C” or better in one year of high school Biology or equivalent (DMACC Academic Achievement Center Biology I & II or BIO 156). Must also submit evidence of typing/word processing skill of 35 WPM with 5 errors or less. Submit proof of high school graduation or GED prior to enrollment. Students start fall term.

Graduation Requirements

To earn a Medical Assistant diploma, a student must complete all coursework as prescribed and maintain a 2.0 grade point average. A grade of 2.0 (C) or better is required in all MAP courses. A student must receive a grade of “C” or better in the first course of a sequential course offering before enrolling in the second-level course of the sequence. Sequential courses include MAP 544 & MAP 554; MAP 225 & MAP 228; MAP 347 & MAP 348; MAP 110 & MAP 118; MAP 250 & MAP 252; and MAP 118 & MAP 130. Several courses have corequisites as listed in the catalog.

Term 1—Select 1 Course from Option 1

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAP 544</td>
<td>Human Body–Health and Disease I</td>
<td>4</td>
</tr>
<tr>
<td>MAP 129</td>
<td>Medical Terminology</td>
<td>1</td>
</tr>
<tr>
<td>MAP 225</td>
<td>Medical Laboratory Procedures I</td>
<td>4</td>
</tr>
<tr>
<td>MAP 347</td>
<td>Medical Office Procedures I</td>
<td>3</td>
</tr>
<tr>
<td>MAP 110</td>
<td>Medical Office Management I</td>
<td>2</td>
</tr>
<tr>
<td>MAP 423</td>
<td>Professional Development</td>
<td>3</td>
</tr>
<tr>
<td>ENG 105</td>
<td>Composition I</td>
<td>1</td>
</tr>
<tr>
<td>COM 703</td>
<td>Communication Skills</td>
<td>3</td>
</tr>
</tbody>
</table>

Term 2

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAP 554</td>
<td>Human Body–Health and Disease II</td>
<td>4</td>
</tr>
<tr>
<td>MAP 250</td>
<td>Diagnostic Radiography I</td>
<td>2</td>
</tr>
<tr>
<td>MAP 118</td>
<td>Medical Office Management II</td>
<td>4</td>
</tr>
<tr>
<td>MAP 228</td>
<td>Medical Laboratory Procedures II</td>
<td>3</td>
</tr>
<tr>
<td>MAP 348</td>
<td>Medical Office Procedures II</td>
<td>3</td>
</tr>
<tr>
<td>PSY 111</td>
<td>Intro to Psychology</td>
<td>3</td>
</tr>
</tbody>
</table>

Term 3

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAP 606</td>
<td>Professional Development III</td>
<td>1</td>
</tr>
<tr>
<td>MAP 252</td>
<td>Diagnostic Radiography II</td>
<td>2</td>
</tr>
<tr>
<td>MAP 130</td>
<td>Transcription</td>
<td>1</td>
</tr>
<tr>
<td>MAP 624</td>
<td>Practicum</td>
<td>5</td>
</tr>
</tbody>
</table>

Total credits required to complete this program 48

Medical Insurance and Coding

(see Certificate Section, page 102)

Medical Laboratory Technology

The Medical Laboratory Technology program prepares the student to perform complex laboratory procedures with a limited amount of supervision. This training includes a six-month hospital laboratory assignment.

The program is accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS), 8410 West Bryn Mawr Avenue, Ste. 670, Chicago, IL 60631-3415, info@naacls.org, www.naacls.org.

Graduates are eligible to take national certification examinations. Job opportunities are found in hospitals, clinics, doctors’ offices, public health laboratories, veterinarians’ offices and industrial laboratories.

Background checks for criminal history may be done by clinical affiliates. This may prevent placement for clinical/practicum courses, which will affect successful program completion.

VISIT US ONLINE: www.DMACC.edu 81
PROGRAMS AVAILABLE

Location: Ankeny

Program Entry Requirements

- Complete an application, satisfy the assessment requirement and attend a required information/registration session or obtain the approval of the Program Chair.
- Submit to the Admissions Office evidence of high school graduation or GED prior to enrollment. Recommended GPA of 2.5 or GED of 55.
- Submit to Admissions Office evidence of grade “C” or better in one year of high school Algebra or the equivalent (MAT 063).
- Submit to the Admissions Office evidence of grade “C” or better in one year of high school Biology or the equivalent (BIO 156 or Academic Achievement Center Biology I and II).
- Submit to the Admissions Office evidence of grade “C” or better in one year high school Chemistry or the equivalent (CHM 122 or Academic Achievement Center Chemistry I and II).
- The following criteria is recommended: grade of “C” or better in high school-level Algebra II, ACT score of 20 or above, COMPASS scores (writing 70, reading 81, algebra 49).
- BIO 164 Essentials Anatomy/Physiology is a required course in the MLT program. Students are strongly encouraged to take this course or an equivalent anatomy and physiology course(s) prior to starting the MLT program. Will accept BIO 733 Health Science Anatomy and BIO 734 Health Science Physiology or BIO 168 Anatomy & Physiology I and BIO 173 Anatomy & Physiology II (or equivalent courses) in place of BIO 164 Essentials Anatomy/Physiology.
- Students start fall term.

Graduation Requirements

To earn a Medical Laboratory Technology AAS degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average. A grade of “C” or better is required in all MLT courses.

Term 1

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MLT 120 Urinalysis</td>
<td>3</td>
</tr>
<tr>
<td>MLT 115 Clinical Lab Fundamentals</td>
<td>3</td>
</tr>
<tr>
<td>BIO 164 Essentials Anatomy/Physiology</td>
<td>5 Opt 1a</td>
</tr>
<tr>
<td>CHM 122 Intro to General Chemistry</td>
<td>Opt 2 4</td>
</tr>
<tr>
<td>CHM 165 General/Inorg Chemistry I</td>
<td>Opt 2 4</td>
</tr>
<tr>
<td>PSY 111 Introduction to Psychology</td>
<td>Opt 3 3</td>
</tr>
<tr>
<td>SOC 110 Introduction to Sociology</td>
<td>Opt 3 3</td>
</tr>
</tbody>
</table>

Term 2

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MLT 232 Advanced Hematology &amp; Coagulation</td>
<td>5</td>
</tr>
<tr>
<td>ENG 105 Composition I</td>
<td>3</td>
</tr>
<tr>
<td>BIO 732 Health Science Microbiology</td>
<td>Opt 4 4</td>
</tr>
<tr>
<td>BIO 187 Microbiology w/ Lab</td>
<td>Opt 4 4</td>
</tr>
<tr>
<td>CHM 132 Intro to Organic/Biochemistry</td>
<td>Opt 5 4</td>
</tr>
<tr>
<td>CHM 263 Organic Chemistry I</td>
<td>Opt 5 5</td>
</tr>
</tbody>
</table>

Term 3

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MLT 261 Immunohematology</td>
<td>5</td>
</tr>
<tr>
<td>MLT 270 Immunology &amp; Serology</td>
<td>2</td>
</tr>
<tr>
<td>MLT 180 Clinical Lab Practicum I</td>
<td>1</td>
</tr>
</tbody>
</table>

Term 4

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>MLT 242 Clinical Chemistry</td>
<td>8</td>
</tr>
<tr>
<td>MLT 251 Clinical Microbiology</td>
<td>6</td>
</tr>
<tr>
<td>SPC 101 Fund of Oral Communication</td>
<td>Opt 6 3</td>
</tr>
<tr>
<td>SPC 126 Interpersonal &amp; Small Grp Comm</td>
<td>Opt 6 3</td>
</tr>
</tbody>
</table>

**Term 5**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MLT 282 Clinical Laboratory Practicum II</td>
<td>12</td>
</tr>
<tr>
<td>MLT 290 Clinical Seminar and Review</td>
<td>2</td>
</tr>
</tbody>
</table>

Total credits required to complete this program 73

*Course options for anatomy and physiology in place of BIO 164:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 733 Health Science Anatomy</td>
<td>Opt 1b 3</td>
</tr>
<tr>
<td>AND</td>
<td></td>
</tr>
<tr>
<td>BIO 734 Health Science Physiology</td>
<td>Opt 1b 3</td>
</tr>
<tr>
<td>OR</td>
<td></td>
</tr>
<tr>
<td>BIO 168 Anatomy &amp; Physiology I</td>
<td>Opt 1c 4</td>
</tr>
<tr>
<td>AND</td>
<td></td>
</tr>
<tr>
<td>BIO 173 Anatomy &amp; Physiology II</td>
<td>Opt 1c 4</td>
</tr>
</tbody>
</table>

Degrees and Diplomas

Medical Office Specialist

The Medical Office Specialist program is designed to prepare the student to work in a variety of medical settings, including hospitals/medical centers, clinics, health insurance companies and other health-related businesses. The office specialist works with administrative areas in the practice including front office, transcription, insurance and billing and is often the first contact with the patient; however, this program is not designed to prepare the student for direct patient care.

Upon successful completion of all four terms, the student is eligible to receive an AAS degree. A student completing the first three terms only is eligible to receive a diploma.

Location: Ankeny

Selected courses in this program are offered at other campuses.

Program Entry Requirements

1. Complete an application, satisfy the assessment requirement and attend any required information/registration session.
2. Complete the required COMPASS testing obtaining a satisfactory score in writing skills (70 or higher) or ACT writing score of 19 or higher or completion of ADM 157 Business English with a grade of “C” or better.
3. Keyboarding speed of 40 NWPM or above as demonstrated by a five-minute test.

Students start fall term.

Graduation Requirements

To earn a Medical Office Specialist diploma or AAS degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

Term 1

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGT 145 Human Relations in Business</td>
<td>3</td>
</tr>
<tr>
<td>ADM 157 Business English</td>
<td>3</td>
</tr>
<tr>
<td>BUS 112 Business Math</td>
<td>3</td>
</tr>
<tr>
<td>HSC 120 Medical Terminology I</td>
<td>3</td>
</tr>
<tr>
<td>BCA 133 Word Processing Skill Development I</td>
<td>4</td>
</tr>
<tr>
<td>BCA 212 Intro Computer Business Applications</td>
<td>3</td>
</tr>
</tbody>
</table>

Term 2

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDV 153 Pre-Employment Strategies</td>
<td>2</td>
</tr>
<tr>
<td>HSC 121 Medical Terminology II</td>
<td>3</td>
</tr>
<tr>
<td>BCA 137 Word Processing Skill Dev II</td>
<td>3</td>
</tr>
<tr>
<td>ADM 131 Office Calculators</td>
<td>1</td>
</tr>
</tbody>
</table>
To enlarge the background and knowledge of students about the funeral service profession.

The Aims and Purposes of the Mortuary Science program at DMACC are:

1. To educate students concerning the responsibilities of the funeral service profession to the community at large.
2. To emphasize high standards of ethical conduct.
3. To provide a curriculum at the postsecondary level of instruction.
4. To encourage research in the field of funeral service.
5. To provide students the business and legal knowledge, philosophical/ethical principles, and specific techniques and skills to enable them to be successful within the funeral service profession.
6. To educate and prepare individuals for active contribution to the service and welfare of their communities.

**Location:** Ankeny

**Program Entry Requirements**

1. Complete a DMACC Application.
2. Satisfy DMACC’s general assessment requirement and attend any required information/registration session.
3. a. Submit a transcript of all completed college work that indicates the awarding of a minimum of an Associate degree (AA, AS, AAS, AGS) from a regionally accredited college or university, or
   b. Submit a transcript of all completed college work that indicates having earned a minimum of 64 college credits from a regionally accredited college or university with a grade average of “C” or above.
4. Submit evidence of a minimum of 15 credits earned in general education that includes one communications course, one mathematics course, and one social and behavioral science course. A listing of courses meeting these requirements can be found in the DMACC catalog or linked from the Mortuary Science program website at http://funeral.dmacc.edu.

Classes start fall term only.

**Graduation Requirements**

To earn a Mortuary Science–Advanced Standing diploma, a student must complete all coursework as prescribed and maintain a 2.0 grade point average, and earn a grade of “C” or above in all courses in the program.

To prevent delays in the scheduling of courses and graduation, students should complete a required human anatomy course and the required business courses (ACC 111 or ACC 131, and BUS 185) prior to beginning the MOR courses.

**Required Courses—Select 1 Course from Option 1 and Option 2**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 111</td>
<td>Intro to Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ADM 154</td>
<td>Business Communication</td>
<td>3</td>
</tr>
<tr>
<td>MAP 803</td>
<td>Internship–Medical Secretaries</td>
<td>3</td>
</tr>
<tr>
<td>BCA 213</td>
<td>Intermediate Computer Business Appl</td>
<td>3</td>
</tr>
<tr>
<td>MAP 150</td>
<td>Adv Medical Billing/Coding</td>
<td>Opt 1</td>
</tr>
<tr>
<td>MTR 122</td>
<td>Medical Transcription III</td>
<td>Opt 1</td>
</tr>
<tr>
<td>SPC 101</td>
<td>Fund of Oral Communication</td>
<td>Opt 2</td>
</tr>
<tr>
<td>SPC 126</td>
<td>Interpersonal &amp; Small Group Comm</td>
<td>Opt 2</td>
</tr>
</tbody>
</table>

Total credits required to complete AAS degree: 64

*Challenge test available. Must earn 74%.

**Medical Transcriptionist**

(see Certificate Section, page 102)

**Degrees and Diplomas**

**Medical Transcriptionist**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCA 213</td>
<td>Medical Transcription III</td>
<td>3</td>
</tr>
<tr>
<td>MTR 121</td>
<td>Medical Transcription II</td>
<td>3</td>
</tr>
<tr>
<td>MAP 532</td>
<td>Human Body–Health &amp; Disease</td>
<td>3</td>
</tr>
<tr>
<td>ADM 215</td>
<td>Medical Office Procedures</td>
<td>3</td>
</tr>
<tr>
<td>MTR 120</td>
<td>Medical Transcription I</td>
<td>3</td>
</tr>
</tbody>
</table>

Total credits required to complete the diploma: 46

**Microcomputers** (see Certificate Section, page 102)

**Mortuary Science – Advanced Standing**

The Mortuary Science program will prepare students who have earned a minimum of an Associate Degree to work within the funeral service profession. The Mortuary Science program is a field of human and community services that prepares an individual to become a mortuary science practitioner or funeral director.


The Aims and Purposes of the Mortuary Science program at DMACC are:

1. To enlarge the background and knowledge of students about the funeral service profession.

**Microcomputers** (see Certificate Section, page 102)

**Mortuary Science – Advanced Standing**

The Mortuary Science program will prepare students who have earned a minimum of an Associate Degree to work within the funeral service profession. The Mortuary Science program is a field of human and community services that prepares an individual to become a mortuary science practitioner or funeral director.


The Aims and Purposes of the Mortuary Science program at DMACC are:

1. To enlarge the background and knowledge of students about the funeral service profession.
PROGRAMS AVAILABLE

MOR 346  Restorative Art Lab  1
MOR 354  Funeral Home Operations I  1
MOR 355  Funeral Home Operations II  1
MOR 360  Thanatochemistry  2
MOR 365  Survey of Infectious Disease  2
MOR 941  Practicum*  4

Total minimum credits required to complete this program  48

During MOR 941 Practicum, each student is required to take the National Board Exam as a graduation requirement.

The annual passage rate of first-time takers on the National Board Examination (NBE) for the most recent three-year period for this institution and all ABFSE-accredited funeral service education programs is posted on the ABFSE website (www.abfse.org).

State licensure requirements vary from state to state. Applicants must meet all state requirements. For complete licensure requirements, contact the State Board of Professional Licensure in the state in which you intend to practice. In Iowa, call 515-281-4287.

Network Security Manager
(see Certificate Section, page 102)

Nursing - Advanced Standing

This program offers the opportunity for current Iowa Licensed Practical Nurses to complete an Associate degree in Nursing. Applicants with the equivalent of the first two terms of the Nursing Program are also eligible for admission. Students enter the third term of the Associate degree Nursing curriculum. Upon successful completion of Terms 3, 4 and 5, students are eligible to take the NCLEX exam for Registered Nurse Licensure (NCLEX-RN). The program is approved by the Iowa Board of Nursing and accredited by the National League for Nursing Accrediting Commission (NLNAC), 61 Broadway—3rd Floor, New York City, NY 10006, 212-363-5555.

Locations: Ankeny, Boone, Carroll

Part-time option may be available on select campuses. Selected liberal arts courses in this program are offered at other campuses.

Program Entry Requirements
1. Complete an application.
2. Attend required Nursing information session, registration meeting and a Nursing program orientation.
3. Provide proof of completion of an approved Practical Nursing Program comparable to DMACC Practical Nursing as determined by the Director of Nursing Education and with a cumulative GPA of 2.0 or above.
4. Provide a copy of current Iowa LPN licensure (or other state licensure, recognized by Iowa pursuant to the Nurse Licensure Compact).
5. Complete DMACC’s Assessment Requirement.
6. Complete Nursing program admissions testing with satisfactory minimum scores in reading, writing and mathematics.
7. Meet the minimum established score on the required PN-to-ADN Assessment Test.

Total additional credits required to complete this program  52

Degrees and Diplomas

8. Complete the following courses with a grade of “C” (not C-) or better in each:
   BIO 733–Health Science Anatomy
   BIO 734–Health Science Physiology
   ENG 105–Composition I
   PSY 111–Introduction to Psychology
   PSY 121–Developmental Psychology

9. Provide proof of high school graduation or GED completion.

Criminal background checks will be completed on each student. Criminal convictions or documented history of abuse may delay or prevent students from participating in clinical education experiences. Results of the criminal record/child and adult abuse registry checks will be released to the Department of Human Services, which will determine if the crime or founded abuse warrants prohibition from clinical education experience. Students unable to participate in clinical education will be unable to complete the Nursing program.

Proof of immunizations is required of all nursing students. Completion of the Student Health and Immunization Record form and current certification by either the American Heart Association CPR for the Health Care Provider or American Red Cross CPR for the Professional Rescuer are required prior to beginning clinical rotations. Proof of a current flu vaccination is required of all nursing students by January of each year.

Graduation Requirements

To earn an Associate Degree (AAS) in Nursing, a student must complete all coursework as prescribed and have a grade of “C” or above in all ADN and support courses in the curriculum.

In both the Practical and Associate Degree levels of the Nursing program, all nursing and liberal arts support courses must be successfully completed with a grade of “C” or above. In order to progress to the next term, courses must be successfully completed in the term identified or in a previous term.

Prerequisites

BIO 733  Health Science Anatomy  3
BIO 734  Health Science Physiology  3
ENG 105  Composition I  3
PSY 111  Introduction to Psychology  3
PSY 121  Developmental Psychology  3

Term 3–Select 1 Course from Option 1
ADN 126  Passport to ADN Nursing  2
SPC 126  Interpersonal & Small Group Comm  3
BIO 732  Health Science Microbiology  Opt 1  4
BIO 187  Microbiology w/lab  Opt 1  4

Term 4
ADN 611  Professional Nursing Practice  2
ADN 416  Family Health Nursing  5
ADN 474  Mental Health Nursing  5
SOC 110  Introduction to Sociology  3

Term 5–Select 1 Course from Option 2
ADN 351  Adult Health Nursing  7
ADN 821  Nursing Seminar  3
HUM 116  Encounters in Humanities  Opt 2  3
LIT 101  Introduction to Literature  Opt 2  3
PHI 101  Introduction to Philosophy  Opt 2  3
PHI 110  Introduction to Logic  Opt 2  3
PHI 105  Introduction to Ethics  Opt 2  3
REL 101  Survey of World Religions  Opt 2  3

Total minimum credits required to complete this program  48
**PROGRAMS AVAILABLE**

**Nursing Programs**

**Practical Nursing and Associate Degree Nursing**

The Nursing program is designed as a career ladder program. The first two semesters provide a common core of nursing theory and skills for both the Practical Nursing and Associate Degree Nursing students.

The student who completes two terms is prepared to become a Licensed Practical Nurse (LPN). LPNs provide nursing care under the supervision of a Registered Nurse or a physician. The LPN is prepared to provide basic therapeutic, rehabilitative and preventive care for individuals of all ages, primarily in a structured care setting such as hospitals, long-term care facilities or clinics.

Upon successful completion of Terms 1 and 2, the student is eligible to take the National Council Licensure Exam for Practical Nurse Licensure (NCLEX–PN).

An Associate Degree in Nursing and a career as a Registered Nurse are available to students who continue in the program and successfully complete Terms 3, 4 and 5. As members of the nursing profession, registered nurses are accountable for their own nursing practice. The Associate Degree Nurse utilizes more complex nursing knowledge and skills to assess, plan, provide, evaluate and manage nursing care for patients in hospitals, long-term care facilities and a variety of community-based healthcare settings.

Upon successful completion of Terms 1–5 of the nursing curriculum, the student is eligible to take the National Council Licensure Exam for Registered Nurse Licensure (NCLEX – RN).

**Program Locations:** Ankeny, Boone, Carroll, Newton—Practical Nursing only, Urban—part-time option

Selected liberal arts courses in this program are offered at other campuses.

The Nursing program is approved by the Iowa Board of Nursing and accredited by the National League for Nursing Accrediting Commission (NLNAC), 61 Broadway–33rd Floor, New York City, NY 10006, 212-363-5555.

**Program Entry Requirements**

1. Complete an application.
2. Attend required Nursing information session, registration meetings and a program orientation.
3. Complete DMACC’s assessment requirement.
4. Complete required nursing program admissions testing with satisfactory minimum scores in reading, writing and mathematics.
5. Successfully complete HSC 172 plus HSC 182 or an equivalent 120-hour (or more) Certified Nurse Assistant course from an approved program—January 1992 or after.
6. Submit proof of successful completion of Nurse Aide written (NRAO 858) and skills (NRAO 859) tests for placement on the Direct Care Worker Registry.
7. Complete the following courses with a grade of “C” (not C-) or better in each:
   - BIO 733 – Health Science Anatomy
   - PSY 111 – Introduction to Psychology
8. Proof of high school graduation or GED completion.

Criminal background checks will be completed on each student. Criminal convictions or documented history of abuse may delay or prevent students from participating in clinical education experiences. Results of the criminal record/child and adult abuse registry checks will be released to the Department of Human Services, which will determine if the crime or founded abuse warrants prohibition from clinical education experience. Students unable to participate in clinical education will be unable to complete the Nursing program.

Proof of immunizations is required of all nursing students. Completion of the Student Health and Immunization Record form and current certification by either the American Heart Association CPR for the Health Care Provider or American Red Cross CPR for the Professional Rescuer are required prior to beginning clinical rotations. Proof of a current flu vaccination is required of all nursing students by January of each year.

**Practical Nursing starts:**

Ankeny, Boone—Fall and Spring Terms; Carroll, Newton—Fall Term Only; Urban—Part-time, Fall Term Only in even-numbered years

**Associate Degree Nursing starts:**

Ankeny, Boone—Summer, Fall Terms; Carroll—Summer Term Only; Urban—Part-time, Fall Term Only in even-numbered years

In both the Practical and Associate Degree levels of the program, all nursing and liberal arts support courses must be successfully completed with a grade of “C” or above. In order to progress to the next term, these courses must be successfully completed in the term identified or in a previous term.

Continuation in the Associate Degree program at the Ankeny, Boone, Carroll and Urban Campuses requires successful completion of Terms 1 and 2 of the Practical Nursing curriculum. Students who successfully complete the Practical Nursing program at Newton Campus may apply to special start into the ADN program on a different campus.

**Graduation Requirements**

To earn a Practical Nursing diploma, a student must complete all coursework as prescribed in Terms 1 and 2 and have “C” or above in all Nursing and support courses in the curriculum.

To earn an Associate Degree (AAS) in Nursing, a student must complete all coursework as prescribed in Terms 1–5 and have a grade of “C” or above in all PNN, ADN and support courses in the curriculum.

**Practical Nursing**

Students should take required liberal arts support courses in advance when possible.

In both the Practical and Associate Degree levels of the program, all nursing and liberal arts support courses must be successfully completed with a grade of “C” or above. In order to progress to the next term, these courses must be successfully completed in the term identified or in a previous term.

Continuation in the Associate Degree program requires successful completion of Terms 1 and 2 of the Practical Nursing curriculum.

**Prerequisite**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 733</td>
<td>Health Science Anatomy</td>
<td>3</td>
</tr>
<tr>
<td>PSY 111</td>
<td>Introduction to Psychology</td>
<td>3</td>
</tr>
</tbody>
</table>

**Term 1**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 734</td>
<td>Health Science Physiology</td>
<td>3</td>
</tr>
<tr>
<td>PNN 151</td>
<td>Fundamentals of Nursing</td>
<td>4</td>
</tr>
<tr>
<td>PNN 152</td>
<td>Nursing Practice I</td>
<td>4</td>
</tr>
<tr>
<td>PNN 153</td>
<td>Success in Nursing</td>
<td>2</td>
</tr>
<tr>
<td>PSY 121</td>
<td>Developmental Psychology</td>
<td>3</td>
</tr>
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</table>

**Term 2**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 105</td>
<td>Composition I</td>
<td>3</td>
</tr>
<tr>
<td>PNN 605</td>
<td>Nursing Practice II</td>
<td>5</td>
</tr>
<tr>
<td>PNN 606</td>
<td>Nursing Practice III</td>
<td>5</td>
</tr>
<tr>
<td>PNN 351</td>
<td>Practical Nursing Roles</td>
<td>1</td>
</tr>
</tbody>
</table>
**Programs Available**

Total credits required to complete the diploma 36

**Associate Degree Nursing**

Students should take required liberal arts support courses in advance when possible.

In both the Practical and Associate Degree levels of the program, all nursing and liberal arts support courses must be successfully completed with a grade of “C” or above. In order to progress to the next term, these courses must be successfully completed in the term identified or in a previous term.

Continuation in the Associate Degree program requires successful completion of Terms 1 and 2 of the Practical Nursing curriculum. Students must complete Terms 1 and 2 prior to enrolling in ADN courses.

**Term 3—Select 1 Course from Option 1**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPC 126</td>
<td>Interpersonal and Small Group Comm.</td>
<td>3</td>
</tr>
<tr>
<td>BIO 732</td>
<td>Health Science Microbiology</td>
<td>Opt 1</td>
</tr>
<tr>
<td>BIO 187</td>
<td>Microbiology w/Lab</td>
<td>Opt 1</td>
</tr>
</tbody>
</table>

**Term 4**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADN 611</td>
<td>Professional Nursing Practice</td>
<td>2</td>
</tr>
<tr>
<td>ADN 416</td>
<td>Family Health Nursing</td>
<td>5</td>
</tr>
<tr>
<td>ADN 474</td>
<td>Mental Health Nursing</td>
<td>5</td>
</tr>
<tr>
<td>SOC 110</td>
<td>Introduction to Sociology</td>
<td>3</td>
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</tbody>
</table>

**Term 5—Select 1 Course from Option 2**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADN 551</td>
<td>Adult Nursing</td>
<td>7</td>
</tr>
<tr>
<td>ADN 821</td>
<td>Nursing Seminar</td>
<td>3</td>
</tr>
<tr>
<td>HUM 116</td>
<td>Encounters in Humanities</td>
<td>Opt 2</td>
</tr>
<tr>
<td>LIT 101</td>
<td>Introduction to Literature</td>
<td>Opt 2</td>
</tr>
<tr>
<td>PHI 101</td>
<td>Introduction to Philosophy</td>
<td>Opt 2</td>
</tr>
<tr>
<td>PHI 110</td>
<td>Introduction to Logic</td>
<td>Opt 2</td>
</tr>
<tr>
<td>PHI 105</td>
<td>Introduction to Ethics</td>
<td>Opt 2</td>
</tr>
<tr>
<td>REL 101</td>
<td>Survey of World Religions</td>
<td>Opt 2</td>
</tr>
</tbody>
</table>

**Office Assistant**

The Office Assistant diploma curriculum is for individuals who want to develop or refresh their office skills in order to qualify for general office work. Students gain a basic knowledge of English, math, computer applications and human relations skills. By selecting an emphasis during Term 2, students are able to customize their curriculum and gain specialized skills.

**Locations:** Ankeny, Boone, Carroll, Urban

Selected courses in this program are offered at other campuses.

**Program Entry Requirements**

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students start any term.

**Graduation Requirements**

To earn an Office Assistant diploma, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

**Term 1**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 112</td>
<td>Business Math</td>
<td>3</td>
</tr>
<tr>
<td>MGT 145</td>
<td>Human Relations in Business</td>
<td>3</td>
</tr>
<tr>
<td>ADM 157</td>
<td>Business English</td>
<td>3</td>
</tr>
<tr>
<td>BCA 133</td>
<td>Word Processing Skill Development I</td>
<td>4</td>
</tr>
<tr>
<td>ADM 131</td>
<td>Office Calculators</td>
<td>3</td>
</tr>
<tr>
<td>BCA 212</td>
<td>Intro Computer Business Appl</td>
<td>3</td>
</tr>
</tbody>
</table>

**Term 2**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDV 153</td>
<td>Pre-Employment Strategies</td>
<td>2</td>
</tr>
<tr>
<td>ADM 162</td>
<td>Office Procedures</td>
<td>3</td>
</tr>
<tr>
<td>ADM 154</td>
<td>Business Communication</td>
<td>3</td>
</tr>
<tr>
<td>ADM 259</td>
<td>Professional Development</td>
<td>3</td>
</tr>
</tbody>
</table>

In addition to the required courses in Term 2, students are required to select one of the following Emphasis Options:

**Professional Emphasis Option**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCA 137</td>
<td>Word Processing Skill Dev II</td>
<td>3</td>
</tr>
<tr>
<td>ADM 265</td>
<td>Supervised Practical Experience</td>
<td>2</td>
</tr>
<tr>
<td>ADM 937</td>
<td>Prof Office Careers Seminar</td>
<td>1</td>
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</tbody>
</table>

**Information Processing Emphasis Option**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCA 137</td>
<td>Word Processing Skill Development II</td>
<td>3</td>
</tr>
<tr>
<td>BCA 213</td>
<td>Intermediate Computer Business Appl</td>
<td>3</td>
</tr>
</tbody>
</table>

**Office Management Emphasis Option**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCA 113</td>
<td>Computer Network Literacy</td>
<td>3</td>
</tr>
<tr>
<td>MGT 115</td>
<td>Administrative Management</td>
<td>3</td>
</tr>
</tbody>
</table>

**Bookkeeping Emphasis Option**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 111</td>
<td>Intro to Accounting</td>
<td>3</td>
</tr>
<tr>
<td>BCA 213</td>
<td>Intermediate Computer Business Appl</td>
<td>3</td>
</tr>
</tbody>
</table>

**Legal Emphasis Option**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 185</td>
<td>Business Law I</td>
<td>3</td>
</tr>
<tr>
<td>ADM 208</td>
<td>Legal Terminology</td>
<td>3</td>
</tr>
</tbody>
</table>

**Data Entry Emphasis Option**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADM 138</td>
<td>Data Entry</td>
<td>3</td>
</tr>
<tr>
<td>BCA 213</td>
<td>Intermed Computer Business Appl</td>
<td>3</td>
</tr>
</tbody>
</table>

Total credits required to complete the AAS degree 71

**Office Specialist** (see Certificate Section, page 103)

**Phlebotomy** (see Certificate Section, page 103)

**Photography**

The Photography Diploma program is designed to prepare students to be employed as commercial photographers. Students gain basic knowledge in film and digital photography, photojournalism and advanced editing processes. Current industry standard software and techniques are utilized. Students also learn to communicate with customers and consider social and environmental issues in the context of their work. The Photography diploma program will be offered starting Fall Semester 2008 pending Iowa Department of Education approval.

**Locations:** Ankeny

**Program Entry Requirements**

Complete an application, satisfy the assessment requirement and attend any required information/registration sessions. Students start any term.

**Graduation Requirements**

To earn a Photography Diploma, a student must complete all required coursework as prescribed and maintain a 2.0 grade point average.

**FALL START**

**Term 1 - Fall**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART 184</td>
<td>Principles of Photography</td>
<td>3</td>
</tr>
<tr>
<td>ART 186</td>
<td>Principles Digital Photography</td>
<td>3</td>
</tr>
<tr>
<td>ART 289</td>
<td>Photojournalism</td>
<td>3</td>
</tr>
</tbody>
</table>
PROGRAMES AVAILABLE

Select One Course from Option 1 and One Course from Option 2
SPC 101 Fund of Oral Communication Opt 1 3
SPC 126 Interpersonal & Small Grp Comm Opt 1 3
ENG 105 Composition I Opt 1 3

BIO 104 Introductory Biology w/Lab Opt 2 3
BIO 138 Field Ecology Opt 2 3
ENV 115 Environmental Science Opt 2 3

Term 2 – Spring
ART 226 Alternative Photo Processes 3
ART 291 Travel Photography 3
ART 292 Studio Photography 3
BUS 112 Business Math 3

Select One Course from Option 3
GEO 111 Introduction to Geography Opt 3 3
HIS 153 U.S. History Since 1877 Opt 3 4
PSY 261 Human Sexuality Opt 3 3
SOC 120 Marriage & Family Opt 3 3
PSY 111 Introduction to Psychology Opt 3 3

Term 3 – Summer
ART 929 Individual Projects 6

Total minimum credits required to complete this program 36

SPRING START

Term 1 – Spring
ART 184 Principles of Photography 3
ART 186 Principles Digital Photography 3
ART 289 Photojournalism 3

Select One Course from Option 1 and One Course from Option 2
SPC 101 Fund of Oral Communication Opt 1 3
SPC 126 Interpersonal & Small Grp Comm Opt 1 3
ENG 105 Composition I Opt 1 3

BIO 104 Introductory Biology w/Lab Opt 2 3
BIO 138 Field Ecology Opt 2 3
ENV 115 Environmental Science Opt 2 3

Term 2 – Summer
ART 226 Alternative Photo Processes 3
ART 291 Travel Photography 3
ART 292 Studio Photography 3

Select One Course from Option 3
GEO 111 Introduction to Geography Opt 3 3
HIS 153 U.S. History Since 1877 Opt 3 4
PSY 261 Human Sexuality Opt 3 3
SOC 120 Marriage & Family Opt 3 3
PSY 111 Introduction to Psychology Opt 3 3

Total minimum credits required to complete this program 36

SUMMER START

Term 1 – Summer
ART 184 Principles of Photography 3
ART 186 Principles Digital Photography 3
ART 289 Photojournalism 3

Term 2 – Fall
ART 226 Alternative Photo Processes 3
ART 291 Travel Photography 3
ART 292 Studio Photography 3

Select One Course from Option 1 and One Course from Option 2
SPC 101 Fund of Oral Communication Opt 1 3
SPC 126 Interpersonal & Small Grp Comm Opt 1 3
ENG 105 Composition I Opt 1 3

BIO 104 Introductory Biology w/Lab Opt 2 3
BIO 138 Field Ecology Opt 2 3
ENV 115 Environmental Science Opt 2 3

Term 3 – Spring
ART 929 Individual Projects 6
BUS 112 Business Math 3

Select One Course from Option 3
GEO 111 Introduction to Geography Opt 3 3
HIS 153 U.S. History Since 1877 Opt 3 4
PSY 261 Human Sexuality Opt 3 3
SOC 120 Marriage & Family Opt 3 3
PSY 111 Introduction to Psychology Opt 3 3

Total minimum credits required to complete this program 36

Printing Technologies (see Certificate Section, page 103)

Production Art (see Certificate Section, page 103)

Respiratory Therapy

The Respiratory Therapy program provides students the opportunity to learn the dynamic profession of respiratory care. Respiratory care is an allied medical specialty involved in the diagnosis, treatment and prevention of diseases and conditions that affect the respiratory and cardiovascular systems. Respiratory therapists work closely with physicians to plan, provide and evaluate direct care to persons with pulmonary and cardiovascular diseases.

The curriculum includes a variety of supervised clinical practicum experiences in local healthcare facilities. Graduates will acquire the knowledge, skills and attitudes needed to begin successful careers in respiratory care.

Graduates of the program receive an Associate of Applied Science (AAS) Degree. The program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAAEP) and graduates are eligible for all credentialing examinations currently offered by the National Board of Respiratory Care (NBRC) and licensure by the Iowa Department of Public Health.

Employment opportunities are found in hospitals, clinics, physicians’ offices, home health care agencies, equipment and supply sales and rehabilitation and continuing care.
## PROGRAMS AVAILABLE

Criminal background checks will be done and results shared with cooperating agencies, which may delay or deny placement for clinical/practicum courses. This will affect successful program completion.

### Location: Ankeny

### Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Meet with a Respiratory Therapy faculty advisor. Students must also:

- Submit to Admissions Office evidence of high school graduation or GED prior to enrollment.
- Submit to Admissions Office evidence of grade “C” or above in two semesters of high school Chemistry or the equivalent (Academic Achievement Center Chemistry I & II or CHM122 Introduction to General Chemistry).
- Submit to Admissions Office evidence of grade “C” or above in two semesters of high school Chemistry or equivalent (Academic Achievement Center Chemistry I & II or CHM122 Introduction to General Chemistry).
- Submit to Admissions Office evidence of grade of “C” or above in BIO 733 Health Science Anatomy or BIO 164 Essentials Anatomy and Physiology or equivalent courses.

Students start fall term.

### Graduation Requirements

To earn a Respiratory Therapy AAS degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average. A minimum of grade “C” or above is required in all RCP courses.

### Term 1

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>RCP 100</td>
<td>Intro to Respiratory Care</td>
<td>3</td>
</tr>
<tr>
<td>RCP 240</td>
<td>Respiratory Therapeutics</td>
<td>4</td>
</tr>
<tr>
<td>RCP 250</td>
<td>Cardio/Pulmonary Therapeutics</td>
<td>4</td>
</tr>
<tr>
<td>CHM 122</td>
<td>Introduction to General Chemistry</td>
<td>4</td>
</tr>
</tbody>
</table>

### Term 2—Select 1 Course from Option 1

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>RCP 360</td>
<td>Cardiac/Pulmonary Renal Pathophysiology</td>
<td>5</td>
</tr>
<tr>
<td>RCP 400</td>
<td>Respiratory Therapy Pharmacology</td>
<td>3</td>
</tr>
<tr>
<td>RCP 700</td>
<td>Respiratory Therapy Practicum I</td>
<td>4</td>
</tr>
<tr>
<td>BIO 734</td>
<td>Health Science Physiology</td>
<td>3</td>
</tr>
<tr>
<td>BIO 164</td>
<td>Essentials Anatomy &amp; Physiology</td>
<td>3</td>
</tr>
</tbody>
</table>

### Term 3—Select 1 Course from Option 2

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>RCP 600</td>
<td>Neonatal/Pediatric Respiratory Therapy</td>
<td>3</td>
</tr>
<tr>
<td>RCP 705</td>
<td>Respiratory Therapy Practicum II</td>
<td>5</td>
</tr>
<tr>
<td>ENG 105</td>
<td>Composition I</td>
<td>3</td>
</tr>
<tr>
<td>COM 703</td>
<td>Communication Skills</td>
<td>3</td>
</tr>
</tbody>
</table>

### Term 4—Select 1 Course from Option 3

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>RCP 500</td>
<td>Advanced Respiratory Therapy</td>
<td>5</td>
</tr>
<tr>
<td>RCP 710</td>
<td>Respiratory Therapy Practicum III</td>
<td>5</td>
</tr>
<tr>
<td>BIO 732</td>
<td>Health Science Microbiology</td>
<td>4</td>
</tr>
<tr>
<td>BIO 187</td>
<td>Microbiology w/Lab</td>
<td>4</td>
</tr>
</tbody>
</table>

### Term 5—Select 1 Course from Option 4

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>RCP 410</td>
<td>Cardio/Pulmonary Diagnostics</td>
<td>3</td>
</tr>
<tr>
<td>RCP 715</td>
<td>Respiratory Therapy Practicum IV</td>
<td>4</td>
</tr>
<tr>
<td>PST 111</td>
<td>Intro to Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PST 102</td>
<td>Human and Work Relations</td>
<td>3</td>
</tr>
<tr>
<td>SOC 110</td>
<td>Introduction to Sociology</td>
<td>3</td>
</tr>
<tr>
<td>MGT 145</td>
<td>Human Relations in Business</td>
<td>3</td>
</tr>
</tbody>
</table>

### Term 6

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>RCP 800</td>
<td>Respiratory Therapy Mgmt &amp; Ethics</td>
<td>3</td>
</tr>
<tr>
<td>RCP 720</td>
<td>Respiratory Therapy Practicum V</td>
<td>5</td>
</tr>
</tbody>
</table>

### Total credits required to complete this program

#### Degrees and Diplomas

### Retailing

Retail organizations are constantly recruiting individuals with training in the areas of retailing, sales, store management and customer relations. Retailing provides a dynamic and exciting work environment that rewards high performance with rapid job promotions and pay increases to match.

Retailing is a growth industry with an almost endless number of career opportunities available to graduates of the program. Past graduates are now in careers that include store managers, department managers, visual merchandisers, chain store supervisors, professional sales of automotive, home improvement and computer products and owners of their own businesses.

Personal, professional and leadership development is provided through lectures, study tours, labs and speakers. Practical experience is gained through a paid internship with leading retail companies.

Students completing the Retailing program can transfer all of their credits into any of DMACC’s two-year Marketing or Management programs.

### Location: Ankeny

Selected courses in this program are offered at other campuses.

### Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students start any term.

### Graduation Requirements

To earn a Retailing diploma, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

### Required Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MKT 140</td>
<td>Selling</td>
<td>3</td>
</tr>
<tr>
<td>MKT 150</td>
<td>Principles of Advertising</td>
<td>3</td>
</tr>
<tr>
<td>MKT 160</td>
<td>Principles of Retailing</td>
<td>3</td>
</tr>
<tr>
<td>MKT 165</td>
<td>Retail Management II</td>
<td>3</td>
</tr>
<tr>
<td>APP 111</td>
<td>Visual Merchandising &amp; Design</td>
<td>3</td>
</tr>
<tr>
<td>MGT 800</td>
<td>Business Internship I</td>
<td>3</td>
</tr>
<tr>
<td>MGT 802</td>
<td>Business Internship Seminar I</td>
<td>2</td>
</tr>
<tr>
<td>MGT 194</td>
<td>Relationship Strategies in Business</td>
<td>2</td>
</tr>
<tr>
<td>MGT 147</td>
<td>Leadership Development</td>
<td>3</td>
</tr>
<tr>
<td>SDV 153</td>
<td>Pre-Employment Strategies</td>
<td>2</td>
</tr>
</tbody>
</table>

### Option Courses—Select 1 Course from Each Option

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 105</td>
<td>Composition I</td>
<td>Opt 1</td>
</tr>
<tr>
<td>COM 703</td>
<td>Communication Skills</td>
<td>Opt 1</td>
</tr>
<tr>
<td>MGT 110</td>
<td>Principles of Marketing</td>
<td>Opt 2</td>
</tr>
<tr>
<td>MGT 120</td>
<td>E-Marketing</td>
<td>Opt 2</td>
</tr>
<tr>
<td>BUS 102</td>
<td>Intro to Business</td>
<td>Opt 2</td>
</tr>
<tr>
<td>BUS 148</td>
<td>Small Business Management</td>
<td>Opt 2</td>
</tr>
<tr>
<td>MGT 145</td>
<td>Human Relations in Business</td>
<td>Opt 3</td>
</tr>
<tr>
<td>PSY 111</td>
<td>Introduction to Psychology</td>
<td>Opt 3</td>
</tr>
<tr>
<td>BUS 112</td>
<td>Business Math</td>
<td>Opt 4</td>
</tr>
<tr>
<td>MAT 141</td>
<td>Finite Math</td>
<td>Opt 4</td>
</tr>
</tbody>
</table>

### Total credits required to complete this program

42

### Retailing Certificate

(see Certificate Section, page 103)

### Sales

(see Certificate Section, page 104)
Degrees and Diplomas

Sales and Management
The Sales and Management program offers sales and management skill development. Many opportunities exist for the highly motivated, people-oriented, goal-setting individual who wants to quickly move into a sales or management industry-sponsored training program.

Specific benefits of the program include rapid development of sales and management skills, total transferability into any of DMACC’s two-year Marketing and Management AAS degree programs and the satisfaction of gaining self-confidence as marketing skills are acquired.

Students will have the opportunity to enroll in the program for either day or evening classes at the beginning of each term. In addition, the program offers opportunities to earn as you learn through on-the-job training, opportunities to gain advanced standing with prior occupational experience (after evaluation by the program chairperson) and leadership training through involvement in the Sales and Management Club.

Location: Ankeny
Selected courses in this program are offered at other campuses.

Program Entry Requirements
Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students start any term.

Graduation Requirements
To earn a Sales and Management diploma, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

Required Courses
- MGT 147 Leadership Development 3
- MGT 800 Business Internship I 6
- MGT 802 Business Internship Seminar I 2
- MGT 194 Relationship Strategies in Business 2
- MKT 140 Selling 3
- MKT 141 Advanced Selling Strategies 3
- SDV 153 Pre-Employment Strategies 2

Option Courses—Select 1 Course from Each Option
- CSC 110 Intro to Computers Opt 1 3
- GRD 301 Intro to Desktop Publishing Opt 1 3
- BCA 212 Intro to Computer Business Appl Opt 1 3
- MGT 130 Principles of Supervision Opt 2 3
- MGT 101 Principles of Management Opt 2 3
- MKT 145 Sales Management Opt 2 3
- ENG 105 Composition I Opt 3 3
- COM 703 Communication Skills Opt 3 3
- BUS 102 Intro to Business Opt 4 3
- MKT 110 Principles of Marketing Opt 4 3
- BUS 150 E-Commerce on the Web Opt 4 3
- BUS 112 Business Math Opt 5 3
- MAT 141 Finite Math Opt 5 4
- MGT 145 Human Relations in Business Opt 6 3
- PSY 111 Introduction to Psychology Opt 6 3

Total credits required to complete this program 39

Supervision (see Certificate Section, page 104)

Surgical Technology
The Surgical Technology program is designed to prepare students to be employed in a hospital or surgery center. As a skilled health professional, the surgical technologist is able to circulate with a Registered Nurse and scrub independently for a variety of specialties and procedures.

Students gain a basic knowledge of anatomy, physiology, microbiology, aseptic technique, surgical techniques and procedures, and patient care techniques. These subjects are presented in the classroom, through laboratory experience and in a supervised clinical setting.

Criminal background checks will be completed on each student. Criminal convictions or documented history of abuse may delay or prevent students from participation in clinical education experiences. Students unable to participate in clinical education will be unable to complete the Surgical Technology program.

Location: Urban
Selected courses in this program are offered at other campuses.

Program Entry Requirements
1. Complete an application.
2. Attend required Surgical Technology information session—contact advisor for dates.
4. Submit evidence of grade “C” or better in one year of high school Biology or equivalent (DMACC Academic Achievement Center Biology I & II or BIO 156 Human Biology w/Lab).
5. One year of high school Chemistry or equivalent (DMACC Academic Achievement Center Chemistry I & II or CHM 122 Intro to General Chemistry) is recommended.
6. Submit proof of high school graduation or GED prior to enrollment. Students start fall term.

Graduation Requirements
To earn a Surgical Technology diploma, a student must complete all coursework as prescribed in Terms 1–3 and have a “C” or better in all Surgical Technology courses and support courses. In order to progress to the next term, these courses must be successfully completed in the term identified or in a previous term.

Term 1
- SUR 130 Intro to Surgical Technology 2
- BIO 733 Health Science Anatomy 3
- SUR 140 Fundamentals of Surgical Tech 5
- SUR 150 Med Terminology for Surg Tech 2

Select 1 Course from Each Option
- MAT 772 Applied Math Opt 1 3
- BUS 112 Business Math Opt 1 3
- ENG 105 Composition I Opt 2 3
- COM 703 Communication Skills Opt 2 3

Term 2
- SUR 420 Pharmacology for the Surg Tech 2
- BIO 734 Health Science Physiology 3
- SUR 805 Clinical Practicum I 5
- SUR 200 Surg Procedures/Techniques I 5

Select 1 Course from Option 3
- MGT 145 Human Relations in Business Opt 3 3
- PSY 111 Introduction to Psychology Opt 3 3
- PSY 102 Human and Work Relations Opt 3 3
- SOC 110 Introduction to Sociology Opt 3 3
## Programs Available

### Term 3
- BIO 732  Health Science Microbiology  4
- SUR 202  Surg Procedures/Techniques II  3
- SUR 810  Clinical Practicum II  5

**Total credits required to complete this diploma**: 48

### Telecommunications Technology

The Telecommunications Technology program begins with areas that are most familiar to the student and progresses to the new technologies that are the driving force of the information age. The program provides a blend of lecture and hands-on training courses that gradually introduce students to a variety of areas within the field of telecommunications. Graduates may pursue a career in several different areas of telecommunications.

**Location**: West  
Selected courses in this program are offered at other campuses.

### Program Entry Requirements

1. Complete an application.
2. Attend any required information/registration session.
3. Complete required COMPASS testing, obtaining a satisfactory score in MAT (40 or above) or ACT score of 19 or above.
4. Proof of high school graduation or GED completion.

Students start fall term.

### Graduation Requirements

To earn a Telecommunications Technology AAS degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

### Term 1
- ELT 106  Basic Math for Electronics  3
- ELT 368  DC & AC Fundamentals  3
- ELT 369  DC & AC Fundamentals Lab  3
- TEL 210  Telecommunications I  3
- TEL 213  Introduction to Telephony Lab  3

### Term 2
- CSC 110  Intro to Computers  3
- TEL 220  Telecommunications II  4
- TEL 223  Telecom Transport Lab  3
- TEL 232  Data Communications  3

### Term 3
- TEL 230  Advanced Topics in Telecom  4
- TEL 233  Advanced Topics in Telecom Lab  3
- Option 1 Course  3

### Term 4
- SPC 101  Fund of Oral Communication  3
- TEL 240  Telecommunications Management  3
- TEL 243  Internetworking Lab  3
- Option 1 Course  3
- Option 2 Course  3

### Term 5
- BUS 102  Intro to Business  3
- ENG 105  Composition I  3
- Option 1 Course  3
- Option 1 Course  3

**Total credits required to complete this program**: 65

### Tool & Diemaking

The Tool and Diemaking program prepares students to meet the demands for qualified personnel in either the conventionally controlled or computer numerical controlled (CNC) tooling industry.

There are two separate diploma options available:
1. 1st Year: Machinist Technology or Diemaking. Machinist Technology graduates should have the skills required to work in a general machine shop.  
2. 2nd Year: Diemaking. Diemaking graduates should have the skills necessary to work as tool planners, tool makers, die makers, etc. By completing the core courses required for all students plus the courses in the two diploma options, students may receive a Tool & Diemaking AAS degree.

**Location**: Ankeny  
Machinist Technology diploma (1st year) is available at Ankeny and Newton. Diemaking (2nd year) is available only at Ankeny.

### Program Entry Requirements Machinist Technology Diploma

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students start fall term.

### Program Entry Requirements Diemaking Diploma

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Submit proof of Machinist Technology Diploma or equivalent. Students start fall term.

### Graduation Requirements

To earn a Machinist Technology or Diemaking diploma, or a Tool and Diemaking AAS degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

### All Students Must Complete the Following AAS Degree Requirements:

#### Required Courses
- MAT 772  Applied Math  3
- MAT 773  Applied Math II  3

#### Select 1 Course from Each Option
- COM 703  Communication Skills  Opt 1  3
- ENG 105  Composition I  Opt 1  3
- MGT 145  Human Relations in Business  Opt 2  3
- PSY 111  Introduction to Psychology  Opt 2  3
- PSY 102  Human and Work Relations  Opt 2  3
- SOC 110  Introduction to Sociology  Opt 2  3
**Programs Available**

**Machinist Technology Diploma**

Students Who Choose the Machinist Technology Diploma Option

Must Complete the Following Courses:

- MFG 276 Hand & Bench Machine Tools 1
- MFG 250 Engine Lathe Theory 1
- MFG 251 Engine Lathe Operations Lab 2
- MFG 260 Mill Operations Theory 1
- MFG 261 Milling Operations Lab I 2
- MFG 252 Engine Lathe Theory II 2
- MFG 253 Engine Lathe Operations Lab II 3
- MFG 273 Mill Operations II 2
- MFG 274 Mill Operations Lab II 3
- MFG 121 Machine Trade Printreading I 2
- MFG 122 Machine Trade Printreading II 3
- MFG 105 Machine Shop Measuring 3
- MFG 290 Heat Treatments 1
- MFG 271 Grinders Lab 3
- MFG 350 CNC Lathe Theory 1
- MFG 351 CNC Lathe Operations Lab 2
- MFG 330 CNC Mill Operations Theory 1
- MFG 331 CNC Mill Operations Lab 2

Plus AAS degree Core Requirements 12

Total credits required to complete the Machinist Technology diploma 48

**Diemaking Diploma**

Students must complete the Machinist Technology diploma or equivalent prior to enrolling in the Diemaking diploma.

Students Who Choose the Diemaking Diploma Option Must Complete the Following Courses:

- CAD 119 Intro to Computer-Aided Drafting 3
- CAD 139 Intro to CAD/CAM 3
- MFG 402 Basic Diemaking Theory 4
- MFG 403 Basic Diemaking Lab 6
- MFG 411 Progressive Die Design 3
- MFG 412 Advanced Diemaking Theory 4
- MFG 413 Advanced Diemaking Lab 6
- MFG 452 Moldmaking 3
- MFG 381 EDM Fundamentals 3
- MFG 140 Geometric Dimensioning/Tolerance 1

Plus AAS degree Core Requirements 12

Total credits required to complete Diemaking diploma 48

**Tool and Diemaking AAS Degree**

To Earn the Tool and Diemaking AAS Degree, Students Must

Complete the AAS degree Core Requirements 12

Plus the Requirements for Both Diplomas 72

Total credits required to complete the Tool and Diemaking AAS degree 84

**Turf Maintenance**

(see Certificate Section, page 104)

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**Degrees and Diplomas**

**Veterinary Medicine**

Students planning to major in pre-veterinary medicine or go to school to become a veterinarian after receiving the Bachelor’s Degree at a four-year college/university can satisfy many of their general education requirements at Des Moines Area Community College. Since degree requirements vary at senior institutions, students should become familiar with the specific course requirements of their selected transfer institution. Students are also encouraged to contact the four-year major advisor as early as possible to develop a transfer plan. DMACC advisors and/or counselors can also help by providing transfer materials and course planning assistance.

**Veterinary Technology**

Veterinary technicians provide professional technical support to veterinarians, biomedical researchers and other scientists. As a veterinary technician, you will care for hospitalized animal patients; assist the doctor in surgery; perform physical exams, lab work and technical procedures (blood draws, IV placement); take health histories and X-rays; give and monitor anesthesia; provide client education; and perform reception duties. There will be opportunities to work with a variety of animals including dogs, cats, horses, cows, pigs, sheep, birds, snakes, guinea pigs, hamsters and rats.

Most Veterinary Technician graduates find work in small, mixed or large animal practices. Other opportunities exist in humane societies, animal shelters, zoos, specialty veterinary practices, pet shops, biological research labs, animal control agencies, veterinary teaching hospitals, and state and federal agencies.

An Associate of Applied Science (AAS) degree will be awarded to those students who successfully complete the Veterinary Technology curriculum. This program is accredited. Students who have successfully completed the program will have the opportunity to sit for the Veterinary Technician National Examination (RVT) and the state qualifying exam.

**Location: Ankeny**

**Program Entry Requirements**

1. Complete an application, satisfy the assessment requirement and attend any required information/registration session.

2. COMPASS Exam: DMACC requires assessment of all new full-time students (12 credit hours or more Fall and Spring semesters, 8 credit hours or more Summer semester). This assessment provides information about students’ academic skills in reading, writing and mathematics. Assessment information is then used in course selection and schedule planning.

3. Students will be expected to have developed word processing skills or may be required to enroll in a keyboarding course prior to taking the Veterinary Office Procedures course.

4. Biology Competency Exam: All applicants must take this exam and receive a minimum score of 25 out of 50 on the exam to qualify for a seat in the starting fall class. This score does not guarantee that a seat is available to you. Your biology score and the application date as processed by the College Admissions office will determine the 30 students who will receive an invitation for the program interview, orientation and registration.

At the time the College formally processes your admission application, you will receive additional information regarding all required assessments for this program.

Visit us online: www.DMACC.edu 91
Programs Available

5. Program Conferences: Applicants as determined by biology scores and admission dates will be invited to a program conference with the Veterinary Technology Program Chair or the Chairperson of the Agriculture and Natural Resources Department.

Students start fall term.

Graduation Requirements
To earn a Veterinary Technology AAS degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

Term 1

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGV 120</td>
<td>Veterinary Medical Terminology</td>
<td>1</td>
</tr>
<tr>
<td>AGV 124</td>
<td>Intro to Veterinary Technology</td>
<td>1</td>
</tr>
<tr>
<td>AGV 129</td>
<td>Veterinary Physiology</td>
<td>3</td>
</tr>
<tr>
<td>AGV 133</td>
<td>Veterinary Clinic Pathology I</td>
<td>3</td>
</tr>
<tr>
<td>AGS 245</td>
<td>Intro to Animal Diseases</td>
<td>1</td>
</tr>
<tr>
<td>BIO 733</td>
<td>Health Sciences Anatomy</td>
<td>3</td>
</tr>
</tbody>
</table>

Select 1 Course from Option 1

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 156</td>
<td>Human Biology w/Lab</td>
<td>3 Opt</td>
</tr>
<tr>
<td>BIO 112</td>
<td>General Biology I</td>
<td>4 Opt</td>
</tr>
</tbody>
</table>

Term 2

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>AGV 134</td>
<td>Veterinary Clinical Pathology II</td>
<td>3</td>
</tr>
<tr>
<td>AGV 139</td>
<td>Intro Veterinary Pharmacology</td>
<td>1</td>
</tr>
<tr>
<td>SPC 101</td>
<td>Fundamentals of Oral Communication</td>
<td>3</td>
</tr>
<tr>
<td>AGV 166</td>
<td>Veterinary Nursing Care</td>
<td>3</td>
</tr>
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</table>

Select 1 Course from Option 2 and 1 Course from Option 3

<table>
<thead>
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<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHM 105</td>
<td>Survey of Chemistry</td>
<td>2 Opt</td>
</tr>
<tr>
<td>CHM 122</td>
<td>Intro to General Chemistry</td>
<td>4 Opt</td>
</tr>
<tr>
<td>Any AAS degree</td>
<td>Core MAT course</td>
<td>3–5 Opt</td>
</tr>
<tr>
<td>MAT 772</td>
<td>Applied Math</td>
<td>3 Opt</td>
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</table>

Term 3

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGV 932</td>
<td>Veterinary Technology Internship</td>
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</table>

Select 1 Course from Option 4

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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 732</td>
<td>Health Science Microbiology</td>
<td>4 Opt</td>
</tr>
<tr>
<td>BIO 187</td>
<td>Microbiology w/Lab</td>
<td>4 Opt</td>
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</table>

Term 4

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGV 266</td>
<td>Adv Veterinary Nursing Care</td>
<td>2</td>
</tr>
<tr>
<td>AGV 141</td>
<td>Advanced Veterinary Pharmacology</td>
<td>2</td>
</tr>
<tr>
<td>AGV 164</td>
<td>Clinical Mgmt of Domestic Species</td>
<td>2</td>
</tr>
<tr>
<td>AGV 172</td>
<td>Large Animal Medicine and Surgery</td>
<td>3</td>
</tr>
<tr>
<td>AGV 180</td>
<td>Veterinary Radiology</td>
<td>2</td>
</tr>
<tr>
<td>ECN 130</td>
<td>Principles of Microeconomics</td>
<td>3</td>
</tr>
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</table>

Term 5

<table>
<thead>
<tr>
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<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGS 119</td>
<td>Animal Nutrition</td>
<td>3</td>
</tr>
<tr>
<td>AGV 160</td>
<td>Anesthesia &amp; Surgical Assistance</td>
<td>4</td>
</tr>
<tr>
<td>AGV 165</td>
<td>Clinical Mgmt of Lab &amp; Exotic Species</td>
<td>2</td>
</tr>
<tr>
<td>ADM 168</td>
<td>Veterinary Office Procedures</td>
<td>2</td>
</tr>
<tr>
<td>AGV 138</td>
<td>Clinical Pathology Lab</td>
<td>1</td>
</tr>
</tbody>
</table>

Select 1 Course from Option 5

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 105</td>
<td>Composition I</td>
<td>3 Opt</td>
</tr>
<tr>
<td>COM 703</td>
<td>Communication Skills</td>
<td>3 Opt</td>
</tr>
</tbody>
</table>

Total minimum credits required to complete this program 68

Viticulture

(See Certificate Section, page 104)

Degrees and Diplomas

Welding

Welding is a joining process that produces coalescence of materials by heating them to the welding temperature, with or without the application of pressure or by the application of pressure alone and with or without the use of filler metal. It is used to make welds. A weld is a localized coalescence of metals or nonmetals produced either by heating materials to the welding temperature, with or without the application or pressure, or by the application of pressure alone and with or without the use of filler material. Coalescence refers to the growing together or growth into one body of the materials being welded.

Ferrous and nonferrous metals are joined using the oxy-acetylene, shielded metal arc, gas tungsten arc and gas metal arc welding processes. Free-hand and machine flame cutting are also taught.

Classroom theory, blueprint reading and technical math are part of the instructional program. The listed sequence of course offerings may be altered.

The Welding program offers open-entry and open-exit courses. Students will be allowed to enroll in these open-entry/open-exit courses as long as there is space available.

Location: Ankeny

Program Entry Requirements
Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students must meet with the program chair before admission to the program can be confirmed. Students start any term.

Graduation Requirements
To earn a Welding diploma, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

Required Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>COM 703</td>
<td>Communication Skills</td>
<td>3</td>
</tr>
<tr>
<td>MAT 772</td>
<td>Applied Math</td>
<td>3</td>
</tr>
<tr>
<td>WEL 120</td>
<td>Oxy-Fuel Welding/Cutting</td>
<td>2</td>
</tr>
<tr>
<td>WEL 150</td>
<td>Arc Welding I (SMAW)</td>
<td>2</td>
</tr>
<tr>
<td>WEL 165</td>
<td>Arc Welding II (SMAW)</td>
<td>3</td>
</tr>
<tr>
<td>WEL 166</td>
<td>Arc Welding III (SMAW)</td>
<td>2</td>
</tr>
<tr>
<td>WEL 111</td>
<td>Welding Blueprint Reading</td>
<td>3</td>
</tr>
<tr>
<td>WEL 167</td>
<td>Arc Welding IV (SMAW)</td>
<td>3</td>
</tr>
<tr>
<td>WEL 168</td>
<td>Arc Welding V (SMAW)</td>
<td>3</td>
</tr>
<tr>
<td>WEL 169</td>
<td>Arc Welding VI (SMAW)</td>
<td>2</td>
</tr>
<tr>
<td>WEL 181</td>
<td>Gas Metal Arc Welding</td>
<td>2</td>
</tr>
<tr>
<td>WEL 190</td>
<td>Gas Tungsten Arc Welding</td>
<td>2</td>
</tr>
</tbody>
</table>

Total credits required to complete this program 30

Welding Certificates available: Blueprint Reading, Oxy-acetylene, Shielded Metal Arc, Gas Metal Arc, Gas Tungsten Arc, Structural Welding, and Pipe Welding, (see Certificate Section, page 105).

Woodworking

(For more information, see Architectural Millwork, page 51)
PROGRAMS AVAILABLE

Certificates of Specialization

Accounting Certificate I
The Accounting Certificate I prepares the student for an entry-level position in the field of accounting. Upon completion, the successful candidate will be able to distinguish, analyze, summarize, communicate and record business transactions.

Employment opportunities are currently found in commercial businesses, government offices, public accounting firms and similar enterprises.

Required Courses
BUS 112  Business Math  3
CSC 110  Intro to Computers  3
ADM 138  Data Entry  3

Option Courses—Select 1 Course from Each Option
ACC 131  Principles of Accounting I  Opt 1  4
ACC 111  Intro to Accounting  Opt 1  3
ENG 105  Composition I  Opt 2  3
COM 703  Communication Skills  Opt 2  3
ADM 157  Business English  Opt 2  3
MGT 145  Human Relations in Business  Opt 2  3
SPC 101  Fundamentals of Oral Communication  Opt 2  3
SPC 126  Interpersonal & Small Group Comm  Opt 2  3
SDV 153  Pre-Employment Strategies  Opt 3  2
ACC 124  Accounting Professionalism  Opt 3  3

Total minimum credits required to complete this certificate  17
These credits are applicable to the AAS degree in Accounting Specialist. The majority of these credits are also applicable to the AS degree in Accounting Paraprofessional and the Accounting and Bookkeeping diploma.

Accounting Certificate II
The Accounting Certificate II prepares the student for an entry-level position in the field of accounting and bookkeeping. Upon completion, the successful candidate will be able to distinguish, analyze, summarize, communicate and record business transactions.

Employment opportunities are currently found in commercial businesses, government offices and public accounting firms.

Program Entry Requirements
Complete the Accounting Certificate I

Required Courses
ACC 261  Income Tax Accounting  3
ACC 161  Payroll Accounting  3

Option Courses—Select 1 Course from Each Option
ACC 131  Principles of Accounting I  Opt 1  4
ACC 132  Principles of Accounting II  Opt 1  4
BCS 164  Basic Databases  Opt 2  1
BCA 212  Intro Computer Business Appl  Opt 2  3
ACC 191  Financial Analysis  Opt 3  3
ACC 251  Gov’t & Nonprofit Accounting  Opt 3  3
ACC 193  Accounting Procedures/Mgmt  Opt 3  3
BCA 213  Intermediate Computer Business Appl  Opt 3  3

Total credits required to complete this certificate  14
These credits are applicable to the AAS degree in Accounting Specialist. The majority of these credits are also applicable to the AS degree in Accounting Paraprofessional and the Accounting and Bookkeeping diploma.

Adult Services
Students in the Adult Services certificate program have the opportunity to increase their knowledge of the older adult and the agencies that provide services for this expanding population. No prior degree is required to enroll in this program.

IMPORTANT NOTE: Students are strongly advised to contact one of the staff members of Aging Services Management in Bldg. 9, Room 3 on the Ankeny Campus or call 515-964-6262 or 515-964-6814 for additional important information.

If you plan to work in a residential care facility, it is recommended that you also take the following courses: SOC 110 Introduction to Sociology and PSY 111 Introduction to Psychology.

Required Courses
ASM 278  Management in Senior Care Services  3
ASM 279  Health Care Human Resources  3
ASM 280  Health Care Delivery Systems  2
ASM 282  Aging Services in the Continuum  2
ASM 283  Aging Policies and Government Programs  2
SOC 225  Social Gerontology/Applications  4
SOC 226  Issues in Aging  2
ASM 257  ASM Capstone  2
ASM 256  Agency Experience  2
ASM 239  Information Systems in Health Care  2
ASM 274  Law and Ethics in Health Care  3

Option Courses—Select 1 Course from Option 1
ACC 111  Intro to Accounting  Opt 1  3
ACC 131  Principles of Accounting I  Opt 1  4

Total credits required to complete this certificate  30
These credits are applicable to the AS degree in Aging Services Management.

Agribusiness - Agronomy
The Agronomy certificate prepares the student for an entry-level position in the agronomic field. Upon completion, the successful candidate will be able to formulate fertilizers and identify weeds, insects and soil nutrient deficiencies. Marketing skills will be enhanced through the application of enterprise analysis and current commodity management tools.

The coursework within this certificate will serve as a strong preparatory base for the “Certified Crop Advisor” (CCA) program.

Required Courses
AGA 381  Crop Scouting  3
AGA 114  Principles of Agronomy  3
AGA 157  Soils Fertility  1
AGA 235  Intro to Agricultural Markets  3
AGP 333  Precision Agriculture Applications  3
AGA 154  Fundamentals of Soil Science  3
AGA 211  Grain and Forage Crops  3

Option Courses—Select 1 Course from Option 1
AGA 284  Pesticide Application Certification  Opt 1  3
AGB 802  Agribusiness Internship I  Opt 1  2
AGA 222  Grain Management  Opt 1  2

Total credits required to complete this certificate  21
These credits are applicable to the AAS degree in Agribusiness.

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PROGRAMS AVAILABLE

Agribusiness - Animal Science
The Animal Science certificate prepares the student for an entry-level position in the livestock industry. Upon completion, the successful candidate will be able to formulate livestock rations, identify common diseases and select appropriate facilities for livestock handling. Marketing skills will be enhanced through the application of enterprise analysis and current commodity management tools.

Required Courses
AGS 319 Animal Nutrition I 3
AGS 323 Animal Nutrition II 3
AGS 113 Survey of the Animal Industry 3
AGS 242 Animal Health 3
AGB 235 Intro to Agricultural Markets 3
AGB 802 Agribusiness Internship I 2

Option Courses—Select 1 Course from Option 1
AGS 225 Swine Science Opt 1 3
AGS 226 Beef Cattle Science Opt 1 3

Total credits required to complete this certificate 20
These credits are applicable to the AAS degree in Agribusiness.

Agribusiness - Farm Management
The Farm Management certificate prepares the student for an entry-level position in farm management. Upon completion, the successful candidate will be able to operate an entrepreneurial enterprise in the crop or livestock industry. Marketing skills will be enhanced through the application of enterprise analysis and current commodity management tools.

Required Courses
AGA 381 Crop Scouting 3
AGS 113 Survey of the Animal Industry 3
AGA 114 Principles of Agronomy 3
AGB 235 Intro to Agricultural Markets 3
AGB 330 Farm Business Management 3
AGB 101 Agricultural Economics 3

Option Courses—Select 1 Course from Option 1
ACC 111 Intro to Accounting Opt 1 3
AGB 802 Agribusiness Internship I Opt 1 2
BUS 185 Business Law I Opt 1 3
CSC 110 Introduction to Computers Opt 1 3

Total credits required to complete this certificate 20
These credits are applicable to the AAS degree in Agribusiness.

Agribusiness - Sales and Service
The Sales/Service certificate prepares the student for an entry-level position in the agricultural sales and service industry. Upon completion, the successful candidate will be able to utilize a general knowledge of the industry to more effectively serve the customers within the sales and service sector. Marketing skills will be enhanced through the application of enterprise analysis and management tools.

Required Courses
AGS 113 Survey of the Animal Industry 3
AGA 114 Principles of Agronomy 3

Certificates of Specialization

AGB 235 Intro to Agricultural Markets 3
AGB 331 Agribusiness Management 3
AGB 101 Agricultural Economics 3
MKT 140 Selling 3

Option Courses—Select 1 Course from Option 1
AGB 802 Agribusiness Internship I Opt 1 2
BUS 185 Business Law I Opt 1 3
CSC 110 Introduction to Computers Opt 1 3
MGT 145 Human Relations in Business Opt 1 3
PSY 111 Intro to Psychology Opt 1 3
SOC 110 Introduction to Sociology Opt 1 3

Total credits required to complete this certificate 20
These credits are applicable to the AAS degree in Agribusiness.

Airbrush Art
The purpose of the Airbrush Art certificate is to provide design theory and practice in the techniques of airbrush regardless of the specialized application.

Airbrush is used in practically every phase of the graphic design field—in illustration, such as figure, mechanical, advertising, architectural and technical illustration; and in design, such as textile, plastic products, greeting cards and posters.

Required Courses
GRD 449 Airbrush I 4
GRD 451 Airbrush II 4

Total credits required to complete this certificate 8
These credits are applicable to the AAS degree in Graphic Design.

Biomass Operations Technology
The Biomass Operations Technology certificate is designed to train individuals to become operators in a biomass production facility. At the completion of the program the students should be able to understand the basic operation of a biomass plant, as well as the chemical flow, instrumentation, environmental and safety issues, lab sampling techniques and other complex plant operations.

Locations: Ankeny, Carroll, Newton

Required Courses
BPT 102 Intro to Biomass Process Tech 2
BPT 111 Biomass Equipment and Systems 3
BPT 112 Biomass Tech Health/Safety 3
BPT 125 Piping and Instrument Diagrams 2
BPT 128 Operator Biomass Lab Process 3
RRO 101 Railcar Safety 2
BMA 167 Steam Plant Operations 2

Total credits required to complete this certificate 17
These credits are applicable to the AAS degree in Industrial Electro-Mechanical Technology.
Building Maintenance

The Building Maintenance certificate is a series of job-related courses that provide a person with an understanding of how to keep a commercial or industrial type of building operating efficiently and effectively. Skill training enables a maintenance specialist to do the job from the first day of employment.

Required Courses

- BMA 165 Boiler Room Maintenance 1
- ELT 303 Principles of Electricity 3

Option Courses—Select 3 Credits from Option 1

- BMA 167 Steam Plant Operations Opt 1 2
- BMA 175 Basic Plumbing Opt 1 2
- HSC 102 Emergency Care Opt 1 1

Total credits required to complete this certificate 7

Chemical Dependency Counseling

This certificate is designed for individuals with a Graduate, Bachelor’s, Associate in Arts, Associate in Science, or Associate in General Studies Degree who wish to update or develop skills in chemical dependency counseling.

Entry Requirements:

1. Complete an application.
2. Satisfy the assessment requirement.
3. Attend a chemical dependency certificate informational meeting that is offered in the fall and spring or obtain approval from the Human Services Program Chair.

Students must participate in a chemical dependency practicum. Students can contact the program chair of the Human Services program for possible practicum site options, or information is also available on the DMACC website. Practicums may have additional costs to the student. One possibility of a practicum site is Powell Chemical Dependency Center in Des Moines.

Required Courses

- ENG 105 Composition I 3
- HSV 220 Survey Mental Health Treatment 3
- HSV 130 Interviewing/Interpersonal Relations 3
- HSV 286 Intervention Theories/Practice I 3
- HSV 287 Intervention Theories/Practice II 3
- HSV 802 Field Experience 3
- HSV 813 Practicum: Chemical Dependency Counsel I 3
- HSV 814 Practicum: Chemical Dependency Counsel II 3
- HSV 255 Addictive Disease Concepts 3

Option Courses—Select 1 Course from Each Option

- BIO 156 Human Biology w/Lab Opt 1 3
- PSY 121 Developmental Psychology Opt 1 3
- PSY 241 Abnormal Psychology Opt 1 3
- SOC 115 Social Problems Opt 2 3
- SPC 101 Fundamentals of Oral Communication Opt 2 3

Total credits required to complete this certificate 33

These credits are applicable to the AS degree in Human Services.

Computer Applications

The Computer Applications certificate provides students with a basic understanding of the computer applications that may be performed in an office. A student will be able to use the following applications: word processing, database, desktop publishing, graphics, presentation, spreadsheet, e-mail, internet and operating systems.

Required Courses

- BCA 133 Word Processing Skill Dev I 4
- BCA 137 Word Processing Skill Dev II 3
- BCA 212 Intro Computer Business Applications 3
- BCA 213 Intermediate Computer Business Applications 3
- BCA 113 Computer Network Literacy 3

Total credits required to complete this certificate 16

These credits are applicable to the diploma in Office Assistant and the AAS degree in Administrative Assistant.

Computer Languages

The purpose of the Computer Languages certificate is to provide the student who is presently employed in computer operations or who has strong business computer applications experience in word processing, spreadsheets and databases with the knowledge of how to design, write and execute computer programs to solve specific business problems.

Required Courses

- ACC 131 Principles of Accounting I 4
- CIS 125 Intro to Programming Logic w/Lang 3
- CIS 402 COBOL 3
- CSC 110 Intro to Computers 3
- CIS 421 COBOL–Intermediate 4
- CIS 505 Structure Systems Analysis 4

Option Courses—Select a Minimum of 6 Credits

- CIS 604 Visual BASIC Opt 1 3
- CIS 612 Advanced Visual BASIC Opt 1 3
- BCA 113 Computer Network Literacy Opt 1 3
- CIS 593 Mainframe Operations Opt 1 4
- CIS 431 COBOL/Advanced Opt 1 3
- CIS 435 COBOL on the World Wide Web Opt 1 3
- CIS 161 C++ Opt 1 3
- CIS 583 Assembler Opt 1 4
- CIS 164 Advanced C++ Opt 1 3
- CIS 303 Introduction to Database Opt 1 3
- CIS 332 Database and SQL Opt 1 3
- CIS 338 SQL/Oracle Opt 1 3
- CIS 346 Database Design Opt 1 3

Total credits required to complete this certificate 27

These credits are applicable to the AS degree in Human Services.

VISIT US ONLINE: www.DMACC.edu
**PROGRAMS AVAILABLE**

**Data Entry I**
The purpose of the Data Entry I certificate is to provide classroom and simulated office experience in preparation for entry-level employment for data entry operators.

Graduates of the Data Entry I program locate employment in public and private organizations and agencies of all sizes and missions. Beyond entry-level positions as operators, one may advance to department supervisor.

**Required Courses**
- SDV 153 Pre-Employment Strategies 2
- MGT 145 Human Relations in Business 3
- ADM 138 Data Entry 3

**Total credits required to complete this certificate 8**

**Database Specialist**
The purpose of the Database Specialist certificate is to add to the specialization of study at DMACC. This certificate can also assist the student to prepare for Oracle certification as an Oracle Application Developer, which is desirable for positions in the database area.

**Required Courses**
- CSC 110 Intro to Computers 3
- CIS 125 Intro to Programming Logic w/Lang 3
- CIS 402 COBOL 3
- CIS 303 Introduction to Database 3
- CIS 332 Database and SQL 3
- CIS 338 SQL/Oracle 3
- CIS 346 Database Design 3

**Total credits required to complete this certificate 21**

**Dietary Manager**
The Dietary Manager is responsible for the management of food operations in a dietary department. This includes the management of food service personnel, food/kitchen supplies and the routine nutritional aspects of food service. Working with a consultant dietitian, the dietary manager assists in providing quality nutritional care services in food service departments, hospitals, assisted living and healthcare facilities.

**Required Courses**
- DTM 350 Health Field 1
- DTM 351 Food Preparation 1
- DTM 352 Sanitation/Meal Service 2
- DTM 353 Nutrition Life Cycle 1
- DTM 354 Modified Diets 1
- DTM 355 Food Production Management 1
- DTM 356 Food Service Management 2
- DTM 361 Food Prep Field Experience 1
- DTM 362 Sanitation/Meal Service Field Experience 1
- DTM 363 Nutrition Life Cycle Field Experience 1
- DTM 364 Modified Diet/Field Experience 1
- DTM 365 Food Production Field Experience 1
- DTM 366 Food Service Mgmt Field Experience 1

**Total credits required to complete this certificate 15**

**Digital Publishing & Prepress**
The Digital Publishing & Prepress certificate is designed for students in the Graphic Technologies program who wish to specialize in their degree, or for individuals with prior printing experience who are looking to update their skills or are seeking advancement in the graphics/printing industry. The program will provide up-to-date technical information regarding tools, equipment and processes.

The curriculum and instruction are geared to provide both lecture and laboratory settings that will build upon the individual’s prior knowledge and experience. Instruction and practical experience will be provided in desktop publishing, website development, digital image enhancement and electronic prepress applications.

**Required Courses**
- GRT 416 Digital Publishing II 3
- BCA 212 Intro to Computer Business Appl 3
- GRT 421 Electronic Prepress I 4
- GRT 425 Electronic Image Control 4
- GRT 431 Electronic Prepress II 4

**Option Courses—Select 1 Course from Option 1**
- CIS 207 Fundamentals of Web Programming Opt 1 3
- GRD 462 Computer Graphics II Opt 1 3

**Total credits required to complete this certificate 21**

**E-Commerce Design**
This certificate allows students to combine computer-oriented graphic skills with E-Commerce concepts and web page development skills. The student will be able to design and develop web pages for E-Commerce applications. This includes the ability to create, enhance and manipulate a variety of graphic elements to take advantage of delivery using the Internet. Students will have exposure to a variety of web development tools and graphic application tools including FrontPage, Dreamweaver, Photoshop, Fireworks and Flash.

**Required Courses**
- BUS 150 E-Commerce on the Web 3
- CIS 207 Fund of Web Programming 3
- CIS 240 E-Commerce Website II 3
- GRD 403 Communication Design I 3
- GRD 462 Computer Graphics II 3
- GRD 463 Electronic Photo Editing 3
- GRD 301 Intro to Desktop Publishing 3

**Total credits required to complete this certificate 21**

**Emergency Medical Technician - Basic**
The Emergency Medical Technician–Basic certificate is designed to provide an introductory learning experience for persons interested in the field of emergency medicine. This course includes practical and written testing in the classroom, as well as clinical experience in area hospitals and with local ambulance services. National Registry Certification tests will be available at course completion in both the written and skill areas. Area ambulance units and some hospital emergency departments utilize EMT-Bs.

**Required Course**
- EMS 210 Emergency Medical Tech Basic 6

**Prerequisite:** Proof of successful and current completion of either American Heart Association Health Care Provider CPR or Red Cross Professional Rescuer CPR training.
PROGRAMS AVAILABLE

Enology
The Enology certificate offers a broad range of practical skills required to work in the wine industry. It emphasizes the procedures to effectively process fruit and handle wine in the cellar. In addition, the certificate will introduce basic wine laboratory analysis. Students will attain a foundation in viticulture allowing them to scout vineyards and assess fruit quality and potential yield. Finally, the certificate program will examine how wines are produced in other major world growing regions.

Required Courses
- VIN 149 Grape and Wine Science 4
- VIN 150 Introduction to Wine 3
- VIN 151 Cellar Tech. and Operations 4
- VIN 152 Intro. to Wine Science 4
- VIN 912 Enology Internship 3

Total credits required to complete this certificate 18

Entrepreneurship
The Entrepreneurship certificate introduces the student to creative and tested ways to start and operate a small business. Innovative marketing strategies, creative financing methods and employee development skills are emphasized in the program. Both day and evening courses are offered and all coursework transfers into the one-year Entrepreneurship diploma program.

Required Courses
- BUS 138 Small Business Marketing 3
- BUS 141 Small Business Start-Up 3
- BUS 148 Small Business Management 3
- BUS 220 Introduction to International Business 3

Total credits required to complete this certificate 18

Fire Specialist
The Fire Specialist certificate provides basic technical knowledge for people working in the fire protection field.

Coursework covers the scientific principles that affect fire, its causes and behavior and the means of minimizing its destructive effects through design, detection, suppression and prevention.

Required Courses
- FIR 230 Fire Behavior and Investigation 3
- FIR 232 Property Insurance–Fraud Investigation 3
- FIR 124 Building Construction 3
- FIR 152 Fire Protection Systems 3
- FIR 182 Hazardous Materials 3
- FIR 220 Planning for Fire Protection 3
- FIR 212 Emergency Scene Management 3
- FIR 200 Occup Safety/Health in Emergency Services 3
- FIR 138 Principles of Fire Prevention 3

Total credits required to complete this certificate 27
These credits are applicable to the AS degree in Fire Science Technology.

Gerontology Specialist
The Gerontology Specialist certificate is designed for individuals working with our growing older population. The goal is to increase knowledge and understanding of the aging process and how to better relate to the older adult. The specialist certificate will consist of eight one-credit courses on the web with face-to-face seminars, offered to a cohort group, over a two-semester period.

Required Courses
- ASM 155 Impact of Demographics 1
- ASM 160 Aspects of Aging 1
- ASM 150 Communication with the Elderly 1
- ASM 800 Seminar 1 1
- ASM 165 Healthy Aging 1
- ASM 180 Cultural Diversity 1
- ASM 200 Depress, Death & Grieving 1
- ASM 805 Seminar II 1

Total credits required to complete this certificate 8

Graphene Sales & Customer Service
The Graphic Sales & Customer Service certificate is designed for students in the Graphic Technologies or Marketing programs who wish to specialize in their degree, or for individuals with prior experience who are looking to update their skills or are seeking advancement in the area of marketing or graphic communications. The program will provide up-to-date technical information regarding printing methods, cost estimating, sales and marketing.

The curriculum and instruction are geared to provide both lecture and laboratory settings that will build upon the individual’s prior knowledge and experience. Instruction and practical experience will be provided in the areas of printing methods, cost estimating, sales and marketing.
PROGRAMS AVAILABLE

Certificates of Specialization

Information Processing Support
The Information Processing Support certificate prepares students for an entry-level position in an office emphasizing information support. This curriculum includes business English and written communications. Students receive training on computers using office software applications with an emphasis on word processing.

Required Courses
ADM 157 Business English 3
ADM 154 Business Communication 3
BCA 133 Word Processing Skill Development I 4
BCA 137 Word Processing Skill Development II 3
BCA 212 Intro to Computer Business Appl 3
BCA 213 Intermediate Computer Business Applications 3

Total credits required to complete this certificate 19
These credits are applicable to the diploma in Office Assistant and the AAS degree in Administrative Assistant.

Interior Design Consultant
The Interior Design Consultant certificate is designed for currently employed individuals who have an interest in adding specialized training in interior home products to their credentials. The focus of the Interior Design Consultant certificate is to provide training needed at the wholesale or retail levels in interior home product sales, marketing or customer service.

Required Courses
MKT 140 Selling 3
MKT 110 Principles of Marketing 3
INT 124 Interior Design Analysis 3
INT 125 Interior Design Planning 3
APP 111 Visual Merchandising & Design 3
APP 211 Textiles 3

Total credits required to complete this certificate 18
These credits are applicable to the Fashion diploma or the AAS degree in Fashion/Design.

Interpretation & Translation - Generalist
The Interpretation and Translation Generalist Certificate is a vocational credential for preparing functionally bilingual students for entry-level employment as general, nonspecialized interpreters or translators. Upon completion, students should be able to provide basic interpreting and translation services between English and their other language(s) in nonspecialized contexts. The program is designed for students who wish to add general interpreting and translation skills to their current set of job skills.

Certificate students complete basic courses in interpretation and translation, as well as ethics. All students complete an internship under the supervision of a professional interpreter/translator, during which time they use the skills and apply the knowledge gained in the classroom. Some credits earned for the Interpretation and Translation Generalist certificate can also be applied to the Judiciary Interpretation and Translation AS and Certificate programs, or to the Healthcare Interpretation and Translation AS and certificate programs.

A program chairperson and a program counselor are available to assist students with education and career planning.

Human Resource Management
Human Resource Management skills are increasingly important for nearly anyone pursuing a career in business. This certificate is designed to provide a background in human resource functions and law for students majoring in Management, Business Administration, Administrative Assistant and Entrepreneurship, among others. This certificate is also beneficial to people employed in business who wish to upgrade their knowledge of human resource procedures.

Required Courses
MGT 145 Human Relations in Business 3
MGT 101 Principles of Management 3
MGT 130 Principles of Supervision 3
MGT 170 Human Resource Management 3
BUS 185 Business Law I 3
BUS 278 Employment Law 3
MGT 128 Organizational Behavior 3

Total credits required to complete this certificate 21

Greenhouse Production
The Greenhouse Production certificate will allow students to earn recognition for work completed in the area of greenhouse production. This certificate will provide students with the opportunity to develop specific skills related to horticulture chemicals, botany and greenhouse production techniques.

Required Courses
AGA 157 Soils Fertility 1
AGA 154 Fundamentals of Soil Science 3
AGH 132 Intro to Greenhouse 3
AGH 283 Pesticide Application Certification 2
AGH 221 Principles of Horticulture 3
AGH 233 Plant Propagation I 3
AGH 133 Greenhouse Production Techniques 3
MAT 772 Applied Math 3

Total credits required to complete this certificate 21
These credits are applicable to the AAS degree in Commercial Horticulture.

Information Processing Support

Required Courses
ADM 157 Business English 3
ADM 154 Business Communication 3
BCA 133 Word Processing Skill Development I 4
BCA 137 Word Processing Skill Development II 3
BCA 212 Intro to Computer Business Appl 3
BCA 213 Intermediate Computer Business Applications 3

Total credits required to complete this certificate 19
These credits are applicable to the diploma in Office Assistant and the AAS degree in Administrative Assistant.

Interior Design Consultant

Required Courses
MKT 140 Selling 3
MKT 110 Principles of Marketing 3
INT 124 Interior Design Analysis 3
INT 125 Interior Design Planning 3
APP 111 Visual Merchandising & Design 3
APP 211 Textiles 3

Total credits required to complete this certificate 18
These credits are applicable to the Fashion diploma or the AAS degree in Fashion/Design.

Interpretation & Translation - Generalist

Required Courses
MGT 145 Human Relations in Business 3
MGT 101 Principles of Management 3
MGT 130 Principles of Supervision 3
MGT 170 Human Resource Management 3
BUS 185 Business Law I 3
BUS 278 Employment Law 3
MGT 128 Organizational Behavior 3

Total credits required to complete this certificate 21

These credits are applicable to the AAS degree in Graphic Technologies.
PROGRAMS AVAILABLE

Employment opportunities for general Interpretation and Translation interpreters and translators are currently found in all industries and businesses where nonspecialized interpretation and translation services are needed. There are also many volunteer opportunities.

Note: Interpretation and translation employment in specialized areas, including legal, medical, social services, education fields and many businesses, requires additional specialized training and/or certification. Students interested in those fields should consider the Judiciary Interpretation and Translation AS or certificate programs or the Healthcare Interpretation and Translation Certificate programs.

Location: Urban
Program Entry Requirements
1. Complete an application.
2. Attend any required information/orientation or a program conference.
3. Provide evidence of proficiency in English with one of the following:
   a. ACT score on the English subtest of 19 or above
   b. Minimum COMPASS score of 70
   c. Completion of ENG 105 with grade of “C” or better
   d. TOEFL score of 173 on the computer test or 500 on the paper test
   e. Completion of two years of college study with a minimum GPA of 2.0 (or equivalent) at an institution where English is the medium of instruction
   f. Other evidence demonstrating English proficiency may be approved by the program chair
4. Show proficiency in a second language with one of the following:
   a. Evidence of completion of high school in a country where the second language is spoken
   b. Two years of college study with a minimum GPA of 2.0 (or equivalent) at an institution in a country where the second language is spoken
   c. Completion of a college minor in the second language with a minimum grade of “C” for all courses taken in the second language
   d. Proficiency may be demonstrated with other evidence, but must be approved by the program chair
   e. Students will need computer skills to be successful in the program
If students do not have these skills, completion of BCA 212 or CSC 110 is strongly recommended, but the course will be an extra course and will not apply toward program requirements.

Students may start any term; however, students should contact an academic advisor for planning, as many courses are only offered once per year.

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITR 101</td>
<td>Intro to Interpretation &amp; Translation</td>
<td>3</td>
</tr>
<tr>
<td>ITR 102</td>
<td>Tools for the Interpreter &amp; Translator</td>
<td>3</td>
</tr>
<tr>
<td>ITR 111</td>
<td>Fundamentals of Interpretation</td>
<td>3</td>
</tr>
<tr>
<td>ITR 115</td>
<td>Fundamentals of Translation</td>
<td>3</td>
</tr>
<tr>
<td>ITR 120</td>
<td>Ethics for the Interpreter/Translator</td>
<td>1</td>
</tr>
<tr>
<td>ITR 805</td>
<td>Generalist I/T Internship</td>
<td>2</td>
</tr>
</tbody>
</table>

Total credits required to complete this certificate 15

These credits (except ITR 805) are applicable to the AS degree in Interpretation & Translation.

Certificates of Specialization

Interpretation & Translation - Healthcare

The Interpretation & Translation Healthcare certificate is for functionally bilingual students with a bachelor’s degree, Associate in Science or Associate in Arts Degree who wish to work as healthcare interpreters or translators.

Upon completion, students should be able to provide basic interpreting and translation services between English and their other language(s) in healthcare contexts. The program is designed for students who wish to add healthcare interpreting and translation skills to their current set of job skills.

Certificate students complete basic courses in interpretation and translation, as well as ethics. All students complete an internship under the supervision of a professional interpreter/translator, during which they use the skills and apply the knowledge gained in the classroom. Some credits earned for the Interpretation and Translation Healthcare certificate can also be applied to the Judiciary Interpretation and Translation AS and certificate programs, or to the Interpretation and Translation Generalist certificate programs.

A program chairperson and a program counselor are available to assist students with education and career planning.

Employment opportunities are currently found in healthcare facilities where specific interpretation and translation related to healthcare services are needed. There are also many volunteer opportunities.

Note: Interpretation and translation employment in specialized areas, including legal, medical, social services, education fields and many businesses, requires additional specialized training and/or certification. Students interested in legal interpretation and translation should consider the Judiciary Interpretation and Translation AS degree or Certificate programs.

Location: Urban
Program Entry Requirements
1. Complete an application.
2. Attend any required information/orientation or a program conference.
3. Provide evidence of completion of a bachelor’s degree, Associate in Science Degree, or Associate in Arts Degree.
4. Provide evidence of proficiency in English with one of the following:
   a. ACT score on the English subtest of 19 or above
   b. Minimum COMPASS score of 70
   c. Completion of ENG 105 with grade of “C” or better
   d. TOEFL score of 173 on the computer test or 500 on the paper test
   e. Completion of two years of college study with a minimum GPA of 2.0 (or equivalent) at an institution where English is the medium of instruction
   f. Other evidence demonstrating English proficiency may be approved by the program chair
5. Show proficiency in a second language with one of the following:
   a. Evidence of completion of high school in a country where the second language is spoken
   b. Two years of college study with a minimum GPA of 2.0 or equivalent at an institution in a country where the second language is spoken
   c. Completion of a college minor in the second language with a minimum grade of “C” for all courses taken in the second language
   d. Proficiency may be demonstrated with other evidence, but must be approved by the program chair
   e. Students will need computer skills to be successful in the program.
If students do not have these skills, completion of BCA 212 or CSC 110 is strongly recommended, but the course will be an extra course and will not apply toward certificate requirements.

Students may start any term; however, students should contact an academic advisor for planning, as many courses are only offered once per year.

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PROGRAMS AVAILABLE

Required Courses
ITR 101 Intro to Interpretation & Translation 3
ITR 102 Tools for the Interpreter & Translator 3
ITR 111 Fundamentals of Interpretation 3
ITR 115 Fundamentals of Translation 3
ITR 120 Ethics for the Interpreter/Translator 1
ITR 910 Emphasis Seminar 3
BIO 156 Human Biology w/Lab 3
ITR 148 Healthcare Terminology & Sight Translation 3
ITR 150 Healthcare Interpreting I 3
ITR 152 Healthcare Interpreting II 3
ITR 158 Healthcare Translation 3
ITR 810 Healthcare I/T Internship 2

Total credits required to complete this certificate 33

These credits are applicable to the AS degree in Interpretation & Translation.

Certificates of Specialization

e. Completion of two years of college study with a minimum GPA of 2.0 (or equivalent) at an institution where English is the medium of instruction
f. Other evidence demonstrating English proficiency may be approved by the program chair
5. Show proficiency in a second language with one of the following:
   a. Evidence of completion of high school in a country where the second language is spoken
   b. Two years of college study with a minimum GPA of 2.0 or equivalent at an institution in a country where the second language is spoken
   c. Completion of a college minor in the second language with a minimum grade of “C” for all courses taken in the second language
d. Proficiency may be demonstrated with other evidence, but must be approved by the program chair
e. Students will need computer skills to be successful in the program. If students do not have these skills, completion of BCA 212 or CSC 110 is strongly recommended, but the course will be an extra course and will not apply toward certificate requirements.

Students may start any term; however, students should contact an academic advisor for planning, as many courses are only offered once per year.

Required Courses
ITR 101 Intro to Interpretation & Translation 3
ITR 102 Tools for the Interpreter & Translator 3
ITR 111 Fundamentals of Interpretation 3
ITR 115 Fundamentals of Translation 3
ITR 120 Ethics for the Interpreter/Translator 1
ITR 910 Emphasis Seminar 3
PRL 103 Introduction to Law 3
ITR 128 Legal Terminology & Sight Translation 3
ITR 130 Legal Interpreting I 3
ITR 132 Judiciary Interpreting II 3
ITR 137 Judiciary Translation 3
ITR 800 Judiciary I/T Internship 2

Total credits required to complete this certificate 33

These credits are applicable to the AS degree in Interpretation & Translation.

Interpretation & Translation - Judiciary

The Interpretation & Translation Judiciary certificate is for functionally bilingual students with a bachelor’s degree, Associate in Science or Associate in Arts Degree who wish to work as judiciary interpreters or translators. Upon completion, students should be able to provide basic interpreting and translation services between English and their other language(s) in judiciary contexts. The program is designed for students who wish to add judiciary interpreting and translation skills to their current set of job skills. Certificate students complete basic courses in interpretation and translation, as well as ethics. All students complete an internship under the supervision of a professional interpreter/translator, during which time they use the skills and apply the knowledge gained in the classroom. Some credits earned for the Interpretation and Translation Judiciary certificate can also be applied to the Interpretation and Translation Healthcare certificate, or to the Interpretation and Translation Generalist certificate program.

A program chairperson and a program counselor are available to assist students with education and career planning.

Employment opportunities for Interpretation and Translation Judiciary interpreters and translators are found in law enforcement agencies, law offices and courts where interpretation and translation services are needed. There are also many volunteer opportunities.

Note: Interpretation and translation employment in specialized areas, including legal, medical, social services, education fields and many businesses, requires additional specialized training and/or certification. Students interested in healthcare interpretation and translation should consider the Healthcare Interpretation and Translation AS or Certificate programs.

Location: Urban

Program Entry Requirements:
1. Complete an application.
2. Attend any required information/orientation or a program conference.
3. Provide evidence of completion of a Bachelor’s Degree, Associate in Science degree, or Associate in Arts Degree.
4. Provide evidence of proficiency in English with one of the following:
   a. ACT score on the English subtest of 19 or above
   b. Minimum COMPASS score of 70
   c. Completion of ENG 105 with a grade of “C” or better
   d. TOEFL score of 173 on the computer test or 500 on the paper test
5. Show proficiency in a second language with one of the following:
   a. Evidence of completion of high school in a country where the second language is spoken
   b. Two years of college study with a minimum GPA of 2.0 or equivalent at an institution in a country where the second language is spoken
   c. Completion of a college minor in the second language with a minimum grade of “C” for all courses taken in the second language
   d. Proficiency may be demonstrated with other evidence, but must be approved by the program chair
   e. Students will need computer skills to be successful in the program. If students do not have these skills, completion of BCA 212 or CSC 110 is strongly recommended, but the course will be an extra course and will not apply toward certificate requirements.

Students may start any term; however, students should contact an academic advisor for planning, as many courses are only offered once per year.

Required Courses
ITR 101 Intro to Interpretation & Translation 3
ITR 102 Tools for the Interpreter & Translator 3
ITR 111 Fundamentals of Interpretation 3
ITR 115 Fundamentals of Translation 3
ITR 120 Ethics for the Interpreter/Translator 1
ITR 910 Emphasis Seminar 3
PRL 103 Introduction to Law 3
ITR 128 Legal Terminology & Sight Translation 3
ITR 130 Legal Interpreting I 3
ITR 132 Judiciary Interpreting II 3
ITR 137 Judiciary Translation 3
ITR 800 Judiciary I/T Internship 2

Total credits required to complete this certificate 33

These credits are applicable to the AS degree in Interpretation & Translation.

Landscape Design

The Landscape Design certificate will allow students to earn recognition for work completed in the area of landscape design. This certificate will provide students with the opportunity to develop specific skills related to plant materials, construction techniques and design.

Required Courses
AGA 157 Soil Fertility 1
AGA 154 Fundamentals of Soil Science 3
AGH 154 Residential Landscape Design 3
AGH 159 Landscape Drafting 2
AGH 221 Principles of Horticulture 3
AGH 155 Landscape Design II 2
AGH 142 Construction, Safety & Maintenance 3
AGH 123 Woody Plant Materials 3
AGH 120 Herbaceous Plant Materials 3

Total credits required to complete this certificate 23

The majority of these credits are applicable to the AAS degree in Commercial Horticulture.
PROGramS AvAIlABLE

Legal Assistant

The Legal Assistant certificate is for students with a Bachelor’s Degree, Associate in Science or Associate of Arts Degree who wish to work as a legal assistant. A legal assistant performs a variety of legal tasks and provides a broad spectrum of services for attorneys in private practice, state agencies and public service organizations. The legal assistant works with the attorney in virtually every aspect of the legal profession except giving advice or representing clients in court (the actual practice of law). To earn a Legal Assistant certificate, a student must submit proof of having earned a prior degree. Students must receive a grade of “C” or above in all PRL coursework.

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRL 103</td>
<td>Introduction to Law</td>
<td>3</td>
</tr>
<tr>
<td>PRL 131</td>
<td>Torts &amp; Litigation I</td>
<td>3</td>
</tr>
<tr>
<td>PRL 141</td>
<td>Business &amp; Corporate Law I</td>
<td>3</td>
</tr>
<tr>
<td>PRL 280</td>
<td>Legal Internship &amp; Ethics</td>
<td>4</td>
</tr>
<tr>
<td>PRL 112</td>
<td>Legal Research &amp; Writing I</td>
<td>3</td>
</tr>
<tr>
<td>PRL 113</td>
<td>Legal Research &amp; Writing II</td>
<td>3</td>
</tr>
</tbody>
</table>

Option Courses—Select 15 Credits from Option 1

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRL 132</td>
<td>Torts &amp; Litigation II</td>
<td>Opt 1</td>
</tr>
<tr>
<td>PRL 161</td>
<td>Family Law</td>
<td>Opt 1</td>
</tr>
<tr>
<td>PRL 142</td>
<td>Business &amp; Corporate Law II</td>
<td>Opt 1</td>
</tr>
<tr>
<td>PRL 151</td>
<td>Real Estate Law</td>
<td>Opt 1</td>
</tr>
<tr>
<td>PRL 167</td>
<td>Probate Procedure</td>
<td>Opt 1</td>
</tr>
<tr>
<td>PRL 169</td>
<td>Wills, Estate Planning &amp; Taxation</td>
<td>Opt 1</td>
</tr>
<tr>
<td>PRL 171</td>
<td>Administrative Practice</td>
<td>Opt 1</td>
</tr>
<tr>
<td>PRL 125</td>
<td>Evidence: Theory &amp; Practice</td>
<td>Opt 1</td>
</tr>
<tr>
<td>PRL 137</td>
<td>Debtor/Creditor Law</td>
<td>Opt 1</td>
</tr>
<tr>
<td>PRL 118</td>
<td>Comp. Legal Research</td>
<td>Opt 1</td>
</tr>
<tr>
<td>PRL 114</td>
<td>Adv. Legal Research &amp; Writing</td>
<td>Opt 1</td>
</tr>
<tr>
<td>PRL 182</td>
<td>Mediation</td>
<td>Opt 1</td>
</tr>
<tr>
<td>ACC 261</td>
<td>Income Tax Accounting</td>
<td>Opt 1</td>
</tr>
<tr>
<td>CSC 110</td>
<td>Intro to Computers</td>
<td>Opt 1</td>
</tr>
<tr>
<td>CRJ 130</td>
<td>Criminal Law</td>
<td>Opt 1</td>
</tr>
<tr>
<td>CRJ 132</td>
<td>Constitutional Law</td>
<td>Opt 1</td>
</tr>
<tr>
<td>HSV 130</td>
<td>Interviewing/Interpersonal Relations</td>
<td>Opt 1</td>
</tr>
</tbody>
</table>

Total credits required to complete this certificate 34

These credits are applicable to the AS degree in Legal Assistant.

Long-Term Care Administrator

The Long-Term Care Administrator Specialist Certificate is designed for students with a prior degree who plan to sit for Nursing Home Administrator Licensure. Students must meet the Iowa Board of Examiners for Nursing Home Administrator equivalency requirements, which include verification of a four-year degree. Students are required to submit their official college transcripts to the DMACC Admissions Office.

IMPORTANT NOTE: Students are strongly advised to contact one of the staff members of Aging Services Management in Bldg. 9 on the Ankeny Campus or call 515-964-6262 or 515-964-6814 for additional important information.

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASM 278</td>
<td>Management in Senior Care Services</td>
<td>3</td>
</tr>
<tr>
<td>ASM 279</td>
<td>Health Care Human Resources</td>
<td>3</td>
</tr>
</tbody>
</table>

Total credits required to complete this certificate 30

These credits are also applicable to the AAS degree in Management and the AAS degree in Marketing.

Certificates of Specialization

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASM 280</td>
<td>Health Care Delivery Systems</td>
<td>2</td>
</tr>
<tr>
<td>ASM 282</td>
<td>Aging Services in the Continuum</td>
<td>2</td>
</tr>
<tr>
<td>ASM 283</td>
<td>Aging Policies and Government Programs</td>
<td>2</td>
</tr>
<tr>
<td>SOC 225</td>
<td>Social Gerontology/Applications</td>
<td>4</td>
</tr>
<tr>
<td>SOC 226</td>
<td>Issues in Aging</td>
<td>2</td>
</tr>
</tbody>
</table>

Practicum

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASM 251</td>
<td>Governance of NF/SNF</td>
<td>2</td>
</tr>
<tr>
<td>ASM 252</td>
<td>Governance of Supported Living</td>
<td>2</td>
</tr>
<tr>
<td>ASM 253</td>
<td>LTC Practicum: Psychosocial Needs</td>
<td>2</td>
</tr>
<tr>
<td>ASM 254</td>
<td>LTC Practicum: Physical Needs</td>
<td>2</td>
</tr>
<tr>
<td>ASM 255</td>
<td>LTC Practicum: Administration</td>
<td>2</td>
</tr>
<tr>
<td>ASM 257</td>
<td>ASM Capstone</td>
<td>2</td>
</tr>
</tbody>
</table>

Option Courses—Select 10 Credits from Option 1

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 111</td>
<td>Intro to Accounting</td>
<td>Opt 1</td>
</tr>
<tr>
<td>ACC 131</td>
<td>Principles of Accounting I</td>
<td>Opt 1</td>
</tr>
<tr>
<td>ASM 238</td>
<td>Financial Management in AS</td>
<td>Opt 1</td>
</tr>
<tr>
<td>ASM 239</td>
<td>Information Systems in Health Care</td>
<td>Opt 1</td>
</tr>
<tr>
<td>ASM 274</td>
<td>Law and Ethics in Health Care</td>
<td>Opt 1</td>
</tr>
</tbody>
</table>

Total credits required to complete this certificate 40

These credits are applicable to the AS degree in Aging Services Management.

Management

The purpose of the Management Certificate is to provide the currently employed person in business with broad knowledge of the principles of management and business functions. Human relations and communication skills necessary for recognition and appointment to successive levels of management are also provided. This certificate is also beneficial to people currently employed in management who wish to upgrade and improve chances for further promotion.

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGT 130</td>
<td>Principles of Supervision</td>
<td>3</td>
</tr>
<tr>
<td>MGT 101</td>
<td>Principles of Management</td>
<td>3</td>
</tr>
<tr>
<td>BUS 102</td>
<td>Intro to Business</td>
<td>3</td>
</tr>
<tr>
<td>BUS 185</td>
<td>Business Law I</td>
<td>3</td>
</tr>
<tr>
<td>CSC 110</td>
<td>Intro to Computers</td>
<td>3</td>
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</tbody>
</table>

Option Courses—Select 1 Course from Each Option

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>BUS 150</td>
<td>E-Commerce on the Web</td>
<td>Opt 1</td>
</tr>
<tr>
<td>MKT 145</td>
<td>Sales Management</td>
<td>Opt 1</td>
</tr>
<tr>
<td>MGT 115</td>
<td>Administrative Management</td>
<td>Opt 1</td>
</tr>
<tr>
<td>MKT 115</td>
<td>Business-to-Business Marketing</td>
<td>Opt 1</td>
</tr>
<tr>
<td>MKT 160</td>
<td>Principles of Retailing</td>
<td>Opt 1</td>
</tr>
<tr>
<td>BUS 148</td>
<td>Small Business Management</td>
<td>Opt 1</td>
</tr>
<tr>
<td>ACC 131</td>
<td>Principles of Accounting I</td>
<td>Opt 2</td>
</tr>
<tr>
<td>ACC 111</td>
<td>Intro to Accounting</td>
<td>Opt 2</td>
</tr>
<tr>
<td>ENG 105</td>
<td>Composition I</td>
<td>Opt 3</td>
</tr>
<tr>
<td>COM 703</td>
<td>Communication Skills</td>
<td>Opt 3</td>
</tr>
<tr>
<td>MKT 145</td>
<td>Human Relations in Business</td>
<td>Opt 4</td>
</tr>
<tr>
<td>PSY 111</td>
<td>Intro to Psychology</td>
<td>Opt 4</td>
</tr>
<tr>
<td>BUS 112</td>
<td>Business Math</td>
<td>Opt 5</td>
</tr>
<tr>
<td>MAT 141</td>
<td>Finite Math</td>
<td>Opt 5</td>
</tr>
</tbody>
</table>

Total credits required to complete this certificate 30

These credits are also applicable to the AAS degree in Management and the AAS degree in Marketing.

VISIT US ONLINE: www.DMACC.edu 101
Programs Available

Medical Insurance and Coding

Medical Insurance and Coding is one of the fastest-growing medical office specialties and promises to increase in importance. Students learn to transform medical diagnoses and procedures into numbers or codes for purposes of reimbursement and recordkeeping. This Certificate program is designed for those who choose to work in a variety of medical settings including hospitals and medical centers, government facilities, insurance companies and home offices. It is ideal for the individual who is currently working in the medical setting and wants to develop skills that are “best of practice.” Courses are offered online or late afternoon and evening. In addition, this certification can be earned in coordination with the Medical Office Specialist program.

Program Entry Requirements: Keyboarding speed of 40 NWPM or above as demonstrated by a five-minute test.

<table>
<thead>
<tr>
<th>Term 1</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ADM 157 Business English</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>*HSC 120 Medical Terminology I</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MAP 141 Medical Insurance</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>BCA 133 Word Processing Skill Dev. I</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Term 2</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>*HSC 121 Medical Terminology II</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MAP 532 Human Body–Health and Disease</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MAP 150 Adv. Medical Billing and Coding</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ADM 215 Medical Office Procedures</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Total credits required to complete this certificate 25

*Challenge test available. Must earn 74%.

Note: Graduates may sit, at their own expense, for the Certified Coding Associates designation through the American Health Information Management Association.

The majority of credits listed above are applicable to the AAS degree in Medical Office Specialist.

Medical Transcriptionist

The purpose of the Medical Transcriptionist certificate is to provide a course of study for medical office specialist students to concentrate in the area of medical transcription. This certificate is best suited for people who have a background in medical/business work experience. Employment opportunities are numerous in a variety of settings: hospitals and medical centers, clinics and group practices, radiology and pathology offices, government facilities, private and temporary agencies and in home offices. In addition, a choice of work settings, the medical transcriptionist can usually choose part-time or full-time employment and frequently, flexible scheduling. Students start any term.

Program Entry Requirements:
1. Complete an application.
2. Complete ADM 157 Business English with a grade of “C” or better.
3. Keyboarding speed of 40 NWPM or above as demonstrated by a five-minute test.

<table>
<thead>
<tr>
<th>Term 1</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>BCA 133 Word Processing Skill Development I</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>*HSC 120 Medical Terminology I</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MTR 120 Medical Transcription I</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Certificates of Specialization

Term 2

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>HSC 121* Medical Terminology II</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MTR 121 Medical Transcription II</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Term 3

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>MAP 532 Human Body–Health and Disease</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MTR 122 Medical Transcription III</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Total credits required to complete this certificate 22

*Challenge test available. Must earn 74%

These credits are also applicable to the AAS degree in Medical Office Specialist.

Microcomputers

This certificate is designed for people who desire to learn about operating and networking systems and who have strong business computer applications skills in word processing, spreadsheets and databases. It is most appropriate for people employed in small businesses where the employer wants employees to upgrade their business computer applications skills and assume responsibility for a network.

Required Courses

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 102 Introduction to Business</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>CIS 125 Intro to Programming Logic w/Lang</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>CIS 402 COBOL</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>CSC 110 Intro to Computers</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>BCA 113 Computer Network Literacy</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Option Courses—Select a Minimum of 6 Credits

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 131 Principles of Accounting I</td>
<td>Opt 1 4</td>
<td></td>
</tr>
<tr>
<td>ACC 132 Principles of Accounting II</td>
<td>Opt 1 4</td>
<td></td>
</tr>
<tr>
<td>ACC 311 Computer Accounting</td>
<td>Opt 1 3</td>
<td></td>
</tr>
<tr>
<td>ACC 361 Accounting Spreadsheets</td>
<td>Opt 1 3</td>
<td></td>
</tr>
<tr>
<td>CIS 413 COBOL II</td>
<td>Opt 1 4</td>
<td></td>
</tr>
<tr>
<td>CIS 604 Visual BASIC</td>
<td>Opt 1 3</td>
<td></td>
</tr>
<tr>
<td>CIS 612 Advanced Visual BASIC</td>
<td>Opt 1 3</td>
<td></td>
</tr>
<tr>
<td>CIS 161 C++</td>
<td>Opt 1 3</td>
<td></td>
</tr>
<tr>
<td>CIS 164 Advanced C++</td>
<td>Opt 1 3</td>
<td></td>
</tr>
<tr>
<td>CIS 303 Introduction to Data Base</td>
<td>Opt 1 3</td>
<td></td>
</tr>
<tr>
<td>CIS 332 Data Base and SQL</td>
<td>Opt 1 3</td>
<td></td>
</tr>
<tr>
<td>CIS 338 SQL/Oracle</td>
<td>Opt 1 3</td>
<td></td>
</tr>
<tr>
<td>CIS 346 Data Base Design</td>
<td>Opt 1 3</td>
<td></td>
</tr>
</tbody>
</table>

Total credits required to complete this certificate 21

The majority of these credits are applicable to the AS degree in Accounting Information Systems and the AAS in Business Information Systems.

Network Security Manager

The purpose of the Network Security Manager certificate is to provide students who are already employed in the area of information technology the knowledge and skills needed to prepare for careers as security systems analysts, security business analysts, database administrators or system development managers. Students learn basic concepts and terminology in computer networks and data communications, as well as project initiation, fact gathering, procedures, forms, system implementation and evaluation. They also study legal and ethical issues, security technologies, risk management, network and system security, cryptography and information...
programs available

security maintenance. Students learn to detect and analyze data stored or hidden on computer systems and to implement database security and auditing in order to protect data.

Prior to enrolling in the Network Security Manager certificate courses, students must successfully complete the following courses: CSC 110 Intro to Computers, CIS 125 Intro to Programming Logic w/Lang, CIS 402 COBOL or equivalent courses or have instructor approval.

Required Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCA 113</td>
<td>Computer Network Literacy</td>
<td>3</td>
</tr>
<tr>
<td>CIS 303</td>
<td>Introduction to Database</td>
<td>3</td>
</tr>
<tr>
<td>CIS 505</td>
<td>Structured Systems Analysis</td>
<td>4</td>
</tr>
<tr>
<td>NET 612</td>
<td>Fundamentals of Network Security</td>
<td>3</td>
</tr>
<tr>
<td>NET 715</td>
<td>Database Security &amp; Auditing</td>
<td>3</td>
</tr>
<tr>
<td>NET 730</td>
<td>Computer Forensics &amp; Investigation</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total credits required to complete this certificate</strong></td>
<td><strong>19</strong></td>
<td></td>
</tr>
</tbody>
</table>

Office Specialist

The Office Specialist certificate provides students with basic entry-level skills for office support positions. These skills include computer operations, business English, human relations and office calculators. Students who complete all courses will qualify for a variety of entry-level clerical positions.

Required Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 112</td>
<td>Business Math</td>
<td>3</td>
</tr>
<tr>
<td>MGT 145</td>
<td>Human Relations in Business</td>
<td>3</td>
</tr>
<tr>
<td>ADM 157</td>
<td>Business English</td>
<td>3</td>
</tr>
<tr>
<td>BCA 133</td>
<td>Word Processing Skill Development I</td>
<td>4</td>
</tr>
<tr>
<td>ADM 131</td>
<td>Office Calculators</td>
<td>1</td>
</tr>
<tr>
<td>BCA 212</td>
<td>Intro Computer Business Appl</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total credits required to complete this certificate</strong></td>
<td><strong>17</strong></td>
<td></td>
</tr>
</tbody>
</table>

These credits are applicable to the AAS degree in Administrative Assistant and the diploma in Office Assistant.

Phlebotomy

A phlebotomist draws blood from patients for diagnostic medical tests. Most phlebotomists are employed in hospitals. The program runs approximately nine weeks and is offered fall and spring term.

Background checks for criminal history will be done and results will be shared with cooperating agencies, which may prevent placement for clinical practicum. This will affect successful program completion.

NOTE: Proof of immunizations required prior to beginning of clinical rotation.

Program Entry Requirements

Complete an application. Attend a required information/registration session, or obtain the approval of the Program Chair. Submit to the Admissions Office evidence of high school graduation or GED prior to enrollment.

Required Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHB 113</td>
<td>Principles of Phlebotomy</td>
<td>3</td>
</tr>
<tr>
<td>PHB 280</td>
<td>Phlebotomy Clinical</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total credits required to complete this certificate</strong></td>
<td><strong>5</strong></td>
<td></td>
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</tbody>
</table>

Certificates of Specialization

Printing Technologies

The Printing Technologies certificate is designed for students in the Graphic Technologies program who wish to specialize in their degree, or for individuals with prior printing experience who are looking to update their skills or are seeking advancement in the graphics/printing industry. The program will provide up-to-date technical information regarding tools, equipment and processes.

The curriculum and instruction are geared to provide both lecture and laboratory settings that will build upon the individual’s prior knowledge and experience. Instruction and practical experience will be provided in offset, flexography, screen printing. Job planning, cost estimating and finishing methods will also be covered.

Required Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GRT 400</td>
<td>Intro to Printing Methods</td>
<td>4</td>
</tr>
<tr>
<td>GRT 401</td>
<td>Intro to Graphic Communications</td>
<td>3</td>
</tr>
<tr>
<td>GRT 409</td>
<td>Project Planning &amp; Management</td>
<td>3</td>
</tr>
<tr>
<td>GRT 410</td>
<td>Printing Methods I</td>
<td>4</td>
</tr>
<tr>
<td>GRT 420</td>
<td>Printing Methods II</td>
<td>4</td>
</tr>
<tr>
<td>GRT 427</td>
<td>Special Printing Methods</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total credits required to complete this certificate</strong></td>
<td><strong>19</strong></td>
<td></td>
</tr>
</tbody>
</table>

These credits are applicable to the AAS degree in Graphic Technologies.

Production Art

The purpose of the Production Art certificate is to provide training for entry-level positions as production artists in large printing and publishing companies and companies with small publications departments.

Required Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GRD 407</td>
<td>Production Art I</td>
<td>3</td>
</tr>
<tr>
<td>GRD 415</td>
<td>Production Art II</td>
<td>3</td>
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<tr>
<td><strong>Total credits required to complete this certificate</strong></td>
<td><strong>6</strong></td>
<td></td>
</tr>
</tbody>
</table>

These credits are applicable to the AAS degree in Graphic Design.

Retailing

The Retailing certificate offers skills for entering the world of retail marketing and merchandising and for those already employed who wish to move to higher levels of responsibility.

A growing number of job openings exist for those who want a career that is both challenging and rewarding.

Required Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MKT 160</td>
<td>Principles of Retailing</td>
<td>3</td>
</tr>
<tr>
<td>MKT 140</td>
<td>Selling</td>
<td>3</td>
</tr>
<tr>
<td>APP 111</td>
<td>Visual Merchandising &amp; Design</td>
<td>3</td>
</tr>
<tr>
<td>MGT 147</td>
<td>Leadership Development</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total credits required to complete this certificate</strong></td>
<td><strong>12</strong></td>
<td></td>
</tr>
</tbody>
</table>

These credits are also applicable to the AAS degree in Marketing and the AAS degree in Fashion/Design.
Programs Available

Sales
The purpose of the Sales certificate is to provide persons with knowledge of the basic principles of selling and marketing and the elements of human relations and communication required to enter the field of selling. This program is offered both during the evening and the day.

Required Courses
- MKT 140 Selling 3
- MKT 110 Principles of Marketing 3
- MKT 194 Relationship Strategies in Business 2
- MGT 147 Leadership Development 3

Option Courses—Select 1 Course from Each Option
- ENG 105 Composition I Opt 1 3
- COM 703 Communication Skills Opt 1 3
- MGT 145 Human Relations in Business Opt 2 3
- PSY 111 Introduction to Psychology Opt 2 3

Total credits required to complete this certificate 17
These credits are applicable to the diploma in Sales & Management, the diploma or AAS in Fashion/Design, the AAS degree in Management, and the AAS degree in Marketing.

Supervision
The purpose of the Supervision certificate is to provide the person currently employed in business with knowledge of the principles of supervising others and the elements of human relations and communication needed for promotion and success in first-line supervision. The certificate is also beneficial to people currently working as supervisors who wish to upgrade their credentials.

Required Courses
- MGT 130 Principles of Supervision 3
- MGT 101 Introduction to Management 3

Option Courses—Select 6 Credits from Option 1, and 1 Course from Option 2, and 1 Course from Option 3
- BUS 102 Introduction to Business Opt 1 3
- BUS 148 Small Business Management Opt 1 3
- BUS 150 E-Commerce on the Web Opt 1 3
- MKT 145 Sales Management Opt 1 3
- MKT 115 Administrative Management Opt 1 3
- MGT 800 Business Internship I Opt 1 6
- MKT 140 Selling Opt 1 3
- MKT 115 Business-to-Business Marketing Opt 1 3
- MKT 160 Principles of Retailing Opt 1 3
- ENG 105 Composition I Opt 2 3
- COM 703 Communication Skills Opt 2 3
- MGT 145 Human Relations in Business Opt 3 3
- PSY 111 Introduction to Psychology Opt 3 3

Total credits required to complete this certificate 18
These credits are applicable to the diploma in Sales & Management, the AAS degree in Management and the AAS degree in Marketing.

Certificates of Specialization

Telecommunications
This certificate program prepares the student for working in the telecommunications outside plant field. The coursework prepares students to work on local installations of communication services in both business and residential settings. Training includes installation and repair, line troubleshooting, working aloft and pole climbing, and basic business communication system programming and repair.

Required Courses
- ETL 368 DC & AC Fundamentals 3
- ETL 369 DC & AC Fundamentals Lab 3
- TEL 210 Telecommunications I 3
- TEL 213 Introduction to Telephony Lab 3
- CSC 110 Intro to Computers 3
- ADM 105 Intro to Keyboarding I 1
- TEL 220 Telecommunications II 4
- TEL 222 Telecommunications Outside Plant 4
- TEL 223 Telecom Transport Lab 3

Total credits required to complete this certificate 27
These credits are applicable to the AAS degree in Telecommunications Technology.

Turf Maintenance
The Turf Maintenance certificate will allow students to earn recognition for work completed in the area of turf maintenance. This certificate will provide students with the opportunity to develop specific skills related to the maintenance of such turf grass areas as lawns, parks, sports fields and golf courses.

Required Courses
- AGA 157 Soil Fertility 1
- AGA 154 Fundamentals of Soil Science 3
- AGH 283 Pesticide Application Certification 2
- AGH 160 Irrigation Systems 2
- AGH 241 Sports Turf 2
- AGH 111 Intro to Turfgrass Management 2
- AGH 211 Advanced Turfgrass Management 3
- MAT 772 Applied Math 3

Option Courses—Select 1 Course from Option 1
- ENV 115 Environmental Science Opt 1 3
- AGH 221 Principles of Horticulture Opt 1 3
- BUS 102 Introduction to Business Opt 1 3
- BUS 148 Small Business Management Opt 1 3
- BUS 150 E-Commerce on the Web Opt 1 3
- MKT 145 Sales Management Opt 1 3
- MKT 115 Administrative Management Opt 1 3
- MGT 800 Business Internship I Opt 1 6
- MKT 140 Selling Opt 1 3
- MKT 115 Business-to-Business Marketing Opt 1 3
- MKT 160 Principles of Retailing Opt 1 3
- ENG 105 Composition I Opt 2 3
- COM 703 Communication Skills Opt 2 3
- MGT 145 Human Relations in Business Opt 3 3
- PSY 111 Introduction to Psychology Opt 3 3

Total credits required to complete this certificate 21
The majority of these credits are applicable to the AAS degree in Commercial Horticulture.

Viticulture
The Viticulture certificate provides job training for those working with vineyards and for those who want to start a vineyard. The certificate will promote skills and practices imperative for quality grape production.

Required Courses
- VIN 149 Grape and Wine Science 4
- VIN 101 Intro to Starting a Vineyard 4
- VIN 102 Intro to Bearing Vineyards 4
- VIN 103 Intro to Vineyard Pest Mgmt 4
- VIN 920 Field Experience 3

Total credits required to complete this certificate 19
PROGRAMES AVAILABLE

Welding
In an effort to meet the needs of interested students and local industry, the Welding program is offering open-entry and open-exit courses designed for the inexperienced as well as more advanced and experienced welders. This flexibility allows students to take only those portions of the program they need at any given time. Students will be allowed to enroll as long as there is space available. Emphasis is placed on skill and knowledge that is required for the student to enter employment in the welding field, or for the student’s own personal gain.

Oxy-acetylene Welding
WEL 120 Oxy-Fuel Welding/Cutting 2
These credits are applicable to the diploma in Welding.

Shielded Metal Arc Welding
WEL 150 Arc Welding I (SMAW) 2
WEL 155 Arc Welding II (SMAW) 3
WEL 156 Arc Welding III (SMAW) 2
WEL 157 Arc Welding IV (SMAW) 3
WEL 158 Arc Welding V (SMAW) 3
WEL 159 Arc Welding VI (SMAW) 2
Total credits required for Shielded Metal Arc Welding 15
These credits are applicable to the diploma in Welding.

Gas Metal Arc Welding
WEL 181 Gas Metal Arc Welding 2
These credits are applicable to the diploma in Welding.

Gas Tungsten Arc Welding
WEL 190 Gas Tungsten Arc Welding 2
These credits are applicable to the diploma in Welding.

Blueprint Reading
WEL 111 Welding Blueprint Reading 3
These credits are applicable to the diploma in Welding.

Structural Welding
WEL 176 Advanced Arc Welding I (SMAW) 2
WEL 177 Advanced Arc Welding II (SMAW) 3

Pipe Welding
WEL 303 Pipe Welding (SMAW) 3

RV Safety and Education Program
RV Safety and Education Program students become confident when traveling in situations they may encounter in the RV lifestyle after receiving training in all phases of driving, maneuvering, and backing a recreational vehicle. The program is a total of 3 hours in the classroom and 5 hours of hands-on driving. Additional driving time and private lessons are available. The program specializes in safety, respect, patience and confidence in a variety of vehicles of all sizes from class A, B & C motor homes, to fifth-wheel trailers to travel trailers.

We also have RV (Recreational Vehicle) training and educational programs, RV drivers to provide the best information and training possible about RVs and the RV lifestyle. DMACC is the second school nationwide to offer this RV training.

Certificates of Specialization

Certificates of Completion

Transportation Institute Commercial Vehicle

Commercial Vehicle Operator Program
The Transportation Institute Commercial Vehicle Operator program is one of approximately 65 in the U.S. that has been certified by the Professional Truck Drivers Institute of America. The 240-hour, noncredit program uses the U.S. Department of Transportation Model Curriculum. Students may complete the program in the daytime in six weeks or during the evenings in 12 weeks.

The Institute provides customized programs and services to individuals and companies including remediation and evaluation services, advanced driver programs, Defensive Driving Courses (DDC), driver/dispatcher relationships and driver retention programs. It also offers a Train the Trainer Program that allows transportation carriers to qualify their drivers to become certified driver finishers.

Features
1. Placement with companies prior to beginning of training.
2. Extensive in-truck training with two-students-per-instructor ratio.
3. Student loan availability for students who qualify.
4. Graduation with a Commercial Drivers License (CDL).
5. Earning potential—$25,000–$40,000 first year.
6. Excellent career opportunities within the industry.

Required Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Contact Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>WEL 120</td>
<td>Oxy-Fuel Welding/Cutting</td>
<td>2</td>
</tr>
<tr>
<td>WEL 150</td>
<td>Arc Welding I (SMAW)</td>
<td>2</td>
</tr>
<tr>
<td>WEL 155</td>
<td>Arc Welding II (SMAW)</td>
<td>3</td>
</tr>
<tr>
<td>WEL 156</td>
<td>Arc Welding III (SMAW)</td>
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<tr>
<td>WEL 157</td>
<td>Arc Welding IV (SMAW)</td>
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<td>WEL 158</td>
<td>Arc Welding V (SMAW)</td>
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</tr>
<tr>
<td>WEL 159</td>
<td>Arc Welding VI (SMAW)</td>
<td>2</td>
</tr>
</tbody>
</table>

Total credits required for Shielded Metal Arc Welding 15
These credits are applicable to the diploma in Welding.

WEL 177 Advanced Arc Welding II (SMAW) 3

WEL 303 Pipe Welding (SMAW) 3

VISIT US ONLINE: www.DMACC.edu
# COURSE DESCRIPTIONS

## How to read our Course Descriptions

The following are standard, approved subjects. Availability of any subject depends on the scheduling, program and student needs at the time. The receiving college or university determines the transferability of courses.

### ADJUNCT
Adjunct courses may be temporary or experimental and may be used to fulfill elective credit in programs that lead to a degree or diploma. Adjunct courses may not be used to fulfill or substitute for required or option courses in any degree or program.

### GENERAL
Non-core courses identified as freshman-sophomore courses.

### OPEN
Occupationally specific courses corresponding to courses in certain professional programs at four-year institutions.

### VOC/TECH
Occupationally specific courses. Transferability is generally limited. Only 16 credits can apply to the AA/AS degree.

### CORE
Traditional liberal arts courses in the first two years of a baccalaureate degree.

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<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 111</td>
<td>Intro to Accounting Open</td>
</tr>
<tr>
<td>ACC 124</td>
<td>Accounting Professionalism Voc/tech</td>
</tr>
<tr>
<td>ACC 131</td>
<td>Principles of Accounting I General</td>
</tr>
<tr>
<td>ACC 132</td>
<td>Principles of Accounting II General</td>
</tr>
<tr>
<td>ACC 165</td>
<td>Payroll Certification Review Voc/tech</td>
</tr>
<tr>
<td>ACC 166</td>
<td>Payroll Accounting Voc/tech</td>
</tr>
<tr>
<td>ACC 181</td>
<td>Accounting Internship Voc/tech</td>
</tr>
<tr>
<td>ACC 222</td>
<td>Cost Accounting Open</td>
</tr>
<tr>
<td>ACC 224</td>
<td>Business Tax Voc/tech</td>
</tr>
<tr>
<td>ACC 231</td>
<td>Intermediate Accounting I Open</td>
</tr>
<tr>
<td>ACC 232</td>
<td>Intermediate Accounting II Open</td>
</tr>
<tr>
<td>ACC 234</td>
<td>Business Management Voc/tech</td>
</tr>
<tr>
<td>ACC 261</td>
<td>Auditing Voc/tech</td>
</tr>
</tbody>
</table>

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**Example:**

**Course:** Cost Accounting

**Hours:** 4.00

**Type:** Open

**Description:** An introduction to accounting concepts of product costing systems. Topics include classification of costs, process costing, job order costing, joint and by-product costs, variable analysis, and standard cost systems, with variable analysis. Prerequisite: ACC 112

---

**College Preparatory (Coll Prep)**

College preparatory and skill building courses. College Preparatory courses cannot be used to fulfill degree requirements.

(P/F) Indicates courses taken pass/fail.

**Prerequisites** Successful completion of a course or other criterion necessary for a student to succeed in a higher level course.

**Corequisites** A course that must be taken concurrently or prior to the course.

*An instructor may deny enrollment in or drop a student from a specific course if a course prerequisite has not been met.*

---

**Example:**

**Course:** Cost Accounting

**Hours:** 4.00

**Type:** Open

**Description:** An introduction to accounting concepts of product costing systems. Topics include classification of costs, process costing, job order costing, joint and by-product costs, variable analysis, and standard cost systems, with variable analysis. Prerequisite: ACC 112

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**Adjunct Courses:**

- **ACC 111**: Intro to Accounting Open
- **ACC 124**: Accounting Professionalism Voc/tech
- **ACC 131**: Principles of Accounting I General
- **ACC 132**: Principles of Accounting II General
- **ACC 165**: Payroll Certification Review Voc/tech
- **ACC 166**: Payroll Accounting Voc/tech
- **ACC 181**: Accounting Internship Voc/tech
- **ACC 222**: Cost Accounting Open
- **ACC 224**: Business Tax Voc/tech
- **ACC 231**: Intermediate Accounting I Open
- **ACC 232**: Intermediate Accounting II Open
- **ACC 234**: Business Management Voc/tech
- **ACC 261**: Auditing Voc/tech

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**College Preparatory (Coll Prep):**

- **ACC 111**: Intro to Accounting Open
- **ACC 124**: Accounting Professionalism Voc/tech
- **ACC 131**: Principles of Accounting I General
- **ACC 132**: Principles of Accounting II General
- **ACC 165**: Payroll Certification Review Voc/tech
- **ACC 166**: Payroll Accounting Voc/tech
- **ACC 181**: Accounting Internship Voc/tech
- **ACC 222**: Cost Accounting Open
- **ACC 224**: Business Tax Voc/tech
- **ACC 231**: Intermediate Accounting I Open
- **ACC 232**: Intermediate Accounting II Open
- **ACC 234**: Business Management Voc/tech
- **ACC 261**: Auditing Voc/tech

---

**Prerequisites:**

- Successful completion of a course or other criterion necessary for a student to succeed in a higher level course.
- A course that must be taken concurrently or prior to the course.

---

**Corequisites:**

- An instructor may deny enrollment in or drop a student from a specific course if a course prerequisite has not been met.
## Course Descriptions

<table>
<thead>
<tr>
<th>Title</th>
<th>Course Code</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting Career Seminar</td>
<td>ACO 946</td>
<td>1</td>
<td>00</td>
</tr>
<tr>
<td>Veterinary Office Procedures</td>
<td>VET 105</td>
<td>2</td>
<td>00</td>
</tr>
<tr>
<td>Office Calculators</td>
<td>OCF 131</td>
<td>1</td>
<td>00</td>
</tr>
<tr>
<td>Data Entry</td>
<td>OCF 138</td>
<td>3</td>
<td>00</td>
</tr>
<tr>
<td>Data Entry</td>
<td>OCF 164</td>
<td>3</td>
<td>30</td>
</tr>
<tr>
<td>Business Communication</td>
<td>BCB 157</td>
<td>3</td>
<td>00</td>
</tr>
<tr>
<td>Office Procedures</td>
<td>OFC 162</td>
<td>3</td>
<td>22</td>
</tr>
<tr>
<td>Administrative Office Appl</td>
<td>AFO 164</td>
<td>3</td>
<td>22</td>
</tr>
<tr>
<td>Veterinary Office Procedures</td>
<td>VET 168</td>
<td>2</td>
<td>12</td>
</tr>
</tbody>
</table>
COURSE DESCRIPTIONS

AGH 104 FLORAL DESIGN II 10 200 VOC/TECH
An advanced class in commercial floral design, flower shop organization and management. Advanced wedding work, funeral work and commercial flower arrangements will be taught. Prerequisite: AGH 103

AGH 111 INTRO TO TURFGRASS MANAGEMENT 2 200 VOC/TECH
The study of soil and turf relationships as to planning, seedbed preparation, seed selection, fertilization, crabgrass and establishing of turf and lawn. The student receives practical experience in starting and maintaining new lawn areas. Prerequisite: AGH 221, AGA 154, 157

AGH 120 HERBACEOUS PLANT MATERIALS 3 2 200 VOC/TECH
The identification, morphology, landscape use and culture of native and nonnative plants of the Upper Midwest. Emphasis on early and midseason perennials and annuals. The following course should be completed or taken concurrently: AGH 115, 123

AGH 123 WOODY PLANT MATERIALS 3 1 400 VOC/TECH
The identification, morphology, landscape use and culture of native and nonnative woody plants of the Upper Midwest. First 10 weeks, emphasis on deciduous plants. Last 5 weeks, emphasis on evergreens. Corequisite: AGH 159

AGH 132 INTRODUCTION TO GREENHOUSE 3 2 200 VOC/TECH
An introduction to greenhouse structures, heating and environmental control systems, and watering. Winter and spring commercial pot plants, cut flowers and bedding plant crops will be explored vocationally in the college greenhouse. Prerequisite: AGH 221, AGA 154, 157

AGH 133 GREENHOUSE PROD TECHNIQUES 3 3 000 VOC/TECH
Greenhouse maintenance, nutrition, watering, cooling systems and pest control should be developed further in college-greenhouse facilities. Summer and fall crops will be grown by students. Prerequisite: AGH 112

AGH 142 CONSTRUCTION, SAFETY & MAINT. 3 2 200 VOC/TECH
Principles and practices of residential landscape construction. Emphasis on safety procedures, the initial client contact to installation of plant material and hard-scape. Laboratory work involves landscape installation using landscape materials and techniques.

AGH 154 RESIDENTIAL LANDSCAPE DESIGN 3 1 400 VOC/TECH
Fundamentals of residential design for homes are presented. Introduction to principles of landscaping as they apply to residential landscaping. Students are given opportunities to draw basic residential landscape plans. Prerequisite: or Corequisite: AGH 159, 123 must be taken with or prior to this course.

AGH 155 LANDSCAPE DESIGN II 2 1 200 VOC/TECH
Course will include design of residential, commercial, public areas and annual and perennial flower beds. Use of landscape construction materials in design and materials and labor estimates will be developed. Prerequisite: AGH 154, 159, 123; Corequisite: AGH 120

AGH 159 LANDSCAPE DRAFTING 2 2 000 VOC/TECH
Introduction to landscape drafting and associated drafting equipment and materials. Corequisite: AGH 123

AGH 160 IRRIGATION SYSTEMS 2 1 200 VOC/TECH
A study of the design, installation use and maintenance and repair of the different types of irrigation systems used in the production of a wide variety of horticulture crops. Irrigation system components, materials and estimates of installation, maintenance and operation costs will be discussed. Prerequisite: AGA 154, 157, AGH 111

AGH 211 ADVANCED TURFGRASS MANAGEMENT 3 2 200 VOC/TECH
Turf management practices on golf and recreation areas with practical experience in maintaining turf on outdoor campus facilities. Prerequisite: AGH 111

AGH 212 PRINCIPLES OF HORTICULTURE I 3 3 000 VOC/TECH
A course designed to introduce the student to the principles of botany that are basic to plant life. Topics covered include plant cell chemistry, cell structure, functions, photosynthesis and transpiration.

AGH 235 PLANT PROPAGATION I 3 2 200 VOC/TECH
An introduction to plant propagation with emphasis on grafting, herbaceous and hardwood cuttings and greenhouse and nursery seeds. Propagation schedules, equipment, structures and growth regulators will be discussed. Prerequisite: AGH 221, AGA 154, 157

AGH 241 SPORTS TURF 2 1 200 VOC/TECH
Introduction to the variety of sports contexts played on turfturf grounds. Students will study the sport, site selection and preparation, turfgrass species selection, establishment and maintenance of the field. Precompetition practices of field layout along with post-competition practices of repair and field recovery will be discussed. Prerequisite: AGH 111, AGA 154, 157

AGH 251 INSECTS AND DISEASES 2 2 000 VOC/TECH
Identification of insects and diseases that frequently infest horticultural crops and plant materials. Structures, functions and life cycles of these pests will be studied with environmental conditions favoring development. Chemical, organic, biological and mechanical control methods will be presented. A collection will aid in the ID process.

AGH 262 FRUIT AND VEGETABLE SCIENCE 3 2 000 VOC/TECH
A study of tree fruits, small fruits and vegetable culture, including varietal selection, planting, pruning, fertilizing, disease and insect control programs. Prerequisite: AGH 221, AGA 154, 157

AGH 271 NURSERY PRODUCTION I 3 2 000 VOC/TECH
Introduces the student to site selection, equipment and supplies with an introduction to field production, harvesting and marketing. Basic nursery and landscape skills will be developed on-off-campus. Prerequisite: AGH 221, AGA 154, 157

AGH 281 AGRICULTURE 3 2 200 VOC/TECH
A study of crop production emphasis on propagation, pruning, transplanting, pest control, urban environmental concerns and recognition of hazards and liabilities. Methods of evaluation of values also studied. Prerequisite: AGH 221, AGA 154, 157

AGH 285 PESTICIDE APPLICATION CERTIF. 2 2 000 VOC/TECH
Types of chemicals will be identified and how to use and apply them property will be studied. The safe handling of chemicals and calibration of spray equipment will be covered. Includes study of core manual and category for commercial pesticide license.

AGH 290 GARDEN CENTER MANAGEMENT 3 3 000 VOC/TECH
Display, promotion and merchandising in the modern garden center will be stressed. Problems of distribution functions of marketing and their costs will be studied. Management’s role in organizing a business and financial planning will be discussed.

AGH 406 HORTICULTURE INTERNSHIP I 2 0 000 VOC/TECH
Experience in a business setting related to the student’s career objective. Taken over a four week period. (P/Y) Prerequisite: AGH 811, 123

AGH 495 HORTICULTURE INTERNSHIP II 2 0 000 VOC/TECH
An opportunity for the student to gain employment experience in their specialization. In many instances they will continue as full-time employees upon completion of the program. Taken over a four-week period. (P/Y) Prerequisite: AGH 805

AGM 335 PETROLEUM PRODUCTS IN AG 3 1 000 VOC/TECH
Designed to acquaint students with the petroleum industry and its terminology. Major areas of study will be fuels and lubricants with emphasis on applications and selection, equipment operation, storage and handling procedures and federal regulations.

AGM 337 PRECISION AGRICULTURE APPL. 3 2 200 VOC/TECH
This course is an introduction to the general principles of Precision Agriculture. Major topics will include Global Positioning Systems (GPS), yield mapping, Geographic Information Systems (GIS) and remote sensing equipment.

AGS 113 SURVEY OF THE ANIMAL INDUSTRY 3 3 000 VOC/TECH
An analysis of the livestock industry with emphasis on reproduction, inheritance, performance testing, selection and marketing.

AGS 222 SURVEY OF AQUACULTURE INDUSTRY 3 2 200 VOC/TECH
A study of the ecology and management of aquaculture systems with emphasis on fish production. A focus on environmental issues relating to water quality will be implemented through laboratory exercises.

AGS 225 SWINE SCIENCE 3 3 000 VOC/TECH
The practical application of technical information to life-cycle swine production including production systems, breeding and genetics, herd health, housing, marketing, management and nutrition. Required: Permission of instructor or AGS 319, 113

AGS 226 BEEF CATTLE SCIENCE 3 3 000 VOC/TECH
The practical application of technical information to life-cycle beef production with emphasis on cow-calve production and feedlot management. Prerequisite: Permission of instructor or AGS 319, 113

AGS 242 ANIMAL HEALTH 3 3 000 VOC/TECH
A survey of diseases of large domestic animals, including discussion of causes, transmission, prevention and control.

AGS 245 INTRODUCTION TO ANIMAL DISEASE 1 1 000 VOC/TECH
This course covers the disease processes, primary and contributing causes, treatments and prevention of common medical and surgical diseases in domestic animals. Prerequisite: AGV 120

AGS 290 ANIMAL NUTRITION II 3 3 000 VOC/TECH
The practical application of feeding principles. An in-depth study of the various nutrients, their requirements and uses. An analysis of research feeding trials, research procedures and manufacturing terminology. Prerequisite: AGS 319

AGS 291 VETERINARY MEDICAL TERMINOLOGY 1 1 000 VOC/TECH
Course covers the origins of common medical terms used in the veterinary field. Use of analysis of the word parts, the student will be able to determine the definition of medical terminology. Prerequisite: Instructor approval for program admission

AGS 292 INTRO TO VETERINARY TECHNOLOGY 1 0 200 VOC/TECH
This course introduces the basics of animal identification, husbandry, behavior, safety and health care to the student. Career opportunities in animal-related fields are explored. The student will also complete the American Red Cross Animal First Aid and CPR certification.

AGS 299 VETERINARY PHYSIOLOGY 3 3 000 VOC/TECH
Physiology with a veterinary clinical emphasis. Provides the basic for study of confirmation, reproduction and pathological processes of diseases of dogs, cats, horses, sheep, cattle, swine and laboratory animals. Prerequisite: AGS 120, 124; Corequisite: BIO 735

AGS 313 VETERINARY CLINICAL PATHOLOGY I 3 2 000 VOC/TECH
This course covers parasite identification and testing and various sample collection, procedure and interpretation for common diagnostic testing performed in the veterinary laboratory.

AGS 314 VETERINARY CLINICAL PATHOLOGY II 3 2 000 VOC/TECH
Continues Veterinary Clinical Pathology I with emphasis on coagulation studies and clinical Chemistry. Selected semilological tests will also be covered. Prerequisite: AGS 120, 124, 113
COURSE DESCRIPTIONS

AGV 128 CLINICAL PATHOLOGY LAB 10 200 VOL/TECH
A review of current clinical laboratory practices in veterinary pathology. Prerequisite: AGV 154

AGV 129 INTRO VETERINARY PHARMACOLOGY 11 000 VOL/TECH
This course covers the laws regarding medication use in the United States and discusses the basic groups of pharmaceuticals and their use in veterinary medicine. This includes dosage calculations, proper labeling, storage, inventory control, record-keeping and dispensing of medications.

AGV 141 ADV VETERINARY PHARMACOLOGY 2 000 VOL/TECH
This course is designed to provide advanced knowledge in specific medication classification, usage and effects. Prerequisite: AGV 159

AGV 160 ANESTHESIA/SURGICAL ASSISTANCE 4 2400 VOL/TECH
This course is designed to introduce the student to the common surgical procedures performed in the veterinary clinic. Emphasis is placed on sanitation, patient observation, surgical preparation, assisting in anesthesia and postoperative patient management. Prerequisite: AGV 120, 124, 141

AGV 164 CLINICAL MGMT DOMESTIC SPECIES 2 1200 VOL/TECH
This course covers the management and husbandry of animals housed in a hospital or shelter situation. Proper kennel cleaning & disinfection, record-keeping, monitoring of health parameters, nutrition, bathing, administration of common medications and diagnostic sampling. Prerequisite: AGV 120

AGV 165 CLIN MGMT LAB/EXOTIC SPECIES 2 1200 VOL/TECH
This course is designed to introduce the common species, husbandry procedures and basic nutrition, restraint and handling, common diseases, diagnostic procedures and medications used in various laboratories and exotic pet settings. Prerequisite: AGV 120

AGV 166 VETERINARY NURSING CARE 3 1400 VOL/TECH
Introduces the fundamentals of animal nursing, including handling, restraint, patient history and admissions and emergency handling. Prerequisite: AGV 120, BIO 735

AGV 172 LARGE ANIMAL MEDICINE/SURGERY 3 2200 VOL/TECH
This course is designed to introduce common species, husbandry and management procedures, proper restraint and handling, common procedures, medication, administration and surgical concerns for common species of domestic large animals. Prerequisite: AGV 160

AGV 180 VET TECHNOLOGY INTERNSHIP 4 000 20 VOL/TECH
Internship experience within a veterinarian related business with an emphasis on animal care procedures. Prerequisite: AGV 154, 141

ANT 100 INTRODUCTION TO ANTHROPOLOGY 3 3000 CORE
This course is an introduction to the comparative study of humankind from biological and cultural perspectives. It survey anthropological theory, methods and major findings regarding human origins and variations, cultural development and change, cultural systems and cross-cultural comparisons of people throughout the world.

ANT 105 CULTURAL ANTHROPOLOGY 3 3000 VOL/TECH
The study of human cultures and their diversity. Those who take this course should develop some understanding not only of the differences that people all over the world experience in their lives and in their perceptions of others, but also those elements that are common to the human experience. This course will entail application of principles and theory to various aspects of field work. Completing Introduction to Anthropology would be helpful; however, it is not a requirement.

ANT 110 FACES OF CULTURE 3 3000 GENERAL
A television course in cultural anthropology that presents culture as the expression of human values, behavior and social organization existing in unique and varied forms throughout the world. The course focuses on culture as an adaptive mechanism that provides for the survival of the species.

ANT 125 APPLICATIONS OF ANTHROPOLOGY GENERAL
Applied anthropology uses anthropological and interdisciplinary theory and research to address social issues. This course introduces students to basic concepts in four-field anthropology, with an emphasis on cultural anthropology and it provides an overview of major specializations and current research topics. Students will engage in primary, community-based research through a course project on a topic of choice within one applied specialty. Students in all programs of study at DMACC may benefit through better understanding of qualitative research processes, the broad array of social issues that applied anthropologists study and critical thinking and writing that are necessary to Problem solving and understanding of culture and society. Prerequisite or Corequisite: ANT 100 or 105 or instructor approval

ANT 150 GLOBAL ISSUES-LOCAL PERSPECT 3 3000 GENERAL
Examines a variety of ways in which global connections affect cultural groups. Introduces the concepts and historical backdrop needed to understand global processes with specific cases from anthropological research that illuminate ties between local effect and general changes. The concept of “culture” is explained from critical and historical perspectives, along with recent shifts in theorizing and applying anthropological knowledge. The uses of qualitative field research in studies of globalization are emphasized. Students conduct a small, topic-focused research project to see how globalization affects local processes in Iowa. Prerequisite or Corequisite: ANT 100 or 105 or instructor approval

APP 111 VISUAL MERCHANDISING & DESIGN 3 3000 VOL/TECH
Focus will be learning design principles and design elements in visual merchandising and merchandise display. An emphasis is placed on planning and designing successful interior store or business displays and windows with the six components as well as implementing all of the design principles.

APP 211 TEXTILES 3 3000 VOL/TECH
Focus will be on an application-oriented study of natural and manufactured fibers. Popular weaves, technologies used to produce, qualities achieved and costs incurred will be analyzed. Printing and dyeing processes, in addition to the finishes available today, will be studied.

APP 220 FASHION COORDINATION & PROMOTION 3 3000 VOL/TECH
Focus is on researching, analyzing and forecasting fashion trends. Information on emerging fashion trends is communicated through a PowerPoint presentation. Use of this information results in creation of a promotional plan to establish fashion leadership. Prerequisite: APP 210

APP 250 DESIGN CONCEPTS 3 3000 VOL/TECH
Includes a study of the history of fashion design, the effective use of design principles and analysis of future fashion trends. New industry-based computer design software will be used to design contemporary fashion apparel for women, men or children.

APP 260 FASHION ANALYSIS AND DESIGN 3 3000 Vol/tech
Emphasis is on how the fashion business works, from concept to consumer. The fashion business entails buying supplies, creating and developing a new product and marketing the product. Fashion designers, manufacturers, buyers, as well as retailers work together to develop and sell “good” design. Focus is on analyzing styles and creating and implementing the principles of design into product development, as well as researching past and present designers to understand their contribution to fashion.

APP 270 FASHION BUYING 3 3000 VOL/TECH
Fashion moves quickly and the buyer must be one with current trends and suppliers who can provide the best quality merchandise, delivery and pricing. Vendor analysis, open-to-buy and timing are studied, including the development of a six-month merchandise plan.

APP 291 FASHION STUDY TOUR 1 0200 VOL/TECH
The student will participate in a supervised study tour, location to be announced, in which a concentrated time will be spent touring a market center and researching a variety of fashion businesses from manufacturing and marketing to merchandising, promoting and selling apparel. Prerequisite: APP 260

ARC 104 ARCHITECTURAL DRAFTING I 5 2600 VOL/TECH
Practical application of the basic skills of drafting involving the necessary thought process. A complete set of residential drawings will be developed by hand–involving plans, elevations, sections and details.

ARC 128 ARCHITECTURAL DRAFTING III 3 2600 VOL/TECH
Drawings will be developed of a small commercial building using Building Information Modeling software. Prerequisite: ARC 127

ARC 165 MATERIALS & ASSEMBLIES I 3 3000 VOL/TECH
An introduction to building materials and assemblies through the Construction Specifications Institute’s MasterFormat accounting and management system. Prerequisite: ARC 165

ARC 169 MATERIALS & ASSEMBLIES III 3 3000 VOL/TECH
An introduction to building materials and assemblies through the Construction Specifications Institute’s MasterFormat accounting and management system. Prerequisite: ARC 165

ARC 180 BUILDING CODES 2 2000 VOL/TECH
A look into building codes and their interpretation.

ARC 190 CONSTRUCTION DOCUMENTS TEC 2 2000 VOL/TECH
An investigation into the Construction Specification Institute’s Construction Documents: Technology certification material and examination.

ARC 199 PRESENTATION GRAPHICS 3 1400 VOL/TECH
Exploration into architectural presentation graphics, schematic and finish presentation styles. Students will have an option of media to produce presentation graphics for their portfolios. Prerequisite: ARC 127 or instructor permission

ARC 201 ART APPRECIATION CORE
A general survey course that explores in chronological sequence many artists, their lives, styles and media. The student will use art to recognize global cultural diversity and connect to universal human experience as expressed through art.

ARC 202 ARTS FOR ELEMENTARY EDUCATION GENERAL
Designed for students in education and recreation to assist them with design, construction and planning for multimart forms and materials for instructional situations.

VISIT US ONLINE: www.DMACC.edu 109
ART 105
Drawing and painting a live model. Emphasis on structure, movement and expression.

ART 143
Acrylic painting with emphasis on still life, landscape and individual composition.

ART 148
Landscape painting using any water-based media. Study of the elements of art to aid in composition and development of a personal painting style. Field trips will be required.

ART 173
Ceramics
Comprehensive "hands-on" introductory experience working clay. The discovery "process" of finding one's unique sense of touch is stressed. Fundamental techniques demonstrated in hand-building and wheel-throwing. Concepts in ceramic art discussed, connecting cultures, artists and contemporary objects.

ART 174
Ceramics II
Series of forms, individual help from a professional artist. Topics in ceramics: the "figure," large-scale works, architectural terra-cotta restoration, outdoor claybodies, building side portfolio, photographing work, shows and galleries. Kiln firing. Prerequisite: Instructor permission

ART 176
Filmmaking
Design and fabricate titles for specific applications, while emphasizing critical processes of working with clay. Transforms two-dimensional drawings to pieces in three dimensions. Study new theories in "Visual Communication."

ART 184
Principles of Photography
Open
Students will learn the basic principles of photography. Topics will include basic camera operation, film developing, darkroom techniques and special effects. The camera will become an instrument to explore and communicate ideas, goals and visions effectively.

ART 186
Principles Digital Photography
Open
Students will learn the basic principles of digital photography. Topics will include basic camera operation, composition, metering, computer tips and tricks and shooting tips and tricks. The digital camera in conjunction with the computer will become instruments to explore visual communication effectively. This course requires an SD digital camera, minimum 5.0 megapixels, capable of interchangeable lenses.

ART 195
Design: Exploring Art Media
An introduction to basic techniques in media such as paper-making, clay, fibers and soft sculptures. Students will explore variety of traditional approaches to express a contemporary vision.

ART 225
Photoshop for Photography
Open
Whether you shoot film or digital, this hands-on course teaches you everything you need to know to scan, process, manipulate and print high-quality photographic digitally from Adobe Photoshop, the industry-standard software for the digital darkroom.

ART 226
Alternative Photo Processes
Open
For students who have mastered the basic photographic principles and process. This class will be a guide that demonstrates a variety of alternative processes, encompassing both traditional and nontraditional techniques. Topics include Litho Printing, ERI Film, HI Film, Spray Developing, Fodoty, Tone Zone, Sun-printing and Photograms. Prerequisite: ART 184, ART 186

ART 289
Photography Journalism
Open
Students will learn basic visual and technical aspects of photojournalism using a digital camera while photographing a series of general news, feature, performing arts, sports and community events. (This course uses digital cameras only.)

ART 291
Travel Photography
Advanced principles of image making, printing and presentation will be explored with spirit and knowledge that is expected to engender an appreciation for photography, travel and the state of Iowa. Prerequisite: ART 184

ART 292
Studio Photography
VOC/TECH
Students learn to arrange and compose a photograph in a deliberate process. Students learn to analyze the elements in a scene, arrange them and use artificial light for the desired effect. Projects test student imagination, creativity, technical skills and willingness to experiment while improving their photographic expertise. Prerequisite: ART 184, ART 186

ART 929
Individual Projects
Open
Students will have the opportunity to further develop their photographic expertise in one or more of the following photography classifications: Architectural, Banquet, Postcards/Marketing Publications, Business Portraits, Fine Arts, Fashion, Furniture, Industrial, Illustrative, Photomuralism, Public Relations, Conventions/Special Events, Educational, Weddings. Students meet with instructor for project review once a week until project is completed. This course is repeatable up to 6 credits. Prerequisite: ART 226, ART 289, ART 291, ART 292

ASL 151
American Sign Language I
This course is designed for students who have no knowledge of American Sign Language. Topics to be introduced include ASL Linguistic features, cultural protocols and core vocabulary enabling students to function in basic ASL conversation: asking/answering questions, introductions and exchanging personal information, discussing family, friends and surroundings.

ASL 152
American Sign Language II
This course expands the basic principles presented in ASL 1. ASL II teaches students to use linguistic features, cultural protocols and core lexical items to function in basic ASL conversations that include ASL grammar for giving directions, describing, making requests, talking about family, occupations and routines and attributing qualities to others. Prerequisite: ASL 151 or instructor permission

ASL 251
American Sign Language III
This course expands the basic principles presented in ASL II. ASL III focuses on features of time, subject/object, classifiers, non-manual behaviors and finger spelling (including numbers and loan signs). In addition, ASL semantics and syntax (including conversational regulators) will be introduced. Prerequisite: ASL 151 or instructor permission

ASL 291
American Sign Language IV
This course expands the principles in ASL III. The course focuses on different registers of ASL discourse and the use of space in discourse. Most of the work in this course will involve students’ production of appropriate, accurate ASL discourse. Areas of vocabulary development include: contextually sensitive vocabulary (e.g., human sexuality, AIDS), national and world events, politics. Prerequisite: ASL 251 or instructor permission

ASL 100
Communication with the Elderly
Open
This course will introduce strategies and concepts to improve communication with the elderly population. Prerequisite: Instructor approval

ASL 150
Impact of Demographics
Open
This course will examine the physiological, biological and psychological changes as they relate to the aging process. Prerequisite: Instructor approval

ASL 160
Aspects of Aging
Open
This course will examine the research of healthy aging and the results of improving the quality of life in advancing years. Prerequisite: Instructor approval

ASL 170
Healthy Aging
Open
This course will examine the research of healthy aging and the results of improving the quality of life in advancing years. Prerequisite: Instructor approval

ASL 180
Cultural Diversity
Open
This course will explore cultural diversity as it relates to race, national origin, gender and culture in the aging population. Prerequisite: Instructor approval

ASL 200
Depression, Death & Grieving
Open
This course will cover depression, death and loss, and the grieving process for both the family and the professional caregiver. Prerequisite: Instructor approval

ASM 100
Financial Management in AS
Open
Emphasis on financial practices in organizations that provide health services to seniors. Review cost and labor hour controls. Excel spreadsheets, evaluation of profit/loss and fiscal reports will be addressed. It is suggested that the student have taken ACC 101 or ACC 111 prior to this course.

ASM 239
Info Systems in Health Care
Open
Emphasis will be placed on the analysis of health care information needs and the development of methods to meet these needs. Fundamental components of computers and computer systems will be examined, including specialized information management systems in health care.

ASM 251
Governance of NF/FM
Open
Emphasis will be placed on the changing dynamics of long-term care and the regulatory system. Special attention will focus on the federal and state regulations that govern the long-term health care services. This will include the agencies that originate, implement and monitor the regulations.

ASM 252
Governance of Supported Living
Open
An introduction to the assisted living facility mission, tenant care issues, management, staffing and organization. Includes topics in legislative changes and updates, governance, funding, grant writing, landlord/tenant law and licensure exam preparation.

ASM 253
LTC Prac: Psychosocial Needs
Open
During this practical experience, the student will investigate the policies, procedures and techniques used to meet the psychosocial needs of clients residing in nursing care facilities. Special emphasis will be placed on the role and responsibilities of the administrator in assuring client psychosocial needs are met.

ASM 254
LTC Prac: Physical Needs
Open
During this practical experience, the student will investigate the policies, procedures and techniques used to meet the physical and environmental needs of clients residing in nursing care facilities. Special emphasis will be placed on the role and responsibilities of the administrator in assuring client physical and environmental needs are met.

ASM 255
LTC Prac: Administration
Open
During this practical experience, the student will investigate the policies, procedures and techniques used to meet the administrative and business needs of nursing care facilities. Special emphasis will be placed on the administrative style used by the administrator in carrying out his/her roles and responsibilities.

ASM 256
Agency Experience
Open
During this practical experience, the student will investigate a senior services agency. The student will identify the purpose of the business, client needs, funding and techniques to evaluate the service delivery system. In addition, the student will pay special attention to the role and responsibilities of the administrator or manager in the operation of the agency.

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### COURSE DESCRIPTIONS

**ATG 344**  
**FORD DRIVING & 4X4 DIAG/RPR**  
3 2 2 0 0  
VOC/TECH  
Students will study the role and design of a differential and operation, drivetrain construction, transfer case design and operation. Students will also perform diagnosis and repair operation of each. Prerequisite: Admission to Automotive Service Education Program (ASSET).

**ATG 345**  
**FORD MANUAL TRANSMISSIONS**  
2 1 2 0 0  
VOC/TECH  
This course is the study of Ford automatic transmissions and transaxes including design, operation, diagnosis and repair. Prerequisite: Admission to Automotive Student Service Education Program (ASSET).

**ATG 346**  
**FORD TRANSMISSION & TRANSAXLE**  
4 3 2 0 0  
VOC/TECH  
This is the study of Ford automatic transmissions and transaxes including design, operation, diagnosis and repair. Prerequisite: Admission to Automotive Student Service Education Program (ASSET).

**ATG 350**  
**TECHNICAL INTERNSHIP IV**  
3 0 0 0 0  
VOC/TECH  
Work experience at a participating dealership. The tasks will be consistent with the technician's ability and previous coursework. Prerequisite: Admission to Automotive Student Service Education Program (ASSET) and ATG 335.

**ATG 354**  
**FORD ADVANCED ENGINE DETECTORS, ELECTRICAL**  
5 3 4 0 0  
VOC/TECH  
Instruction in techniques and procedures required to diagnose and service current vehicles. New systems developed by Ford Motor Company will be included. Prerequisite: Admission to Automotive Student Service Education Program (ASSET) and ATG 335.

**ATG 352**  
**TECHNICAL INTERNSHIP I**  
3 0 0 0 0  
VOC/TECH  
The technician will work in a participating dealership. The work will be part-time, approximately 40 hours per week. The tasks will be consistent with the technician's ability and previous coursework. A task list will be issued to each dealer. Prerequisite: Admission to Automotive Student Service Education Program (ASSET) and ATG 335.

**ATG 359**  
**TECHNICAL INTERNSHIP II**  
3 0 0 0 0  
VOC/TECH  
Work experience at a participating dealership. The tasks will be consistent with the technician's ability and previous coursework. Prerequisite: ATG 329, 328.

**ATG 333**  
**MAJOR SERVICE PROC/GM ENGINES**  
4 3 2 0 0  
VOC/TECH  
Evaluating, reconditioning and replacing of major components of GM engines. Instruction will also include diagnostic routines. Prerequisite: ATG 327.

**ATG 336**  
**GM FUEL SYSTEMS**  
3 2 2 0 0  
VOC/TECH  
Theory of carburetion principles and current model fuel delivery systems to include diesel fuel systems, electronic fuel injection. Prerequisite: Admission to Automotive Service Educational Program and ATG 328.

**ATG 337**  
**GM TUNE-UP PROC & EMSN CONTROL**  
4 3 2 0 0  
VOC/TECH  
Diagnosis and service of microprocessor-controlled fuel and ignition systems. Oscilloscope, engine analyzers, digital meters and other high technology instruments will be used. Prerequisite: ATG 336.

**ATG 341**  
**TECHNICAL INTERNSHIP III**  
3 0 0 0 0  
VOC/TECH  
Work experience at a sponsoring dealership. Tasks will be consistent with the technician's ability and previous coursework. Prerequisite: ATG 330, 344, 345.

**ATG 342**  
**GM STEERING & SUSPENSION**  
3 1 4 0 0  
VOC/TECH  
Instruction in the theory of operation and service procedures used in the maintenance and repair of General Motors steering and suspension systems. Prerequisite: Admission to Automotive Service Educational Program.
COURSE DESCRIPTIONS

AVM 130 3 3 4 0 0
PRIVATE PILOT GROUND SCHOOL  VOC/TECH
Provide aeronautical knowledge to meet the prerequisite in FAR Part 61 for the FAA Private Pilot Exam.

AVM 237 3 3 0 0
INSTRUMENT FLIGHT THEORY  VOC/TECH
To provide the student with the necessary aeronautical knowledge to meet the prerequisites specified in FAR Part 61 for the FAA instrument pilot written examination.

AVM 100 1 0 2 0 0
CLEANING/CORROSION CONTROL  VOC/TECH
This course encompasses cleaning and prevention of corrosion on the aircraft. Units of instruction will include identifying and selecting materials, inspecting, removing aircraft corrosion and performing aircraft cleaning.

AVM 103 2 1 2 0 0
AIRCRAFT MATERIALS/PROCESSES  VOC/TECH
This course covers the basics of materials and processes associated with aircraft. Areas of study will include precision measurement, testing of materials, inspection methods, performance, orientation and identification and inspection of aircraft materials.

AVM 104 2 1 2 0 0
REGULATIONS AND PUBLICATIONS  VOC/TECH
Aircraft maintenance forms and records will be units of instruction. Additional units will include manual utilization, FAA regulations, airworthiness directives and mechanic privileges and limitations.

AVM 107 1 0 2 0 0
WEIGHT AND BALANCE  VOC/TECH
The student will be given instruction concerning aircraft specifications, aircraft weight and balance records, weighing procedures, jacking and leveling, moment arms, reading scales, recording weights, nomenclature and algebraic signs.

AVM 111 1 0 2 0 0
GROUND OPERATIONS & SERVICING  VOC/TECH
This course will cover aircraft ground operation and servicing. Units of instruction will include fuel selection, ground operation, servicing and securing aircraft.

AVM 112 4 2 4 0 0
AIRCRAFT ELECTRICAL SYSTEMS  VOC/TECH
Electrical systems of aircraft will be covered in this course. Areas of study will include servicing of wire, controls, switches, indicators, protective devices, AC/DC electrical systems, constant speed and integrated speed drive generators, crimping, wiring inspection, repairing pins and sockets of aircraft connectors.

AVM 121 1 1 0 0 0
WEATHER AND WARNING SYSTEMS  VOC/TECH
This course will cover systems associated with positioning, warning and weather control. Topics covered will include inspection, servicing, configuration, electrical brakes, antiskid systems, landing gear indicators, warning systems and aircraft ice and rain control systems.

AVM 124 3 1 4 0 0
AIRCRAFT ASSEMBLY/RIGGING  VOC/TECH
This course will involve the study of aircraft components to include the following: Aircraft wing configuration, flight theory, landing gear, aircraft maneuvering, structure alignments, assembly components, rigging, primary flight control surfaces, secondary flight control surfaces and aircraft jacking.

AVM 125 5 3 4 0 0
AIRCRAFT STRUCTURE AND REPAIR  VOC/TECH
A course for students in aviation that covers materials associated with the structure of the aircraft. Utilization of proper materials, repair, replacement, testing, finishing of metal and non-metal materials will be included in this course.

AVM 129 2 1 2 0 0
LANDING GEAR & BRAKE SYSTEMS  VOC/TECH
This course involves a complete study of the landing gear and brake systems associated with aircraft. Areas of study include inspection, service, repair, troubleshooting and replacement of various types of landing gear and brake systems.

AVM 132 2 1 2 0 0
AIRFRAME/POWERPLANT INSPECTION  VOC/TECH
The course covers inspections related to aircraft engines and airframes. Airframe and engine conformity and airworthiness inspections will be units of instruction.

AVM 133 3 1 4 0 0
HYDRAULIC/PNEUMATIC POWER SYS  VOC/TECH
This course will involve a complete study of the hydraulic and pneumatic systems contained within aircraft. Components of each area will be covered to include identification, installation, repair, inspection, troubleshooting and replacement of the systems.

AVM 139 1 0 2 0 0
INSTRUMENTS/FIRE PROTECTION-PP  VOC/TECH
The course will cover aircraft instrument systems, engine fire protection systems and smoke and carbon monoxide detection systems.

AVM 141 1 0 2 0 0
CONTROL SYSTEMS  VOC/TECH
This course covers the heating, cooling, pressurization, air cycling and oxygen systems.

AVM 142 4 2 4 0 0
AIRCRAFT TURBINE ENGINES  VOC/TECH
Course covers turbine engine overhaul, repair of turbine engines, installation of turbine engines, troubleshooting of turbine engines.

AVM 145 1 0 2 0 0
AIRCRAFT WELDING  VOC/TECH
The course covers applicable welding procedures associated with materials used to construct aircraft. Proper welding methods for various types of materials will be covered during the course.

AVM 147 2 0 4 0 0
AIRCRAFT FUEL SYSTEMS  VOC/TECH
The course covers fuel systems throughout the airplane of the aircraft. Topics include inspection, service, troubleshooting, repair and replacement of the system components.

AVM 148 1 0 2 0 0
ENGINE LUBRICATION SYSTEMS  VOC/TECH
The course covers engine lubrication systems associated with aircraft. Students will study lubrication systems while performing inspections, service, troubleshooting and repair of the system. System components will be repaired and serviced according to FAA regulations.

AVM 151 2 1 2 0 0
ENGINE FUEL/MEASURING  VOC/TECH
A course designed to cover the fuel measuring system of aircraft. Topics include inspection, service, troubleshooting, repair and replacement of various types of fuel metersing systems.

AVM 154 0 2 3 2 0 0
AIRCRAFT ENGINES: RECIPROCATING  VOC/TECH
Aircraft engines that are reciprocating will be covered extensively. Units of instruction will include inspection and repairing of a radial engine, overhauling a reciprocating engine, service and repair of a reciprocating engine, engine installations, troubleshooting and removing reciprocating engines.

AVM 155 3 1 4 0 0
AIRCRAFT PROPULSION SYSTEMS  VOC/TECH
Aircraft propellers will be the topic of the course. Units will include repair, types of propellers, governing systems, installation, removal, troubleshooting, repairing, synchronizing, lubricating, ice control systems and control system components.

AVM 157 1 0 2 0 0
INDUCTION/CoolING/ExHAUST  VOC/TECH
This course introduces students to the induction system and engine airflow systems of aircraft. Inspecting, troubleshooting, servicing and repairing engine ice and rain control systems will be covered. Heat exchangers, superchargers, turbine airflow and temperature control systems will also be covered with carburetors and manifolds.

AVM 160 2 0 4 0 0
AIRCRAFT ELECTRICAL SYSTEMS  VOC/TECH
The course is a study of electrical systems of the aircraft engine. Units to be covered include troubleshooting, wiring controls, switches, indicators, protective devices and components repair.

AVM 161 3 1 4 0 0
AIRCRAFT IGNITION SYSTEMS  VOC/TECH
The course will provide a foundation in aircraft ignition systems and aircraft starting systems. Units will cover the magneto, ignition harness, reciprocating ignition systems and turbine ignition systems. Prerequisite: AVM 112.

AVM 165 2 1 2 0 0
COMMUNICATION AND NAVIGATION  VOC/TECH
Basic units will involve study of autopilots, systems, servos, systems, approach coupling systems, navigation systems, electronic communication systems, antenna systems, static pressure systems, flight instrument systems and all position indicating systems.

AVM 168 1 1 0 0 0
FLUID LINES AND FITTINGS  VOC/TECH
Aircraft fluid lines and fittings will be covered in this course. Units of instruction will include rigid and flexible lines, fittings and their fabrication and installation.

AVM 170 2 1 2 0 0
AIRCRAFT DRAWINGS  VOC/TECH
A course to develop understanding of aircraft drawings, symbols and schematics. Blueprint information, graphing, charting and drawing will be topics covered as they relate to aircraft.

BCC 113 3 3 0 0 0
EMERGING TECHNOLOGIES  VOC/TECH
Students will explore emerging trends in peripheral equipment and software, review technology within the framework of today's business environment and analyze the future of hardware and software usage in various business fields.

BCC 122 1 0 2 0 0
BASIC WORD PROCESSING  VOC/TECH
Hands-on instruction using WORD in the Windows environment. Special features include working with Windows, spellers, Thesaurus, merge and sort.

BCC 123 4 2 4 0 0
WORD PROCESSING SKILL DEV. I  VOC/TECH
Review of alphanumeric and numeric keyboard reaches using a computer. Develop a strong keyboarding foundation using the touch method while utilizing correct techniques. Introduces fundamental word processing functions. Instruction covers word processing concepts, terminology, features and other related skills. Must be at 25 NWPMP for three minutes.

BCC 127 3 2 2 0 0
WORD PROCESSING SKILL DEV. II  VOC/TECH
Emphasis on developing speed, accuracy and proofreading techniques in preparation of business documents using word processing software. Students develop a broader understanding of software capabilities as they continue to study concepts, vocabulary and additional features. Continued development of speed and accuracy is emphasized. Prerequisite: BCC 123.

BCC 146 1 0 2 0 0
BASIC SPREADSHEETS  VOC/TECH
Orientation to Excel. Topics include spreadsheet layout and terminology, charting, enhancing a worksheet and chart. Designed for beginning users of Excel.

BCC 164 1 0 2 0 0
BASIC DATABASES  VOC/TECH
Introduction to Access database management system. Topics include creating, editing, querying, using forms, reports, customizing and managing data and files.

BCC 174 1 0 2 0 0
BASIC PRESENTATION SOFTWARE  VOC/TECH
Introduction to presentation software. Topics include creating, enhancing, embossing and illustrating a presentation with charts, graphs, special effects; converting existing material, printing presentations, speaker's notes and handouts.

BCC 212 3 2 2 0 0
INTRO COMPUTER BUSINESS APPL  VOC/TECH
The focus of this course is to use computer hardware and software as business productivity tools. Training includes a hands-on introduction to computer applications vital in today's business and industry. Course covers operating system, e-mail, internet, word processing, spreadsheet, database and presentation applications.

BCC 213 3 2 2 0 0
INTERMED COMPUTER BUSINESS APPL  VOC/TECH
Develop a proficiency in decision making using computer software applications. Producing final documents for real business applications such as file integration, online forms, linked spreadsheets and desktop publishing are emphasized. Prerequisite: BCC 212 or CSC 110.
** COURSE DESCRIPTIONS **

** BCA 214 **
ADV COMPUTER BUSINESS APPL 3 2 2 0 0 0 12
VOC/TECH
Covers post-advanced applications using Microsoft Office. Working with master documents, creating index and table of contents from long reports, creating online forms, learning to use auditing and data validation tools, customizing form, and administering a database and creating complex presentations are emphasized. Prerequisite: BCA 213

** BCA 250 **
DESKTOP PUBLISHING 3 2 2 0 0 0 12
VOC/TECH
In a PC environment, use image-enhancement software such as Adobe Photoshop to manipulate photo and graphic files. Apply principles of desktop publishing in the development of publications using software such as Microsoft Publisher. Convert files into Web-ready format. Prerequisite: BCA 212 or CSC 110

** BIO 100 **
OPPORTUNITIES IN BIOLOGY 1 1 0 0 0 0 0 0
GENERAL
An exploration of careers and advanced educational opportunities in the biological sciences at the local, state and national levels.

** BIO 104 **
INTRODUCTORY BIOLOGY W/LAB 3 2 2 0 0 0 12
CORE
Introduction to basic concepts in biology. Topics include biochemistry, cell structure and function, metabolism and energetics, classical and molecular genetics and the diversity of life at the organismal level. Biology, as an experimental science and biotechnology will be explored through laboratory experiences.

** BIO 105 **
INTRODUCTORY BIOLOGY II CORE
First semester of Biology for majors. Topics covered include Chemistry of life, cells, bioenergetics, genetics, evolution, viruses, prokaryotes and protists. Prerequisite: H.S. biology and H.S. chemistry or equivalent

** BIO 106 **
HUMAN BIOLOGY W/LAB 3 2 2 0 0 0 0
CORE
A study of the human body. Topics such as the cell, basic chemistry, basic genetics and human ecology are included. Designed for the non-science and inadequately prepared health science major.

** BIO 164 **
ESSENTIALS ANATOMY/PHYSIOLOGY 3 5 4 3 0 0 0
CORE
A classic integration of human anatomy and physiology at the cellular and organ system level. Includes cut dissection. Prerequisite: H.S. biology and H.S. chemistry or equivalent

** BIO 249 **
BIOTECHNOLOGY INTERNSHIP 3 0 0 0 0 12
OPEN
This internship is the final requirement for the completion of the Biotechnology A.S degree requirements. It will be conducted in cooperation with potential employers. During this period, students will be expected to demonstrate their technical skills and practicum competencies in a professional manner, showing progressive independence, greater efficiency and confidence. Prerequisite: Permission of instructor

** BIO 290 **
CELL & MOLEC BIO-NUCLEIC ACIDS 5 2 6 0 0 0
OPEN
This course is designed to provide training in technology for biotechnology majors. Topics will include DNA and RNA structure, function and regulation. Strategies and tools used in genetic engineering will also be included. The lab component of the course will include lab safety, media preparation, cell culture techniques, solution preparation and other basic lab skills. Students will get hands-on training in the isolation, characterization and manipulation of nucleic acids, as well as PCR and Southern blotting. Prerequisite: BIO 104 and 112; Corequisite: BIO 180

** BIO 291 **
CELL & MOLECULAR BIO-PROTEINS 5 2 6 0 0 0
OPEN
This course is designed to provide training in techniques related to protein Chemistry and is a requirement for biotechnology majors. The course will focus on processes related to synthesis, control of synthesis and trafficking of proteins within the cell. Protein structure and function will be studied with special emphasis on enzymes and immunoprobes. The study of differential protein expression and regulatory mechanisms will also be included. The lab component of the course will train the student in purification, characterization, handling and storage of proteins, enzyme mechanisms and kinetics, immunoreacvations and two-dimensional gel electrophoresis. Prerequisites: BIO 104, BIO 250, CHM 152, MAT 157; Corequisite: BIO 182

** BIO 269 **
Biology of Aging 3 1 0 0 0 0 0 0
GENERAL
This course is designed for individuals planning to work with the elderly population. It covers changes that occur in body systems during the normal aging process, as well as some of the most common dysfunctions and diseases associated with aging. Furthermore, environmental factors, effects of diet and exercise in the aging process will be discussed.

** BIO 272 **
HEALTH SCIENCE MICROBIOLOGY 4 3 2 0 0 0
OPEN
Basic concepts and applications of medical microbiology. Topics include morphology and physiology of microorganisms, pathophysiology and epidemiology. Designed for the health science major. It is recommended that high school chemistry be taken prior to this course. Prerequisite: H.S. biology or equivalent

** BUS 102 **
INTRODUCTION TO BUSINESS 3 3 0 0 0 0 0 0
GENERAL
An overview of the ever-changing world of business. Provides information in the areas of ownership, management, marketing, insurance, economic systems and finance, as well as the role of government.
COURSE DESCRIPTIONS

BUS 112 3 3 0 0 0  OPEN
BUSINESS MATH
Mathematical computations are reviewed and strengthened with emphasis on facility and accuracy. Includes topics in the mathematics of buying and selling, banking, payroll, markups and markdowns, discounts, interest, consumer math and other related business applications.

BUS 121 4 4 0 0 0  CORE
BUSINESS STATISTICS
Tabular and graphical presentation, measures of central tendency and variability, standard elementary procedures involving the binomial, normal, student’s t, chi-squares and f – distributions, correlation, regression, analysis of variance and several nonparametric procedures. Same content as MAT 157, credit will not be granted for both BUS 211 and MAT 157. Prerequisite: 2 years of H.S. algebra or MAT 073 or department permission

BUS 123 2 2 0 0 0  OPEN
STATISTICAL BUSINESS APLP.
This is the second course in the statistics sequence. Course content includes application and interpretation of probability and statistics as applied to business situations by using sampling, confidence intervals, control charts, simple linear regression analysis, multiple regression analysis, correlation analysis, data analysis, time series analysis, hypotheses testing and computer analysis. Same content as MAT 160, credit will not be granted for both.

BUS 131 3 3 0 0 0  OPEN
Small Business Management
Focuses on human resources, and their applications to small business operations. Leadership development, management styles and decision making strategies are stressed.

BUS 138 3 3 0 0 0  OPEN
Small Business Mgmt Strategies
Focuses on human resources, and their applications to small business operations. Leadership development, management styles and decision making strategies are stressed.

BUS 141 3 3 0 0 0  OPEN
Small Business Start-Up
Focuses on human resources, and their applications to small business operations. Leadership development, management styles and decision making strategies are stressed.

BUS 143 3 3 0 0 0  OPEN
Small Business Management
Focuses on human resources, and their applications to small business operations. Leadership development, management styles and decision making strategies are stressed.

BUS 150 3 3 0 0 0  OPEN
E-COMMERCE ON THE WEB
This course will introduce the student to the basic elements of electronic commerce. It will focus on business and technical issues faced by a company that enters into the e-commerce marketplace. Topics include products, advertising, revenue requirements, third-party options, technical and operational issues.

BUS 151 2 2 0 0 0  OPEN
Basic Law for Entrepreneurs
This course is designed to acquaint business students and those currently involved in operating small businesses with the general areas of law that may be problematic for the entrepreneur and create risks resulting in lawsuits.

BUS 155 3 3 0 0 0  GENERAL
BUSINESS LAW I
Provides introductory overview of the sources of law of the American legal system, the structure of the court systems, torts, contract law and sales law.

BUS 156 3 3 0 0 0  GENERAL
BUSINESS LAW II
Provides overview of negotiable instruments, debtor/creditor law (collecting judgments), secured transactions, agency relationships and selecting the right business formation. Prerequisite: BUS 155

BUS 211 3 3 0 0 0  OPEN
INTRO INTERNATIONAL BUSINESS
The International Business Course is designed for students to understand the dynamics of global trade. This course examines the cultural, economic, legal, political, social and technological environment of international business. The course also provides an overview of marketing, management, distribution and job opportunities available for business students.

BUS 217 3 3 0 0 0  GENERAL
QUANTITATIVE METHODS/BUS DECKS
An introduction to management research methods used in business. Topics include probability, break-even analysis, inventory control, statistics and transportation models. Prerequisite: MAT 073 or Intermediate Algebra or 2 years of high school Algebra or department permission

BUS 249 3 3 0 0 0  OPEN
VIRTUAL BUSINESS FIRM
The Virtual Business Firm is a virtual business enterprise, set up and run by students to prepare them to work in a real-world business environment. With the instructor playing the role of facilitator, students determine the nature of their business, incorporating all of the elements of a business plan, including company description, management and organization structure, production and/or services, marketing and sales strategies and financials within a global context. Students engage in daily operations running the virtual business, so if it were a real business, via a closed worldwide network of virtual business firms. Prerequisite: All Business Administration or Entrepreneurship program required courses or permission of instructor

BUS 250 3 3 0 0 0  OPEN
PRINCIPLES OF REAL ESTATE
Fundamental principles, economics, law, working concepts and terminology. Focuses on real estate law and assists those preparing for the apprentice salesperson examination.

BUS 253 3 3 0 0 0  GENERAL
CADD 139 - Arch
This course will introduce CAD students to the analysis of simple structures. Analysis will be examined then verified using computer analysis software in conjunction with CAD. Basic engineering statics will be taught. Prerequisite: BUS 192, 216, MAT 175

BUS 257 3 3 0 0 0  OPEN
INTRO TO INSURANCE
Introduction to various types of insurance and risk management. Emphasis is on the principles of business law as it pertains to the human resource function. The course covers laws applicable to selection, testing, hiring, discipline, personnel policies and procedures. The course also covers Equal Employment laws and related discrimination issues. The Occupational Safety and Health Act, Family and Medical Leave Act and workers compensation topics are discussed as they relate to both business operations and personal situations.

BUS 260 3 3 0 0 0  OPEN
PRINCIPLES OF REAL ESTATE
Examines the cultural, economic, legal, political, social and technological environment of international business. The course also provides an overview of marketing, management, distribution and job opportunities available for business students.

BUS 265 3 3 0 0 0  OPEN
INTRO TO INCOME TAXATION
Introduction to taxation principles, regulations, laws and concepts as they relate to business and personal situations.

BUS 278 3 3 0 0 0  OPEN
EMPLOYMENT LAW
Examines the legal responsibilities of employers to employees. Includes topics in personnel policies and practices, personnel procedures, discrimination issues in the workplace, the Family and Medical Leave Act and workers compensation.

BUS 284 3 3 0 0 0  OPEN
LEGAL STUDY TOUR
The student will participate in a supervised study tour in which time will be spent touring a government center to view how the government runs, including the history of the country to current legal policies and procedures. Conquista: BUS 185 or POL 111 or CRJ 112 or instructor permission

BUS 294 3 3 0 0 0  GENERAL
INTRO COMPUTER-AIDED DRAFTING
This course will introduce the student to computer-aided drafting and design. Basic computer hardware, software and operating systems will be discussed. Basic two-dimensional CAD drafting creation and editing techniques will be covered. Drawings will be created and plotted. Prerequisite: Basic computer literacy

BUS 295 3 3 0 0 0  GENERAL
INTERMEDIATE CAD - MECHANICAL
This course will introduce the student to advanced computer-aided drafting and design applications. Program customization, file manipulation (translation and library creation) usage will be covered. Three-dimensional concepts will be discussed. Prerequisite: BUS 294

CAD 126 3 3 0 0 0  OPEN
INTERMEDIATE CAD - ARCHITECTURAL
This course will apply architectural drafting practices to the CAD environment. Two-dimensional plans (including plumbing, HVAC, electrical, etc.) will be developed. Site plans and presentation are some of the topics that will be discussed. Prerequisite: BUS 192

CAD 129 3 3 0 0 0  OPEN
INTRO TO CAD/CAM
The objectives of this course will be to apply computer-aided design software and computer-aided manufacturing software for numerically controlled (CNC) machine tools.

CAD 148 3 3 0 0 0  OPEN
INTRO TO FINITE ELEMENT ANALYS
This course will introduce CAD students to the analysis of simple structures. Analysis will be examined then verified using computer analysis software in conjunction with CAD. Basic engineering statics will be taught. Prerequisite: BUS 192, 216, MAT 175

CAD 151 2 2 0 0 0  OPEN
INTRO TO CAD/GRAPHICS I
Drawing formats, geometric construction and rendering will be taught on computer-aided drafting (CAD) software. Drafting standards will be covered. CAD operations and commands will be addressed. Sketching and fundamentals of orthographic projection are stressed. Prints will be prepared. Prerequisite: CSC 110 or equivalent

CAD 152 2 2 0 0 0  OPEN
INTRO TO CAD/GRAPHICS II
Advanced geometric description applicable to all fields of drafting will be emphasized. Auxiliary views will be created. Descriptive geometry principles will be examined. Intermediate and advanced dimensioning techniques will be covered including dimensional tolerancing analysis. CAD applications will be taught. Prerequisite: BUS 151, MAT 172

CAD 153 2 2 0 0 0  OPEN
MECHANICAL APPLICATIONS I
Mechanical components and processes that are used in product design will be covered. Geometric dimensioning and tolerancing will be taught. Preparation of welding drawings will be presented with the emphasis on proper usage of American Welding Society symbols. Precision bending of sheet metal will be covered. Prerequisite: BUS 152, MAT 173

CAD 154 2 2 0 0 0  OPEN
MECHANICAL APPLICATIONS II
Precision bending of sheet metal will be covered. Students will gain knowledge of heating, ventilation and air conditioning (HVAC) applications and HVAC CAD symbology. Hydraulic systems and applications will be covered. Hydraulic symbology will be covered. Mechanical power transmission will be a subject of study. Bearings, bearing seals and sealing systems will be addressed. Prerequisite: BUS 153, MAT 173

CAD 155 2 2 0 0 0  OPEN
NETWORKING SYS INVOLVING CAD
Network system key characteristics and functionality will be covered. System file management will be addressed. Operating systems and hardware will be examined. Relationships between computer hardware and software will be taught.
COURSE DESCRIPTIONS

CAD 162 3 2 2 00 VICTECH
Intro to Multimedia
Basic three-dimensional concepts and applications are covered. Rendering, animating and application of basic color manipulation are discussed and used. Prerequisite: CAD 119

CAD 182 3 2 2 00 VICTECH
SolidWorks CAD I
Parametric solid model (3D) CAD basics will be taught using SolidWorks. Parametric concepts will be covered. Solid CAD models will be built and edited in SolidWorks. Assemblies of solid parts will be examined. Part drawings will be created and plotted. Prerequisite: CAD 152, CAD 240, MAT 173

CAD 196 3 2 2 00 VICTECH
Engineering Disciplines & PRC
Types of engineering disciplines and their application of drawings will be examined. Drawing styles, engineering units and professional standards (ANSI, ASA, etc.) will be covered. Prerequisite: CAD 151

CAD 215 3 2 2 00 VICTECH
Mechanical Systems
Standard and nonstandard fastening systems will be examined. Part drawings and libraries will be covered. Basics of power train/mechanical components will be introduced. Mechanical bearings and hydraulic/ pneumatic system settings will be addressed. Prerequisite: CAD 152, MAT 173

CAD 240 3 2 2 00 VICTECH
Applied Materials & Processes
Standard industrial raw materials and forming processes will be examined. Students will see various machining, forming and welding operations. Field trips to industry will be offered.

CAD 242 3 2 2 00 VICTECH
Manufacturing Interfaces
Computer interfaces between manufacturing and engineering will be the primary focus of the class. File exchange formats, data compilation and machining interpretation of the model file will be addressed. Tool path generation and robotic controls will be discussed. Manufacturing system integration will be covered. Prerequisite: MAT 772

CAD 246 3 2 2 00 VICTECH
Parametric CAD I
Parametric solid model (CAD basics will be taught. Parametric concepts with design intent will be covered. Solid CAD models will be built and edited. Mechanical assemblies will be created. Part and assembly drawings with part lists will be created and plotted. Prerequisite: CAD 152, 240, MAT 173

CAD 248 3 2 2 00 VICTECH
Parametric CAD II
Parametric solid model (CAD intermediate commands will be taught. Parametric concepts with design intent will be covered. Solid CAD models will be built and edited. Mechanical assemblies will be created. Part and assembly drawings with part lists will be created and plotted. Prerequisite: CAD 153, 252, MAT 173

CAD 252 4 2 4 00 VICTECH
Design Project I
Detailing individual parts, types of assembly drawings and parts lists will be covered on an individual basis. Design process and procedures will be discussed. The student will conform to industry standards for their design project. Prerequisite: CAD 152, 196, 240, MAT 173

CAD 254 5 3 6 00 VICTECH
Design Project II
Continuation of CAD 252. Design Project I. Detailing individual parts, types of assembly drawings and parts lists will be covered on an individual basis. Design process and procedures will be discussed. The student will conform to industry standards for their design project. Prerequisite: CAD 153, 252

CAD 450 4 2 4 00 VICTECH
Caterpillar Fuel Systems
The student will be introduced to basic Caterpillar fuel system principles and theory for mechanical and electronic engines. General repair and diagnostic procedures will also be covered. Experienced individuals may contact the instructor to gain admittance to this course. Prerequisite: DSL 366, 546, 605, 145

CAD 451 2 1 2 00 VICTECH
Caterpillar Failure Analysis
The student will determine the root cause of failure how to properly prepare the parts for inspection and determine what is normal and abnormal wear. Experienced individuals may contact the instructor to gain admittance to this course. Prerequisite: DSL 366, 546, 605, 145

CAD 455 2 2 2 00 VICTECH
Caterpillar SERV INFO System
Instruction covers basic computer skills related to Caterpillar computer systems. Students will learn how to operate SIS, Parts Integrator, DRS Parts orders and work orders.

CAD 434 4 0 0 16 VICTECH
Caterpillar Internship
Work experience at a local Caterpillar dealership. The work experience will be compatible with the student’s ability and previous coursework. Prerequisite: DSL 366, 546, 605, 145

CAD 435 3 2 2 00 VICTECH
Caterpillar Multi-Media
The student will complete Caterpillar computerized tests and review modules. Prerequisite: DSL 366, 546, 605, 145

CET 119 3 2 2 00 VICTECH
Survey I
This course will develop working knowledge of surveying fundamentals. Topics will include introduction to surveying instruments and equipment, measurement of distances and angles, determining elevation, note keeping, traversing, triangulation, mapping and the researching of monuments and benchmarks.

CET 120 3 2 2 00 VICTECH
Survey II
This course will develop working knowledge of surveying fundamentals. Topics will include introduction to surveying instruments and equipment, measurement of distances and angles, determining elevation, note keeping, traversing, triangulation, mapping and the researching of monuments and benchmarks.

CET 125 3 1 0 00 VICTECH
Construction I
A continuation of Survey I. Topics will include control surveys, topographic survey, construction survey, coordination computer systems (i.e., state plane), optical tracking, aircraft photography, photogrammetry; legal descriptions; right of way; electronic data collection and global positioning will be utilized. Prerequisite: CET 169 or department approval

CET 169 3 2 2 00 VICTECH
Survey II
This course will develop working knowledge of construction inspection fundamentals. Topics will include an introduction to construction reviews, preconstruction planning, permits processes, embodiment construction, drainage solutions, stabilization methods, equipment used in construction, placement work, paving procedures and estimating time and materials. Prerequisite: CET 120 or department approval

CET 175 3 4 0 00 VICTECH
Highway Design I
This course is designed to acquaint the student with basic three-dimensional CAD drawing and editing techniques will be taught. Basic three-dimensional applications and editing will be introduced. Drawings will be created and plotted. GEOPAK fundamentals will be taught to include: project manager, horizontal alignment, vertical alignment, point manipulation, chains, existing cross-section creation, proposed cross-section creation, quantity outputs and criteria. Required: CET 178 or department approval

CET 178 3 4 0 00 VICTECH
Automated Design I
This course will introduce the student to MicroStation CAD commands. Advanced two-dimensional CAD drawing and editing techniques will be taught. Simple three-dimensional applications and editing will be taught. Drawings will be created and plotted. GEOPAK fundamentals will be taught to include: project manager, horizontal alignment, vertical alignment, point manipulation, chains, existing cross-section creation, proposed cross-section creation, quantity outputs and criteria. Required: CET 178 or department approval

CET 235 3 3 000 VICTECH
Materials II
This course will examine various materials and their effects on engineered construction. Topics will include soil types; aggregates; subsurface explorations, engineering property of soils and clays; moisture content; compaction, permeability; soil classification; load-bearing; concrete properties; concrete mixes; asphalt properties; sampling methods; testing of materials; testing equipment; calibration of equipment. Prerequisite: CET 135 or department approval

CET 222 3 3 0 00 VICTECH
Soils and Foundations
The student will learn to recognize soil relationships with landforms and the effect on engineered construction. Concepts of geology and engineering properties including soil type, classification, strength and deformation will be covered. Principles of soil mechanics and construction observation techniques will be learned and applied to real world examples. Prerequisite: MAT 773 or instructor approval

CET 225 3 3 0 00 VICTECH
Construction II
This course will use the definition, interpretation and utilization of drawings, specifications, agreements, bidding forms, general considerations, bids, subcontractor drawings, material approvals and related documents; record keeping and materials measurement as building plans. Prerequisite: CET 138 or department permission

CET 244 3 2 2 00 VICTECH
Materials II
To develop a working knowledge of soils and materials used in the construction industry. Topics will include soil types; aggregates; subsurface explorations, engineering properties of soils and clays; moisture content; compaction, permeability; soil classification; load-bearing; concrete properties; concrete mixes; asphalt properties; sampling methods; testing of materials; testing equipment; calibration of equipment. Prerequisite: CET 135 or department approval

CET 278 4 4 0 00 VICTECH
Automated Design II
This course will introduce the student to Intermediate MicroStation CAD commands. Advanced two-dimensional CAD drawing and editing techniques will be taught. Basic three-dimensional applications and editing will be introduced. Drawings will be created and plotted. GEOPAK fundamentals will be taught to include: project manager, horizontal alignment, vertical alignment, point manipulation, chains, existing cross-section creation, proposed cross-section creation, quantity outputs and criteria. Required: CET 178 or department approval

CET 283 4 4 0 00 VICTECH
Highway Design II
Application of design concepts and standards to a highway design project. A complete project design is required with a written and oral presentation. The finished project will be created utilizing GEOPAK that includes determining design criteria; determining horizontal and vertical alignment layout; intersection and interchange design; selection of typical, standard, non-design standards; hydrology; generating and analyzing cross-sections; determining right-of-way needs; earthwork to include quantities, a mass diagram and mass ordinances; detailed material list and cost estimates (preliminary and final). The presentation will include a three-dimensional drive-through of the project. Prerequisite: CET 178 or department approval

CET 291 3 3 0 00 VICTECH
Structural Design & Const
This course is an introduction to the understanding of load and resistance factor design (LRFD) method. Topics considered include material properties, tension, compression, bending, beam columns, simple connections, base plates and bearing plates. Prerequisite: CET 102

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**COURSE DESCRIPTIONS**

**CHM 265 5 3 4 0 0 0**

Organic Chemistry I
A study of the principles of organic chemistry including the nomenclature and chemistry of the various organic functional groups. Structure, bonding, synthesis, reaction mechanisms and spectroscopy are emphasized. The sequence is designed to satisfy the one year of organic chemistry required by most medical schools. Prerequisite: CHM 132 or 175 or 1 year college-level general chemistry.

**CHM 273 5 3 4 0 0 0**

Organic Chemistry II
A continuation of Organic Chemistry I. Prerequisite: CHM 265 or equivalent.

**SQL/Oracle VoC/tECH**

This course introduces to students how to install, configure and maintain a Web Server with an emphasis on web page creation and website authoring. Students will learn to use state of the art technology and software in this course. Students are introduced to relational databases and how to use SQL to access them. Students will learn to install a Web Server, a Relational Database and create dynamic web content containing text, graphics, hyperlinks, tables, forms and frames. Prerequisite: NET 223, 623, 628.

**E-Commerce Website II VoC/tECH**

This course introduces the programming language COBOL. Topics include move, logical testing, control, page breaks, totals and others. Emphasis is given to business applications. Prerequisite: CIS 402.

**COBOL II OPEN**

Introduces advanced COBOL programming techniques. Emphasis is given to the 5031 word, multiple-level tables and SPOOL file access techniques. Prerequisite: CIS 402.
CIS 421  INTERMEDIATE  43200  VOC/TECH
CIS 421 WAP Structured programming involving sequential disk, table processing and file update processing, using IBM REXX/VS. Prerequisite: CIS 420.

CIS 422  ADVANCED  32200  VOC/TECH
CIS 422 WAP Advanced programming techniques, including database management and object-oriented programming. Prerequisite: CIS 421.

CIS 423  ADVANCED PROJECTS  64400  VOC/TECH
CIS 423 WAP Projects involving the design and implementation of a working system. Prerequisite: CIS 422.

CIS 465  COMMUNICATIONS  44000  VOC/TECH
CIS 465 WAP Communication skills for business and industry. Prerequisite: CIS 100.

CIS 540  COMPUTER ORGANIZATION  33000  VOC/TECH
CIS 540 WAP Organization and architecture of computer systems, with emphasis on instruction sets and hardware interfaces. Prerequisite: CIS 465.

CIS 541  COMPUTER ORGANIZATION  33000  VOC/TECH
CIS 541 WAP Advanced topics in computer organization, including assembly language programming and computer architecture. Prerequisite: CIS 540.

CIS 542  DATA STRUCTURES  33000  VOC/TECH
CIS 542 WAP Data structures and algorithms, including linked lists, stacks, queues, trees, and graphs. Prerequisite: CIS 541.

CIS 543  DATABASE MANAGEMENT  33000  VOC/TECH
CIS 543 WAP Design and implementation of database systems. Prerequisite: CIS 542.

CIS 544  OPERATING SYSTEMS  33000  VOC/TECH
CIS 544 WAP Operating systems concepts, including process management, file systems, and memory management. Prerequisite: CIS 543.

CIS 545  COMPUTER NETWORKS  33000  VOC/TECH
CIS 545 WAP Networking concepts, including LANs, WANs, and network protocols. Prerequisite: CIS 544.

CIS 546  COMPUTER SECURITY  33000  VOC/TECH
CIS 546 WAP Security principles and practices, including cryptography, access control, and intrusion detection. Prerequisite: CIS 545.

CIS 547  SOFTWARE ENGINEERING  33000  VOC/TECH
CIS 547 WAP Software engineering principles, including software development processes, requirements specification, and system testing. Prerequisite: CIS 546.

CIS 548  SOFTWARE ENGINEERING  33000  VOC/TECH
CIS 548 WAP Advanced software engineering topics, including software project management, software reuse, and software evolution. Prerequisite: CIS 547.

CIS 549  SOFTWARE ENGINEERING  33000  VOC/TECH
CIS 549 WAP Advanced software engineering topics, including software project management, software reuse, and software evolution. Prerequisite: CIS 547.

CIS 550  SOFTWARE ENGINEERING  33000  VOC/TECH
CIS 550 WAP Advanced software engineering topics, including software project management, software reuse, and software evolution. Prerequisite: CIS 547.

CIS 551  SOFTWARE ENGINEERING  33000  VOC/TECH
CIS 551 WAP Advanced software engineering topics, including software project management, software reuse, and software evolution. Prerequisite: CIS 547.

CIS 552  SOFTWARE ENGINEERING  33000  VOC/TECH
CIS 552 WAP Advanced software engineering topics, including software project management, software reuse, and software evolution. Prerequisite: CIS 547.

CIS 553  SOFTWARE ENGINEERING  33000  VOC/TECH
CIS 553 WAP Advanced software engineering topics, including software project management, software reuse, and software evolution. Prerequisite: CIS 547.

CIS 554  SOFTWARE ENGINEERING  33000  VOC/TECH
CIS 554 WAP Advanced software engineering topics, including software project management, software reuse, and software evolution. Prerequisite: CIS 547.

CIS 555  SOFTWARE ENGINEERING  33000  VOC/TECH
CIS 555 WAP Advanced software engineering topics, including software project management, software reuse, and software evolution. Prerequisite: CIS 547.

CIS 556  SOFTWARE ENGINEERING  33000  VOC/TECH
CIS 556 WAP Advanced software engineering topics, including software project management, software reuse, and software evolution. Prerequisite: CIS 547.

CIS 557  SOFTWARE ENGINEERING  33000  VOC/TECH
CIS 557 WAP Advanced software engineering topics, including software project management, software reuse, and software evolution. Prerequisite: CIS 547.

CIS 558  SOFTWARE ENGINEERING  33000  VOC/TECH
CIS 558 WAP Advanced software engineering topics, including software project management, software reuse, and software evolution. Prerequisite: CIS 547.

CIS 559  SOFTWARE ENGINEERING  33000  VOC/TECH
CIS 559 WAP Advanced software engineering topics, including software project management, software reuse, and software evolution. Prerequisite: CIS 547.

CIS 560  SOFTWARE ENGINEERING  33000  VOC/TECH
CIS 560 WAP Advanced software engineering topics, including software project management, software reuse, and software evolution. Prerequisite: CIS 547.

CIS 561  SOFTWARE ENGINEERING  33000  VOC/TECH
CIS 561 WAP Advanced software engineering topics, including software project management, software reuse, and software evolution. Prerequisite: CIS 547.

CIS 562  SOFTWARE ENGINEERING  33000  VOC/TECH
CIS 562 WAP Advanced software engineering topics, including software project management, software reuse, and software evolution. Prerequisite: CIS 547.

CIS 563  SOFTWARE ENGINEERING  33000  VOC/TECH
CIS 563 WAP Advanced software engineering topics, including software project management, software reuse, and software evolution. Prerequisite: CIS 547.
COURSE DESCRIPTIONS

CRJ 222  
**CORRECTIONAL TREATMENT METHODS**  
3 3 0 0 0  
OPEN  
Institutional options for preventing recidivism. Introduction to therapeutic techniques. Comparison of punishment, Freudian treatments and behavior modification systems. Student presentation required.

CRJ 229  
**PENEOLOGY**  
3 3 0 0 0  
OPEN  
The social organization and goals of correctional programs. Principles of institutional corrections and the social structure within institutions. Examination of noninstitutional alternatives including probation and parole.

CRJ 248  
**SCIENTIFIC INVESTIGATION**  
3 3 0 0 0  
OPEN  
An introduction to investigative techniques that stresses the identification and examination of physical evidence from the time of its discovery until a final disposition by the courts.

CRJ 276  
**COMPUTER FORENSICS II**  
3 2 2 0 0  
OPEN  
This course is a continuation of study relating to computer forensics and data recovery topics. Topics discussed in this course include the investigation and analysis of password-protected/encrypted data, slack space, swap files and portable data storage/communication devices including PDAs and mobile phones. Software and hardware tools are widely used through various case-studies and exercises to reinforce discussion topics. Prerequisite: CRJ 176.

CRJ 277  
**ADVANCED DIGITAL FORENSIC METHODS**  
4 2 4 0 0  
OPEN  
This course provides a forum for discussion and experimentation with contemporary topics relating to digital/computer forensics. Topics include evidence analysis specific to networked environments and non-conventional data devices, low-level data recovery procedures, advanced cryptography and steganography, “live” analysis and recovery of server-oriented storage technologies. Software and hardware tools are widely used through various case-studies and exercises to reinforce discussion topics. Prerequisite: CRJ 276.

CRJ 552  
**INTERNSHIP**  
3 0 0 0 1 2  
OPEN  
Involves 150 hours of active internship for students in an agency other than one in that they may be employed. Synthesis paper required. (F,Y) Prerequisite: Criminal History Background Check to determine eligibility.

CRR 101  
**SHEET METAL WELDING**  
2 0 4 0 0  
VOC/TECH  
Basic skills will be developed in oxygen-acetylene fusion welding and flame cutting. Gas metal arc (MIG) welding equipment and basic understanding of procedures related to auto collision area. Safely is emphasized.

CRR 150  
**BASIC SHOP SAFETY**  
1 1 0 0 0  
VOC/TECH  
A course designed to acquaint the student with the hazards in an auto collision facility. Emphasis on EPA regulations, OSHA guidelines and personal health and safety in the shop area.

CRR 202  
**PLASTIC REPAIR**  
3 2 2 0 0  
VOC/TECH  
The wide variety of solid plastics, flexible panels, plastic compounds and reinforced plastic panels now used in automobile manufacturing require separate repair procedures. Repair, replacement and refinishing of the substrates will be studied in classroom and the lab. Prerequisite: CRR 481.

CRR 325  
**SHEET METAL FUNDAMENTALS**  
5 2 6 0 0  
VOC/TECH  
Automobile design, the materials used in construction, collision, corrective forces, procedures for repair and services are analyzed through class and lab study. Prerequisite: CRR 101 must be taken concurrently or prior to this course.

CRR 502  
**FRAME DAMAGE ANALYSIS**  
2 1 2 0 0  
VOC/TECH  
This course builds upon the knowledge and skill in previous auto collision courses to prepare the student to diagnose and repair conventional frame and unibody structural components. The theory and operating principles of unibody structural components will be emphasized. Lab instruction on late model vehicles will be included. Prerequisite: CRR 502, 101.

CRR 565  
**ADVANCED COLLISION REPAIR**  
5 1 8 0 0  
VOC/TECH  
This course covers the application techniques and equipment used in auto collision repair shops for refining and dealing with potential problems with chemicals. Sheet metal and plastic parts repair and replacement in preparation for painting will also be studied in the lab. Shop and personal safety will be emphasized. Prerequisite: CRR 481.

CSC 110  
**INTRO TO COMPUTERS**  
3 2 2 0 0  
OPEN  
Introduces the basic concepts of computers and the effect computers are having and will continue to have in the future. Incorporates theory as well as hands-on practice. Includes an introduction to Windows, Word, Excel, Access and the internet.

CRI 255  
**DENTAL SCIENCE I**  
4 4 0 0 0  
VOC/TECH  
Introduction to the various sciences necessary for the dental assistant. Microbiology and oral pathology are covered. Prerequisite: CRI 256 must be taken concurrently or prior to this course.

CRI 256  
**DENTAL ANATOMY**  
2 2 0 0 0  
VOC/TECH  
The study of head, neck and dental anatomy is combined to give the student background information for application in dental assisting courses.

CRI 263  
**DENTAL SCIENCE II**  
2 2 0 0 0  
VOC/TECH  
A continuation of Dental Science I. Emphasis on effects of drugs and emergency procedures. Prerequisite: CPR certification, CRI 255, 256.

CPI 297  
**ETHICS/JURISPRUDENCE SEMINAR**  
1 1 0 0 0  
VOC/TECH  
Continuation of CRI 599. Also includes the study of ethics and legal responsibilities of the dental profession as well as the functions and jurisprudence of the auxiliary personnel. Prerequisite: Second semester standing in Dental Assisting program (Corequisite: CRI 557).

CRI 297  
**DENTAL RADIOGRAPHY II**  
2 1 2 0 0  
VOC/TECH  
A continuation of Dental Radiography I. Weekly seminars for basic interpretation of radiographs and laboratory experience to develop student competence in making oral radiographic surveys. Prerequisite: CRI 255, 256, 507, DHY 161.

CRI 424  
**DENTAL MATERIALS LAB**  
1 0 2 0 0  
VOC/TECH  
Through laboratory experience, the student learns techniques in preparation and utilization of dental materials. Prerequisite: CRI 256.

CRI 507  
**PRINCIPALS OF DENTAL ASSISTING**  
6 4 4 0 0  
VOC/TECH  
Basic concepts of chairside assisting are covered with emphasis on the role of the team in delivery systems. Terminology, instruments, equipment and basic procedures are covered. Prerequisite: CRI 255, 256, 424. DHY 221 must be taken concurrently or prior to this course.

CDE 276  
**DENTAL ASSISTING CLINIC I**  
3 0 0 0 1 2  
VOC/TECH  
Application of knowledge and skills as students rotate through dental offices, clinics and hospital clinics. General and specialty practices are included in rotations. Prerequisite: Current CPR Certification, CDE 251, 256, 507, 424, DHY 221, 161; Corequisite: CDE 516.

CDE 377  
**DENTAL ASSISTING CLINIC II**  
4 0 0 0 1 6  
VOC/TECH  
Continuation of CDE 376. Corequisite: CDE 297.

CDE 591  
**DENTAL ASSISTING SEMINAR**  
1 1 0 0 0  
VOC/TECH  
Discussion and Problem solving from clinical practice. Provides an awareness of types of office situations and discussion of clinical aspects of dental assisting and dentistry. Oral reports and weekly evaluations are required. Prerequisite: CDE 255, 256, 507, 424. DHY 221, 161; Corequisite: CDE 516.

CDE 605  
**CLINICAL DENTAL ASSISTING**  
5 3 4 0 0  
VOC/TECH  
A continuation of Preclinical Dental Assisting (CDE 507) with emphasis on operative dentistry, dental specialties and advanced functions. The laboratory phase develops students’ competencies in clinical assisting. Prerequisite: CDE 255, 256, 507, 424. DHY 221, 161.

CDE 702  
**DENTAL OFFICE PROCEDURES**  
2 2 0 0 0  
VOC/TECH  
Covers the business aspects of the dental office: patient relations, appointment book management, financial records, telephone communications, credits and collections, dental insurance, tax records, supply and inventory systems. Prerequisite: 35 WPM keyboard skills and computer literacy.

DHY 114  
**DENTAL ANATOMICAL SCIENCE**  
4 4 0 0 0  
OPEN  
Programmed dental anatomy supplemented by lectures, quizzes and discussions on the development, morphology and functions of teeth. Anatomy and physiology of the head and neck including mastication. Prerequisite: BIO 164.

DHY 121  
**ORAL HISTOLOGY & EMBRYOLOGY**  
2 2 0 0 0  
OPEN  
General and oral histology beginning with a consideration of cytology that is followed by a study of the fundamentals of oral embryology and the normal microscopic anatomy of oral tissues. Prerequisite: BIO 164.

DHY 153  
**PHARMACOLOGY**  
3 3 0 0 0  
OPEN  
The study of drugs and their action on living tissue including their use as an aid in the diagnosis, treatment and prevention of disease or to control or improve any physiological or pathological condition. Prerequisite: CHM 112, DHY 110, 111, 102.

DHY 141  
**GENERAL & ORAL PATHOLOGY**  
3 3 0 0 0  
OPEN  
Basic concepts of disease process and the oral manifestations of inflammation, degenerative changes, neoplasms and developmental anomalies of the oral cavity. Prerequisite: BIO 164, DHY 121, 114.

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course descriptions

DHY 161 32 200 ORAL RADIOLOGY
 Lecture includes radiation physics; biological effects; radiation safety and protection; properties of x-ray film and techniques of exposing; processing, mounting and evaluating film. Laboratory experiences develop competence in exposing, processing, mounting and evaluating radiographs. Corequisite: DEA 256 and DEA 507 or DHY 114

DHY 164 21 200 ORAL RADIOLOGY II
 A continuation of Dental Radiography I. Weekly seminars for basic interpretation of radiographs and laboratory experience to develop student competence in taking oral radiographic surveys. Prerequisite: DHY 161, Corequisite: DHY 162

DHY 170 22 200 PRINCIPLES OF DENTAL HYGIENE
 Basic principles of medical dental hygiene are introduced. The etiology of deposits and their effect on oral tissue and the theory and techniques of instrumentation in removal of deposits are emphasized in the practical portion. Prerequisite: BIO 154, CHM 122; Corequisite: DHY 171

DHY 171 30 600 PRINCIPLES OF DENTAL HYGI PRAC
 See DHY 170. Prerequisite: BIO 154; CHM 122; Corequisite: DHY 170

DHY 181 22 200 DENTAL HYGIENE I
 A continuation of instrumentation techniques. Emphasis is placed on patient assessment and principles of patient education in chairside instruction. Topics include polishing techniques, topical application of fluoride and supplementary procedure. Prerequisite: DHY 170, 171; Corequisite: DHY 182

DHY 182 40 800 CLINICAL DENTAL HYGIENE I
 See DHY 181. Prerequisite: DHY 170,171; Corequisite: DHY 181, 184

DHY 211 22 000 PERIODONTOLOGY
 The clinical characteristics, histopathology, etiology and treatment of periodontal diseases are presented. Special emphasis is placed on the role of the dental hygienist in the prevention and management of periodontal diseases. Prerequisites: DHY 121, 181, 182; Corequisite: DHY 222

DHY 222 22 000 DENTAL MATERIALS
 A study of materials utilized in the practice of dentistry. Properties of dental materials and ADA requirements are presented. Corequisite: DEA 256 and DEA 424 or DHY 114 and DHY 223 must be taken concurrently or prior to this course

DHY 223 10 200 DENTAL MATERIALS LAB
 Through laboratory experience the student learns techniques in preparation and utilization of dental materials. Corequisite: DHY 221

DHY 232 40 000 NUTRITION/PREVENTIVE DENTISTRY
 Lecture-discussion course relating the nutrients and their effects on general and oral health throughout the life cycle. An introduction to the principles of counseling and instruction in preventive dentistry necessary to maintain optimum oral health. Prerequisite: BIO 154, CHM 122

DHY 234 11 000 NUTRITION/DENTAL COUNSELING
 A combined teaching, learning and practice course emphasizing the identification and analysis of diet as it relates to dental health. Students will evaluate caries and periodontal disease risk levels and perform counseling and instruction in elements of nutrition as they relate to the prevention of dental disease. Prerequisite: BIO 164, CHM 152, HCM 236

DHY 253 32 200 COMMUNITY ORAL HEALTH
 The course relates the concepts of dental public health and preventive dentistry including principles of biostatistics, epidemiology, dental manpower and delivery systems. Students plan, implement and evaluate a community dental health project. Prerequisite: DHY 261

DHY 261 32 200 DENTAL HEALTH EDUCATION
 An introduction to the principles of instruction in health care. The course will include developing, presenting and evaluating dental health education programs for public schools and community groups. Prerequisite: DHY 170, 171

DHY 281 22 000 DENTAL HYGIENE II
 A continuation of clinical practices. Further instruction and application in techniques for a complete oral prophylaxis and Phase I therapy. Topics include smoking cessation, intraoral photography, sonic scaling and air polishing. Prerequisite: DHY 181, 182; Corequisite: DHY 282

DHY 282 20 000 CLINICAL DENTAL HYGIENE II
 See DHY 281. Prerequisite: DHY 181, 182; Corequisite: DHY 281

DHY 291 22 200 DENTAL HYGIENE III
 A continuation of clinical practices. Topics include dental hygiene care for individuals with special needs, care planning, third-party payment applications, substance abuse and dependent adult abuse. Prerequisite: DHY 281, 282. Corequisite: DHY 292

DHY 292 5 000 05 00 CLINICAL DENTAL HYGIENE III
 See DHY 291. Prerequisite: DHY 281, 282; Corequisite: DHY 291

DHY 301 22 000 DENTAL HYGIENE IV
 A continuation of clinical practices. Legal, ethical and management aspects of the dental care system are considered. Career alternatives and job-seeking skills are demonstrated. Prerequisite: DHY 292, 291; Corequisite: DHY 302

DHY 302 5 000 05 00 CLINICAL DENTAL HYGIENE IV
 See DHY 301. Prerequisite: DHY 292, 291; Corequisite: DHY 301

DRA 101 33 000 INTRODUCTION TO THEATER
 A survey of the elements and techniques of theatre with an emphasis on acting, directing and playwriting. Attendance at dramatic production encouraged.

DRA 130 33 000 ACTING I
 GENERAL
 Training of the body, voice and mind as acting instruments. Course includes acting exercises, scene analysis and performance.

DRA 147 33 000 CREATIVE DRAMA/SCHOOL/REC
 Elements of improvisational acting. Students will learn approaches for participating in as well as leading creative drama activities.

DRA 945 20 400 PRACTICUM I
 Practical experience in acting, directing and stage design. Students will be involved in all stages of production, from auditions to final performance. May be repeated for up to eight semester hours of credit.

DRA 946 3 060 00 PRACTICUM II
 See DRA 945

DRA 948 4 000 00 PRACTICUM III
 See DRA 945

DSL 145 5 180 BASIC ELECTRICITY
 VOC/TECH
 An introduction to basic electricity and electronic principles that apply to diesel-powered equipment. Systems and components covered include starting, charging, lighting and accessories.

DSL 155 4 160 ADVANCED ELECTRICITY
 VOC/TECH
 The electrical circuitry on diesel powered equipment is covered. Included are troubleshooting, diagnosing and repair procedures. Experienced individuals may contact the instructor to gain admittance to this course. Prerequisite: DSL 145

DSL 356 6 110 00 DIESEL ENGINES I
 VOC/TECH
 Instruction provided in the technical and non-technical aspects of diesel engines. This information will give the students the basic understanding needed to continue in the Diesel Mechanic program.

DSL 366 6 110 00 DIESEL ENGINES II
 VOC/TECH
 Instruction in diagnosing problems and the nature of repairs needed. Information on preventative measures to eliminate failures. Prerequisite: DSL 356

DSL 407 6 110 00 DIESEL FUEL SYSTEMS
 VOC/TECH
 The student will be introduced to basic fuel system principles and operational theory of some commonly used systems as well as general repair and diagnostic procedures. Prerequisite: DSL 366

DSL 409 5 260 00 DIESEL ELECTRONICS
 VOC/TECH
 A study of electronic fundamentals, lab work with electronic components and testing equipment. Diesel engines that are computer-controlled are used in lab to demonstrate applications of electronics on diesel power that meet the demands of the future. Experienced individuals may contact the instructor to gain admittance to this course. Prerequisite: DSL 145

DSL 346 6 200 00 POWER TRAINS I
 VOC/TECH
 Class and lab activities in the design and operation of drive-train components including clutches, manual transmissions, drive lines, rear axles and wheel bearings.

DSL 505 5 180 POWER TRAINS II
 VOC/TECH
 Instruction will include the basics of automatic transmissions, power shift transmissions, final drives and hydrostatic drives. Prerequisite: DSL 546, 605

DSL 605 5 180 HYDRAULICS AND BRAKES
 VOC/TECH
 The study of basic mobile hydraulics. Introduces principles, components, fluid systems and circuits of hydraulic systems. Vehicle braking includes study of hydraulic and air brake systems.

DSL 733 3 140 00 AIR CONDITIONING
 VOC/TECH
 A course on basic air conditioning theory and design. Emphasis will be placed on various system controls and on service operations.

DSL 850 5 180 OPERATION & MAINTENANCE
 VOC/TECH
 Instruction in the proper methods of maintaining all equipment. Safety will be emphasized.

DSL 845 5 180 HEAVY EQUIPMENT REPAIR
 VOC/TECH
 Instruction in the repair and service of equipment relating to the heavy equipment industry. This includes all phases normally done in a general repair shop. Instruction is given under structured lab and field conditions. Experienced individuals may contact the instructor to gain admittance to this course. Prerequisite: DSL 366, 546, 605, 145

DSL 855 5 180 TRUCK REPAIR
 VOC/TECH
 Instruction in the repair and service of equipment relating to the trucking industry. This includes all phases normally done in a general repair shop. Instruction is given under structured lab and field conditions. Experienced individuals may contact the instructor to gain admittance to this course. Prerequisite: DSL 366, 546, 605, 145

DMT 350 11 000 HEALTH FIELD
 VOC/TECH
 Roles of dietary personnel in health facilities and state and federal guidelines. Explore managerial aspects within facilities.

DMT 351 10 200 FOOD PREPARATION
 VOC/TECH
 Basic principles and development of techniques as they apply to preparation of each food group and the criterion for evaluating product quality. Laboratory experience.

DMT 352 2 200 00 SANITATION/MEAL SERVICE
 VOC/TECH
 Methods of efficiently serving safe, pleasing food. An awareness of sanitation will be created for all areas of food service.

DMT 353 11 000 NUTRITION LIFE CYCLE
 VOC/TECH
 An in-depth study (social, physiological and psychological need) of residents from infancy to geriatric. Explore the approaches for participating in as well as leading creative drama activities.

DMT 354 11 000 MODIFIED DIETS
 VOC/TECH
 An assessment of special diets, using the approved diet manual, a review of food guidelines and hints for making modified diets more appetizing.

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DTM 355 11000  VCC/TECH  
FOOD PRODUCTION MANAGEMENT  
Total production needs, equipment layout, work methods, food storage, food preparation, service, sanitation and use of computers in food service.

DTM 356 22000  VCC/TECH  
FOOD SERVICE MANAGEMENT  
The management functions required to organize and maintain an efficient, quality, dietary department are developed.

DTM 361 10004  VCC/TECH  
FOOD PREP FIELD EXPERIENCE  
Application and evaluation of food preparation in a health care facility. Practical experience in a selected health care facility supervised by a registered dietitian.

DTM 362 10004  VCC/TECH  
SANITATION/MEAL SRV FIELD EXP  
Application and evaluation of sanitation and meal service in health care facilities. Practical experience in a selected health care facility supervised by a registered dietitian.

DTM 363 10004  VCC/TECH  
NUTRITION LIFE CYCLE EXP  
Application and evaluation of nutritional aspects in health care facilities. Practical experience in a selected health care facility supervised by a registered dietitian.

DTM 364 10004  VCC/TECH  
MODIFIED DIET/FIELD EXPERIENCE  
Application and evaluation of modified diets in health care facilities. Practical experience in a selected health care facility supervised by a registered dietitian.

DTM 365 10004  VCC/TECH  
FOOD PRODUCTION FIELD EXP  
Application and evaluation of food production in health care facilities. Practical experience in a selected health care facility supervised by a registered dietitian.

DTM 366 10004  VCC/TECH  
FOOD SERVICE MGMT FIELD EXP  
Application and evaluation of food service management in health care facilities. Practical experience in a selected health care facility supervised by a registered dietitian.

ECE 130 11000  VCC/TECH  
EMERGENCY CARE  
Cardio-pulmonary resuscitation according to Iowa Heart Guidelines. Childhood diseases, immunization laws and environmental safety for children are discussed. Designed for day care personnel. Certification for first aid and CPR are awarded upon successful completion. Course may be repeated for a maximum of 3 credits.

ECE 131 33000  VCC/TECH  
CHILD HEALTH, SAFETY & NUTRITION  
Provision of a safe and healthy environment for young children in a group setting. Specifically covered are nutrition analysis, menu planning, indoor and outdoor safety principles and assessments, health assessments and policies and the care of children with chronic health problems.

ECE 147 11000  VCC/TECH  
ASSESS PLAN-YOUNG CHILDREN  
Course presents students with individually and developmentally appropriate assessment and planning skills for the care and early education of children in a variety of include settings. Curriculum planning approached through the use of emergent curriculum concepts, thematic approaches, webbing, curriculum strands, individual education plans and individual family service plans.

ECE 148 22000  VCC/TECH  
GP EXP FOR EC PROGRAMS  
Topics include assessment, planning and presentation of individually and developmentally appropriate small and large group activities for an inclusive program for preschool-age children. Areas of focus include language, music, movement and literature.

ECE 149 33000  VCC/TECH  
CURRICULUM-PRESCHOOL CHILDREN  
Planning of developmentally and individually appropriate activities for children 3 through 5 years of age. Planning of activities to enhance development in the curricular areas of art, sensory, dramatic play, science, math, literacy, motor and cognitive skills.

ECE 173 33000  VCC/TECH  
EARLY CHILDHOOD DEVELOPMENT  
Course covers typical and atypical development of children from birth through eight years of age in the areas of physical/motor, language/cognitive and social/emotional growth. Emphasis is placed on the effects of interactions between child, family and society within a variety of cultural contexts.

ECE 180 11000  VCC/TECH  
INTRO TO EARLY CHILDHOOD ED  
Course prepares students for employment in the field of early childhood education. State of Iowa child care center licensing/day care home registration requirements are reviewed. Basic job skills are discussed. Training requirements for universal precautions/infectious disease control and mandatory reporting of child abuse are met.

ECE 221 22000  VCC/TECH  
PROFESSIONAL RELATIONSHIPS  
Course designed to give students an overview of expected professional behaviors and responsibilities as a member of an early childhood team. Focus on relationships with parents, communication skills with parents and co-workers, job-seeking skills, job performance, professional associations and educational opportunities.

ECE 241 22000  VCC/TECH  
EARLY CHILDHOOD GUIDANCE  
Course covers various philosophies of and techniques for the application of development and individually appropriate guidance for typically and atypically developing young children.

ECE 265 30090  VCC/TECH  
STUDENT PARTICIPATION I  
Participation with children in the child care center on the Ankeny campus under the supervision of a mentor as well as a lead teacher. Students have limited responsibilities for curriculum planning. Daily student-teacher conferences are held. Conquisite: ECE 101, 144, 149 and 242, or instructor permission.

ECE 266 30090  VCC/TECH  
STUDENT PARTICIPATION II  
A continuation of Student Participation I in which students assume full responsibility for teaching in the child care center on the Ankeny campus under the supervision of a mentor as well as a lead teacher. Prerequisite: ECE 265 (minimum grade of “C”); Conquisite: ECE 147 or instructor permission.

ECE 267 30090  VCC/TECH  
EARLY CHILDHOOD ED ASSOC PRAC  
Placement for the associate degree student in a community-based program for typically and atypically developing young children in an inclusive setting. Emphasis is on the development of competencies necessary for employment and to develop competencies in the area of program administration. Prerequisite: cumulative GPA of 2.0 in all early childhood courses, enrollment in or completion of ECE 290. Conquisite: ECE 261.

ECE 281 20000  VCC/TECH  
PRACTICUM  
Placement in a community-based program for typically or atypically developing young children in an inclusive setting. Placement is for the associate degree student in a community-based program for typically and atypically developing young children in an inclusive setting. Prerequisite: Completion of 10 credits in Early Childhood Education with a 2.0 GPA or permission of instructor.

ECE 290 31000  VCC/TECH  
EARLY CHILDHOOD PROGRAM ADMIN  
Course covers basic principles involved in setting up and administering an early childhood program. Emphasis placed on funding, bookkeeping, business procedures, insurance, enrollment and record keeping. Designed for second-year students and persons interested in becoming a center director.

ENG 120 31000  CORE  
PRINCIPLES OF MACROECONOMICS  
This course is an introduction to basic macroeconomic concepts and principles. It deals with problems of resource allocation, supply and demand, national income, employment, price levels, fiscal and monetary policy, money and banking systems and elements of global finance. ENG 120 is not a prerequisite for ECE 190.

ENG 130 31000  CORE  
PRINCIPLES OF MICROECONOMICS  
Course covers survey of demand and supply conditions, cost structure, market structure and how these elements affect individual household, business firms, government and global trade. ENG 130 is not a prerequisite for ECE 190.

EDU 215 31000  VCC/TECH  
INTRO TO EDUCATION  
Introductory survey of field of education including foundations of American education, roles of teachers and students, history and philosophy and curriculum. Students will complete a 40-hour practicum at the elementary, middle or high school level. Recommended for students who plan to major in education.

EDU 270 20000  VCC/TECH  
INITIAL FIELD EXPERIENCE  
Provides opportunity to assist in the school as a teacher aide or to assess one’s potential and interest in teaching as a career. Prerequisite: EDU 215.

EDU 245 33000  VCC/TECH  
EXCEPTIONAL LEARNER  
A survey of exceptional learners in the classroom will be explored. History, philosophy, current issues, trends and mainstreaming will be discussed.

EGR 100 11000  VCC/TECH  
ENGINEERING ORIENTATION  
Introduction to the engineering disciplines and the engineering profession. Considerations in choosing an engineering curriculum. Information concerning college policies, procedures and resources. Opportunities to interact with engineering departments at a four-year institution.

EGR 150 22000  VCC/TECH  
ENGINEERING FORTRAN  
The FORTRAN language in batch and interactive modes with an emphasis on solutions to engineering problems. Prerequisite: MAT 150 must be taken concurrently with or prior to this course.

EGR 155 22000  VCC/TECH  
ENGINEERING C/C++  
Learn to solve engineering problems by computer using the C/C++ language. Emphasis is placed on program logic, organization and numerical methods. Prerequisite: MAT 150 must be taken concurrently with or prior to this course.

EGR 156 22000  VCC/TECH  
ENGINEERING COMPUTATIONS  
This course includes the organization, solution and presentation of engineering problems. Topics include S.I. units and selected engineering topics. Prerequisite: MAT 150 must be taken concurrently or prior to this course.

EGR 166 42400  VCC/TECH  
ENGINE GRAPHICS/CONCEPT DESIGN  
An introduction to conceptual design, engineering graphics and computer-aided design. This course includes orthographic projection applied to three-dimensional geometry and engineering drawing. Instrument and free hand application to an open-ended project that includes a formal engineering report. Prerequisite: MAT 150 must be taken concurrently with or prior to this course.

EGR 180 33000  VCC/TECH  
STATICS  
This course includes the vector and scalar analysis of coplanar and non-coplanar force systems, equilibrium concepts, friction, centroids, moments and products of inertia. Mohr’s circle, radius of gyration, internal forces, shear and bending moment diagram. Prerequisite: PHY 205; Conquisite: MAT 27 must be taken concurrently with or prior to this course.

ELE 141 32200  VCC/TECH  
ADVANCED MOTOR CONTROLS  
Additional topics in industrial motor controls. Course includes wiring of A.C. & D.C. motors, power distribution, solid-state controls, proximity controls and frequency drives. Prerequisite: ELE 303, 314.

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COURSE DESCRIPTIONS

ELT 093 CONCEPTS ELECTRONICS/COMPUTERS VOC/TECH
This course is designed for students who need additional practice and technical skills to succeed in electronics and computer networking programs. Skills that will be developed include learning how to approach problems and manipulating formulas to solve problems. College prepreatory courses cannot be used to fulfill degree requirements. Corequisite: ELT 108

ELT 106 BASIC MATH FOR ELECTRONICS VOC/TECH
Mathematics related to basic electronics. Includes basic algebra, right triangle trigonometry, scientific notation, with applications to DC and AC circuitry.

ELT 108 MATH - ELECTRONICS & COMPUTERS VOC/TECH
Introduction to mathematical skills needed by electronics/computer technicians.

ELT 119 PROGRAMMABLE LOGIC CONTROLLERS VOC/TECH
This course covers PLC operation and programming techniques to include relay logic, timers, counters, sequences, discrete I/O, analog I/O, networking, remote I/O, workstations, advanced programming techniques and interfacing with personal computers. Prerequisite: ELT 114

ELT 125 ADVANCED PLC VOC/TECH
This course is designed for the student who is already proficient with ladder logic and the loading programs into PLCs. The course will introduce the student to both hardware and software operator control panels, analog sensor interfacing, analog programming and exchange of data over networks. A hands-on lab component will give the student the opportunity to install, program and troubleshoot networked PLC hardware.

ELT 126 INDUSTRIAL ELECTRONICS VOC/TECH
The devices and circuits used in thyrister control of machines are presented. It includes phase control of DC motors, true control of AC motors as well as various speed control circuits. Prerequisite: ELT 114

ELT 134 MOTOR CONTROLS VOC/TECH
An introduction to industrial motor control. During this course, students will use ladder diagrams and control devices to implement practical control systems.

ELT 143 MECHANISMS VOC/TECH
This introductory course covers linear and angular displacement, velocities and accelerations of linkages, gear trains and belt and friction drives. Included topics are vectors, simple and complex machines and angular and intermittent motions mechanisms. Corequisite: ELT 144

ELT 144 MECHANISMS LAB VOC/TECH
The principles of drives and linkages discussed in ELT 143 are evaluated using precision components. Major principles evaluated are speed ratios, torque, power and efficiency. Lab projects are applications of principles of process control and robotics interfacing mechanical motion and energy requirements with programmable control concepts. Corequisite: ELT 143

ELT 158 NEC RESIDENTIAL VOC/TECH
The basic principles of the NEC for layout and construction for residential wiring systems. Apply code rules to house wiring installations. Discuss security systems, fire and smoke detectors, low-voltage and remote controls.

ELT 159 NEC RESIDENTIAL LAB VOC/TECH
Utilize the basic principles of the NEC for layout and residential electrical wiring systems. Apply code rules, using hands-on approach for residential electrical installations from simplistic to complicated circuit wiring.

ELT 172 MECHANICAL/INDUSTRIAL VOC/TECH
The basic principles of the NEC for layout and construction for commercial wiring and industrial wiring systems. Apply basics of wiring into the planning of typical commercial and industrial installations. Configure how load requirements are converted into branch circuits then into feeders and into main electrical services.

ELT 173 NEC COMMERCIAL/INDUSTRIAL LAB VOC/TECH
Utilize the basic principles of the NEC for layout of commercial and industrial wiring systems. Apply code rules, using hands-on approach for commercial and industrial electrical installations from simplistic to complicated wiring.

ELT 174 ELECTRICAL GROUNDING VOC/TECH
The understanding of grounding and eliminating the microsecondions when dealing with NEC requirements for installations.

ELT 181 ADV MATH FOR ELECTRONICS TECH VOC/TECH
This course is a continuation of concepts covered in MATH FOR ELECTRONICS & COMPUTERS. Topical emphasis includes applications involving trignometry of vectors and oblique triangles and logarithms.

ELT 209 MOTOR CONTROL VOC/TECH
Troubleshoot electro-mechanical motor controls and gain an understanding of ladder diagrams. Students should have a general knowledge of electricity to take this course.

ELT 307 DIGITAL CIRCUITS VOC/TECH
An analysis of those circuits that form basic building blocks for a digital system, including logical gates such as OR, NOR and NAND, storage registers and counters. Corequisite: ELT 308

ELT 308 DIGITAL CIRCUITS LAB VOC/TECH
Laboratory evaluation of small-scale integrated circuits and medium-scale integrated circuits. In addition to basic and/or gates, it includes decoders, encoders, counters and multiplexers. Corequisite: ELT 307

ELT 325 DIGITAL ELECTRONICS VOC/TECH
An analysis of these circuits that form basic building blocks for a digital system, to include logical gates, such as OR, NOR and NAND, storage registers, counters and microprocessors. Corequisite: ELT 326

ELT 326 DIGITAL ELECTRONICS LAB VOC/TECH
Laboratory evaluation of small-scale integrated circuits and medium-scale integrated circuits. In addition to basic and/or gates, it includes comparators, decoders, encoders, counters, multipliers and microprocessors. Corequisite: ELT 325

ELT 369 DC & AC FUNDAMENTALS VOC/TECH
An introductory course in DC and AC fundamentals. Subject matter includes Ohm’s law, series and parallel circuits and measuring instruments.

ELT 395 ELECTRIC CIRCUIT ANALYSIS I VOC/TECH
Basic experiments in DC and AC circuit analysis including familiarization with basic test instruments, series and parallel circuits (using resistors, capacitors, inductors, batteries and power supplies) and applications of electrical laws and theorems. Corequisite: ELT 396

ELT 396 ELECTRIC CIRCUIT ANALYSIS I LAB VOC/TECH
Basic experiments in DC and AC circuit analysis including familiarization with basic test instruments, series and parallel circuits (using resistors, capacitors, inductors, batteries and power supplies) and applications of electrical laws and theorems. Corequisite: ELT 395

ELT 398 ELECTRIC CIRCUIT ANALYSIS II VOC/TECH
Deals with principles and electrical properties of semiconductor diodes, transistors, integrated circuits and integrated circuit amplifiers complete with mathematical analysis of equivalent circuits and their evaluation. Prerequisite: ELT 395, 396; Corequisite: ELT 398

ELT 479 BASIC IMAGE DEVICES VOC/TECH
Experience in troubleshooting, service and repair of copiers, laser printers, fax machines, scanners and peripherals, monitors, cameras, LCD displays. Prerequisite: ELT 387, 388; Corequisite: ELT 479

ELT 483 SECURITY SYSTEMS LAB VOC/TECH
Installation, maintenance and troubleshooting of various security systems. Prerequisite: ELT 781, 782; Corequisite: ELT 482

ELT 484 MEDICAL ELECTRONICS VOC/TECH
This course trains the student in electrical safety testing and the repair, calibration and preventative maintenance of patient monitoring equipment such as ECG, blood pressure, defibrillators, ICU, CCU central station monitoring systems and the respiratory instrumentation. Included will be a self-paced study of medical terminology. Prerequisite: ELT 781, 782; Corequisite: ELT 485

ELT 485 MEDICAL ELECTRONICS SYSTEM LAB VOC/TECH
This course covers repair, calibration and preventative maintenance of critical care, diagnostic and life support equipment in a hands-on, lab environment. Prerequisite: ELT 781, 782; Corequisite: ELT 484

ELT 681 MICROPROCESSORS VOC/TECH
This course covers two major areas of microcomputers and microprocessors. The first is an investigation of the specific architecture of microprocessors and fundamental microcomputer hardware. The second area is software and studies specific assembly language instructions for common machines and program structures. Prerequisite: ELT 307, 308; Corequisite: ELT 682
ELT 617 ROBOTICS VOC/TECH
The course provides an introduction to robotic fundamentals. The student will examine parameters of robot operation and program robots for various applications.

ELT 625 INTRODUCTION TO EMS CELL VOC/TECH
This course introduces the student to all aspects of a flexible manufacturing cell. It will familiarize the student with cell software and hardware. It includes labs on all cell components. Prerequisite: ELT 114 or 119

ELT 631 ELECTRO-MECHANICAL SYSTEMS VOC/TECH
The basic theories, concepts and principles of electromechanical devices such as relays, contactors and DC/AC motors will be covered, as well as the basic principles of mechanical relationships including gears, pulleys, belt drivers, wheel and axle, inclined plane, screw, wedge and levers. Pneumatic devices such as compressors, motors, valves and actuators are covered. Also covered will be basic sensors. Prerequisite: ELT 307, 308; Corequisite: ELT 792

ELT 632 MICROPROCESSORS LAB VOC/TECH
Includes experiments that exercise microprocessor instruction sets and microcomputer central processing units, memory and I/O devices. ROUTINES and subroutines are written in assembly language, assembled, downloaded and tested. Students will participate in a minimum of four 2-hour job-shadowing experiences that may take place outside of regular class time. Prerequisite: ELT 307, 308; Corequisite: ELT 617

ELT 643 PROCESS CONTROL INSTR LAB VOC/TECH
A comprehensive study of process control fundamentals. The student will examine parameters of the A Plus exam. A detailed study and hands-on lab of integral and derivative control. Prerequisite: ELT 611, 612; Corequisite: ELT 643

ELT 644 PROCESS CONTROL INSTR LAB VOC/TECH
This lab includes experiments on transducers used in process control as well as experiments on proportional, integral and derivative control. Prerequisite: ELT 611, 612; Corequisite: ELT 643

ELT 652 COMPUTER REPAIR & NETWORKING VOC/TECH
This course is designed for the student who wishes to become proficient with computers and electronic circuitry. The course follows the recommendations of CompTIA on the subjects and materials to assist the student in learning about computer hardware and functions needed to pass the A Plus exam. A detailed study and hands-on lab component give the student the opportunity to install and troubleshoot computer and networking hardware. Prerequisite: ELT 307, 311

ELT 721 ROBOTICS VOC/TECH
Corequisite: ELT 617

ELT 725 INTRODUCTION TO EMS CELL VOC/TECH
Corequisite: ELT 617

ELT 727 ELECTRO-MECHANICAL SYSTEMS LAB VOC/TECH
Application of the basic theories, concepts and principles of electro-mechanical devices. Projects are applications of principles used in business machines, security systems and medical electronics systems including construction of various examples of compound machines using wheel and axle, gears, levers and belt drives. Projects using basic sensors, pneumatic valves, cylinders and actuators will be constructed. Students will participate in a minimum of four 2-hour job-shadowing experiences that may take place outside of regular class time. Prerequisite: ELT 797, 798; Corequisite: ELT 797

ELT 791 HYDRAULICS & PNEUMATICS 3 0 0 0 0
Levers, Pneumatic devices such as compressors, motors, of mechanical relationships including gears, pulleys, belt drivers. Projects using basic sensors, pneumatic valves, cylinders and actuators will be constructed. Students will participate in a minimum of four 2-hour job-shadowing experiences that may take place outside of regular class time. Prerequisite: ELT 797, 798; Corequisite: ELT 797

ELT 792 HYDRAULICS & PNEUMATICS LAB VOC/TECH
The basic principles of fluid power and the operation and application of fluid power components are introduced. Devices such as valves, linear and rotary actuators are evaluated in the laboratory. In addition, pneumatic position control servomechanisms are evaluated. Corequisite: ELT 792

ELT 817 SYSTEMS TROUBLESHOOTING 3 0 0 0 0
An advanced EMT program developed by the Iowa Dept. of Public Health, Bureau of EMS, covers techniques of emergency medical care within the scope of responsibilities of the Iowa EMT Intermediate. Prerequisite: Current certification by State of Iowa as EMT Basic, high school diploma or GED and evidence of successful completion of regular health care provider CPR

ELT 818 ELECTRONICS CAPSTONE PROJECT VOC/TECH
This course provides hands-on experience in a significant design project involving technological competence, open-ended Problem solving, teamwork and both written and oral communication skills. Prerequisite: Successful completion of requirements of first 2 items of the Electronics, Robotics & Automation Program or instructor permission

ELT 819 INTERNSHIP 5 0 0 0 0
A semi-structured experience in the student's chosen field working as an intern with a sponsoring organization. The student has the opportunity to network with professionals and employees in his/her field. The student will write a resumé suitable for employment applications. Prerequisite: Earn grades of “C” or higher in courses pertaining to the student’s chosen internship area. The courses pertaining to the internship areas are as follows: ELT 414, 473, 482; ELT 483 or 487; ELT 497 or 498 and ELT 485.

EM 105 LAW ENFORCEMENT EMERGENCY CARE VOC/TECH
Designed to help Iowa Law Enforcement personnel gain the knowledge, skills and attitudes necessary to be a competent, productive and valuable member of the Emergency Medical Services Teams.

EMT 102 FIRST RESPONDER 1 0 2 0 0
A 40-hour emergency care course that emphasizes life threatening emergencies, wounds, fractures, medical and environmental emergencies and other emergency situations as outlined by the U.S. Department of Transportation.

EMT 210 EMERGENCY MEDICAL TECH BASIC VOC/TECH
Prepares rescue personnel for the role and responsibilities of an EMT-B. Includes specific patient assessment and emergency treatment procedures. Students should be 18 years of age prior to course completion. State Health Department Certification Exam after successful course completion.

EMT 311 EMT INTERMEDIATE 85 VOC/TECH
An advanced EMT program developed by the Iowa Dept. of Public Health, Bureau of EMS, covers techniques of emergency medical care within the scope of responsibilities of the Iowa EMT Intermediate. Prerequisite: Current certification by State of Iowa as EMT Basic, high school diploma or GED and evidence of successful completion of regular health care provider CPR

EMT 420 EMT IOWA PARAMEDIC I VOC/TECH
An advanced care EMT I program developed by U.S. Department of Transportation and approved by the Iowa Department of Public Health. Course covers techniques and emergency medical care within the scope of responsibilities of the Iowa EMT Paramedic. Prerequisite: Successful completion of EMT 421 and current certification by State of Iowa as EMT Intermediate. High school diploma or GED. Evidence of successful completion of BLS Health Care Provider CPR

EMT 422 EMT IOWA PARAMEDIC II 7 5 4 0 0
Continuation of EMT Iowa Paramedic I with emphasis on respiratory emergencies, diabetic and allergic reactions, poisonings, environmental, OB/INF, neonatal and pediatric emergencies. Prerequisite: Successful completion of EMT 421 and current certification by State of Iowa as EMT Basic or EMT Intermediate. Current CPR Healthcare Provider course completion

EMT 423 EMT IOWA PARAMEDIC III 6 4 0 0 0
Clinical and field experience that emphasizes skills, knowledge and theory acquired in EMT 422 and EMT 431. Prerequisite: Successful completion of EMT 423 and current certification by State of Iowa as EMT Basic or EMT Intermediate. Current CPR Healthcare Provider course completion

EMT 639 EMT IOWA PARAMEDIC IV 6 0 0 0 0
Prepares students for college-level writing while reviewing sentence and paragraph patterns, mechanics and essay composition. Prerequisites: Satisfaction writing skills

ENG 101 THE WRITING STUDIO 1 1 0 0 0
This course is a supplemental course to ENG 105. Composition I. Online resources, evaluation of information, validity, collaborative learning groups, peer group tutoring, organizational skills, revision skills, sentence structure and the standard rules of punctuation will be covered. This course must be taken concurrently with ENG 105 and is intended for students with weak writing skills as identified by diagnostic testing.

ENG 105 COMPOSITION I 3 3 0 0 0
Corequisite: ELT 644

ENG 106 COMPOSITION II 3 3 0 0 0
Expository and persuasive writing developed through critical reading. The course explores structure, style, research and documentation. Prerequisite: ENG 105

ENG 114 CREATIVE WRITING 3 3 0 0 0
Designed to help students read and write effectively. Exploration of the relationship of audience to writer and material. Emphasis on developing concrete detail to support main ideas. Prerequisite: Satisfactory writing skills

ENG 115 INTRODUCTION TO WRITING 3 3 0 0 0
A study of technical/business communication with emphasis on writing in the workplace. Course material includes written and oral communication to a variety of audiences in different situations. There will be special focus on individual career goals. Prerequisite: ENG 105

ENG 121 CREATIVE WRITING 3 3 0 0 0
Designed to help students read and write effectively. Exploration of the relationship of audience to writer and material. Emphasis on developing concrete detail to support main ideas. Prerequisite: Satisfactory writing skills

ENG 129 INTRODUCTION TO WRITING 3 3 0 0 0
A study of technical/business communication with emphasis on writing in the workplace. Course material includes written and oral communication to a variety of audiences in different situations. There will be special focus on individual career goals. Prerequisite: ENG 105

ENG 225 CREATIVE WRITING: POETRY 3 3 0 0 0
A course devoted to the advanced study and writing of poetry, emphasizing the development of poetic techniques and an expanded understanding of contemporary poets and their work.

ENG 230 CREATIVE WRITING: FICTION 3 3 0 0 0
A course devoted to the advanced study and writing of fiction, emphasizing the development of narrative techniques and an expanded understanding of contemporary fiction writers and their work.

ENG 235 PLAYWRITING AND SCREENWRITING 3 3 0 0 0
A course devoted to the advanced study and writing of stage-worthy plays and/or marketable screen plays emphasizing appropriate techniques to each dramatic form and expanded understanding of contemporary practitioners.

ENV 115 ENVIRONMENTAL SCIENCE 3 3 0 0 0
Designed to help students read and write effectively. Exploration of the relationship of audience to writer and material. Emphasis on developing concrete detail to support main ideas. Prerequisite: Satisfactory writing skills

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**COURSE DESCRIPTIONS**

**ENV 115**  
ENVIRONMENTAL SCIENCE LAB 10 200  
CORE  
This lab supplements discussion in BIO 115. Lab includes measurement of soil nutrients and water pollutants. Selected field trips deal with soil conservation, wildlife management, wastewater treatment and other aspects of environmental conservation. Prerequisite: Enrollment in or prior completion of ENV 115 or equivalent

**ENV 160**  
RESTORING PLANT COMMUNITIES GENERAL 3 200  
Introduction to restoration of native plant communities in Iowa. Identification of common native prairie, savanna, forest and woodland communities, common plants and animals, Identification of invasive plants. Field techniques for restoration and maintenance of native plant communities. Supervised field work at actual restoration sites. Prerequisite: ENV 115, 116, 138 or instructor permission

**EFL 093**  
HIGH INTER ESL LISTENING/CONV COLLEGE PREPARATORY 3 220  
For intermediate level students to improve the accuracy of their pronunciation and to develop the listening and speaking skills needed to communicate in diverse settings. Classroom activities are supplemented by individualized listening and pronunciation exercises. College preparatory courses cannot be used to fulfill degree requirements.

**EFL 094**  
ADV ESL LISTEN/CONVERS SKILLS COLLEGE PREPARATORY 3 220  
For advanced students to develop fluency in English and to improve the listening and speaking skills needed to communicate in diverse settings. Classroom activities are supplemented by individualized listening and pronunciation exercises.

**EFL 095**  
COMMUNICATIVE GRAMMAR FOR ESL COLLEGE PREPARATORY 3 220  
This course provides non-native speakers of English with intensive practice in Advanced English grammar while promoting the development of communicative skills. Areas of instruction include tenses, passive voice, reported speech, conditions, etc. This course cannot be used to fulfill degree requirements. Prerequisite: Minimum scores on the TOEFL or Michigan Test

**EFL 096**  
READ ENGLISH AS A 2ND LANGUAGE COLLEGE PREPARATORY 3 220  
This course is designed for non-native speakers of English. Reading comprehension skills are developed through vocabulary work, guided reading activities and discussion. Reading material is intellectually stimulating but not beyond the student's level of comprehension. Cannot be used to fulfill degree requirements. Prerequisite: Minimum scores on the TOEFL or Michigan Test

**EFL 097**  
INTRO TO WRITING SKILLS-ESL COLLEGE PREPARATORY 3 300  
An introduction to the mechanics of word order and sentence patterns of English. Writing skills are designed to meet the needs of ESL students preparing to take Basic Writing.

**EFL 103**  
ADVANCED ACADEMIC ESL GRAMMAR 4 400  
GENERAL  
This is an advanced level Academic English grammar course for students whose first language is not English. This course emphasizes the usage of systematic functional grammar throughout the practice of studying complex grammatical structures as used in authentic academic settings integrated with writing skills. This course addresses the linguistic and instructional needs of non-native English-speaking students. It may be taken concurrently with carefully selected college courses. Prerequisite: 64 or above on ESL Compass Grammar Usage Test

**EFL 104**  
ADVANCED ACADEMIC ESL WRITING 3 300  
GENERAL  
This course develops academic writing skills for students whose first language is not English. The course emphasizes familiarizing students with writing academic essays in the traditional modes: observing, describing, informing, explaining process and/or classifying and explaining cause(s) and/or effect(s). This course addresses the linguistic and instructional needs of non-native English-speaking students. It focuses on sentence expansion and modification, the writing process and developing research skills. It may be taken concurrently with carefully selected college courses. Prerequisite: 84 or above on ESL Compass Grammar Usage Test

**FIN 101**  
PRINCIPLES OF BANKING 3 300  
OPEN  
This course surveys the banking functions. It provides a comprehensive introduction to the diversified services offered by the banking industry today.

**FIN 121**  
PERSONAL FINANCE 3 300  
OPEN  
This course emphasizes family financial planning including financial statements, budgeting, taxes, risk management and retirement.

**FIN 180**  
INTRODUCTION TO INVESTMENTS 3 300  
OPEN  
Provides basic information to familiarize students with various investments including securities, options, commodities, tax shelters and other investment alternatives. Topics include analyzing investment opportunities, review of risks and returns, averages and indexes and analyzing securities.

**FIN 214**  
STOCKS, BONDS AND INVESTMENTS 11 000  
OPEN  
This course explores personal investment in financial assets. Investing in stocks, bonds and mutual funds is the focus of investigation. Concepts, techniques and strategies related to realizing financial goals with these types of assets are considered.

**FIR 124**  
BUILDING CONSTRUCTION 3 300  
OPEN  
Study of building materials, components and design features with regard to their reactions under fire conditions. Course also includes interpretation of Life Safety Code and its application to proposed and existing structures. Prerequisite: FIR 230

**FIR 130**  
PRINCIPLES OF FIRE PREVENTION 3 300  
OPEN  
This course is a survey of the principles of fire prevention. Students will learn to interpret and apply complex fire prevention regulations. Course covers traditional regulatory aspects and functions associated with fire prevention, the fire code process, plan review, inspections and fire protection systems testing. The investigation process from the fire scene to the courtroom and state and federal agencies involved in fire investigation is also covered. Other topics are the importance of fire prevention records and recordkeeping, personnel and financial management. Prerequisite: FIR 230, 152, 220

**FIR 152**  
FIRE PROTECTION SYSTEMS 3 300  
OPEN  
This course concentrates on principles of response planning for incidents involving the manufacture, transportation, storage and use of hazardous materials with the objective of minimizing harm to people, property and the environment. Prerequisites: CHEM 122 and FIR 230

**FIR 200**  
OCCU S/F IN EMERGENCY SERVICES 3 300  
OPEN  
This is an introduction to the fire service as a career that seeks to define the career opportunities available. Prerequisites: 84 or above on ESL Compass Grammar Usage Test

**FIR 201**  
EMERGENCY SCENE MANAGEMENT 3 300  
OPEN  
Covers emergencies and incident command systems to maintain control in emergencies of fire suppression, mass casualty and hazardous materials. Information, logistics, power, finance and other areas are addressed in incident command system.

**FIR 220**  
PLANNING FOR FIRE PROTECTION 3 300  
OPEN  
This course is designed to help develop strategic plans for fire protection for an area, community, multiple building complex and single building. Through the use of data collection systems and other management tools, the student will be able to identify and analyze fire problems and develop alternative solutions.

**FIR 250**  
FIRE BEHAVIOR & INVESTIGATION 3 300  
OPEN  
Course covers the behavior of fire in confined structures and the methods used to determine point of origin, cause and travel of fire within a structure.

**FIR 252**  
PROPERTY INSURANCE-FRAUD INVEST 3 300  
OPEN  
Covers principles of property insurance and investigation of incendiary fires with an emphasis on the investigation insurance fraud fires.

**FIR 260**  
FIRE FIGHTER I CERTIFICATION 4 000  
OPEN  
This course is a survey of the basic principles of firefighting as they relate to fire fighter professional qualifications. Especially emphasized are the basic skills needed to become accredited as a Firefighter I based on the National Fire Protection Association Standard NFPA 1001. Certification requires successful completion of approximately 86 contact hours of Fire Fighter I training, a written exam, a practical (skills performance) exam and local documentation, all certified by a nationally recognized fire service accreditation agency.

**FIR 291**  
FIRE FIGHTER II CERTIFICATION 3 000 12  
OPEN  
This course is a survey of the basic principles of firefighting as they relate to fire fighter professional qualifications. Especially emphasized are the basic skills needed to become accredited as a Firefighter II based on the National Fire Protection Association Standard NFPA 1001. Certification requires successful completion of approximately 120 contact hours of Fire Fighter II training, a written exam, a practical (skills performance) exam and local documentation, all certified by a nationally recognized fire service accreditation agency.

**FLA 141**  
ELEMENTARY ARABIC I 4 400  
CORE  
This course is an introduction to learning the Arabic language with emphasis on acquiring basic skills in reading, writing and conversational communications. Thus, recognizing the Arabic alphabet will be strongly dealt with during the class as a basis for future Arabic classes.

**FLA 142**  
ELEMENTARY ARABIC II 4 400  
CORE  
Continues to acquire an elementary level of Arabic language skills of reading, writing, grammar and conversational communication. Reading and conversation will be emphasized. Prerequisite: FLA 141 or permission of instructor

**FLA 241**  
INTERMEDIATE ARABIC I 4 400  
CORE  
Continues to acquire a higher level of Arabic language skills of reading, writing, grammar and conversational communications. Writing, grammar and conversation will be emphasized. Prerequisite: FLA 142 or permission of instructor

**FLA 242**  
INTERMEDIATE ARABIC II 4 400  
CORE  
Continues to acquire a higher level of Arabic language skills of reading, writing, grammar and conversational communications. Writing, grammar and conversation will be emphasized within cultural context. Prerequisite: FLA 241 or permission of instructor

**FLC 141**  
ELEMENTARY CHINESE I 4 400  
CORE  
Development of the basic skills of understanding, speaking, reading and writing Chinese. Grammar analysis, classroom conversational practice and some exploration of the Chinese culture.

**FLC 142**  
ELEMENTARY CHINESE II 4 400  
CORE  
Continued practice of the four basic skills and grammar analysis. Introduction of short prose selections with conversational emphasis. Prerequisite: FLC 141 or instructor permission
COURSE DESCRIPTIONS

FLC 241  INTERMEDIATE CHINESE I  4 4 0 0 0  CORE
Review of essential grammatical constructions emphasizing major areas of difficulty for English speakers. Use of Chinese cultural and literary materials to develop conversational skills. Prerequisite: FLC 142 or instructor permission

FLC 242  INTERMEDIATE CHINESE II  4 4 0 0 0  CORE
Continued review of grammatical constructions using Chinese cultural materials. Reading, writing and conversation will be emphasized in the context of cultural issues and current events. Prerequisite: FLC 241 or instructor permission

FLF 151  ELEMENTARY FRENCH I  5 5 0 0 0  CORE
An introduction to the basic skills in understanding, speaking, reading and writing French. Grammar analysis, classroom conversational practice and some exploration of French culture.

FLF 152  ELEMENTARY FRENCH II  5 5 0 0 0  CORE
Continued practice of the four basic skills and grammar analysis. Introduction of short prose selections with conversational emphasis. Prerequisite: FLC 151 or instructor permission

FLF 241  INTERMEDIATE FRENCH I  4 4 0 0 0  CORE
Review of essential grammatical constructions emphasizing major areas of difficulty for English speakers. Use of cultural and literary materials to develop conversational skills. Prerequisite: FLC 152 or permission of instructor

FLF 242  INTERMEDIATE FRENCH II  4 4 0 0 0  CORE
Continued review of grammatical constructions using cultural materials. Reading, writing and conversation will be emphasized in the context of cultural issues and current events. Prerequisite: FLC 241 or permission of instructor

FLG 141  ELEMENTARY GERMAN I  4 4 0 0 0  CORE
Development of the basic skills of understanding, speaking, reading and writing German. Grammar analysis, classroom conversational practice and some exploration of the German culture.

FLG 142  ELEMENTARY GERMAN II  4 4 0 0 0  CORE
Continued practice of the four basic skills and grammar analysis. Introduction of short prose selections with conversational emphasis. Prerequisite: FLC 141 or instructor permission

FLG 241  INTERMEDIATE GERMAN I  4 4 0 0 0  CORE
Review of essential grammatical constructions emphasizing major areas of difficulty for English speakers. Use of German cultural and literary materials to develop conversational skills. Prerequisite: FLC 142 or instructor permission

FLG 242  INTERMEDIATE GERMAN II  4 4 0 0 0  CORE
Continued review of grammatical constructions using German cultural materials. Reading, writing and conversation will be emphasized in the context of cultural issues and current events. Prerequisite: FLC 241 or instructor permission

FLI 141  ELEMENTARY ITALIAN I  4 4 0 0 0  CORE
Development of the basic skills of understanding, speaking, reading and writing Italian. Grammar analysis, classroom conversational practice and some exploration of the Italian culture.

FLI 142  ELEMENTARY ITALIAN II  4 4 0 0 0  CORE
Continued practice of the four basic skills and grammar analysis. Introduction of short prose selections with conversational emphasis. Prerequisite: FLC 141 or instructor permission

FLI 241  INTERMEDIATE ITALIAN I  4 4 0 0 0  CORE
Review of essential grammatical constructions using Italian cultural materials. Reading, writing and conversation will be emphasized in the context of cultural issues and current events. Prerequisite: FLC 241 or instructor permission

FLI 242  INTERMEDIATE ITALIAN II  4 4 0 0 0  CORE
Continued review of grammatical constructions using Italian cultural materials. Reading, writing and conversation will be emphasized in the context of cultural issues and current events. Prerequisite: FLC 241 or instructor permission

FLJ 141  ELEMENTARY JAPANESE I  4 4 0 0 0  CORE
Development of the basic skills of understanding, speaking, reading and writing Japanese. Grammar analysis, classroom conversational practice and some exploration of the Japanese culture.

FLJ 142  ELEMENTARY JAPANESE II  4 4 0 0 0  CORE
Continued practice of the four basic skills and grammar analysis. Introduction of short prose selections with conversational emphasis. Prerequisite: FLC 141 or instructor permission

FLJ 241  INTERMEDIATE JAPANESE I  4 4 0 0 0  CORE
Review of essential grammatical constructions emphasizing major areas of difficulty for English speakers. Use of Japanese cultural and literary materials to develop conversational skills. Prerequisite: FLC 142 or instructor permission

FLJ 242  INTERMEDIATE JAPANESE II  4 4 0 0 0  CORE
Continued review of grammatical constructions using Japanese cultural materials. Reading, writing and conversation will be emphasized in the context of cultural issues and current events. Prerequisite: FLC 241 or instructor permission

FLS 151  ELEMENTARY SPANISH I  5 5 0 0 0  CORE
This course addresses the skills of listening, speaking, reading, and writing. The language is based on themes of everyday life. Speech will be modeled by instructors who will monitor and correct for pronunciation and accent. Students will be asked to engage in simple conversations on a controlled basis using the themes presented in the curriculum. Much class time is spent practicing speech. Students will also be expected to use software available with texts to hone listening and speaking skills.

FLS 152  ELEMENTARY SPANISH II  5 5 0 0 0  CORE
Emphasis is on the understanding and production of oral and written Spanish presented in culturally appropriate settings. The language learned is based on themes of everyday life. Students will be asked to engage in more complex conversations using the themes presented in the curriculum. Speech will be monitored for pronunciation and accent and much class time is devoted to practicing speech. Students will also be expected to use the software accompanying the text to hone listening and speaking skills. Prerequisite: FLS 151 or instructor permission

FLS 181  SPANISH FOR HERITAGE SPKRS I  4 4 0 0 0  CORE
This course is designed to address the needs of Hispanic/ Latino students who can communicate in Spanish but need to develop their reading, writing and speaking skills in a more accelerated environment than a traditional Spanish course. It will provide students the grammatical tools they need to write effectively with respect to register of language. Students become more familiar with accentuation rules and develop improved spelling skills through grammar drills and directed composition. Prerequisite: Instructor permission

FLS 241  INTERMEDIATE SPANISH I  4 4 0 0 0  CORE
Review of essential grammatical constructions emphasizing major areas of difficulty for English speakers. Use of Hispanic cultural and literary materials to develop conversational skills. Prerequisite: FLS 151 or instructor permission

FLS 242  INTERMEDIATE SPANISH II  4 4 0 0 0  CORE
Continued review of grammatical constructions using Hispanic cultural materials. Reading, writing and conversation will be emphasized in the context of cultural issues and current events. Prerequisite: FLS 241 or instructor permission

FLS 281  SPANISH FOR HERITAGE SPKRS II  4 4 0 0 0  CORE
This course is the continuation of FLS 181 and is intended for students who can communicate in Spanish, but need to further develop reading, writing and speaking skills in a more accelerated environment than a traditional Spanish course. It provides further practice of writing and speaking with respect to language register. This course further develops the Spanish speaker’s skills in intermediate reading and writing through a series of more extensive readings, grammar drills and directed compositions and continues study of more formal Spanish. Prerequisite: FLS 181 or FLS 241 or permission of instructor

GED 111  INTRO TO GEOGRAPHY  3 3 0 0 0  CORE
This course utilizes the basic concepts of cultural geography (area, landscape, ecology, diffusion and integration) in a systematic examination of the contemporary world. The course is intended to provide an elementary acquaintance with the field of geography.

GED 124  REG GEOG OF THE NONWEST WORLD  3 3 0 0 0  CORE
This course systematically surveys the peoples, cultures, resources and problems of the cultural realms commonly designated as the Third World (Latin America, Black Africa, the Islamic World, India and China).

GEO 111  REG GEOG OF THE DEVELOPED WORLD  3 3 0 0 0  CORE
This course systematically surveys the peoples, cultures, resources and problems of the cultural realms commonly designated as the Developed World (Anglo-America, Europe, Russia, Japan and Australia).

GEO 125  REGIONAL GEOG OF THE DEV WORLD  3 3 0 0 0  CORE
This course systematically surveys the peoples, cultures, resources and problems of the cultural realms commonly designated as the Developed World (Anglo-America, Europe, Russia, Japan and Australia).

Gls 109  JAPAN: THE CHANGING TRADITION  2 2 0 0 0  GENERAL
Focuses on history and changing cultural traditions of Japan’s modern era and the brief period during which Japan has developed its own distinctive urbanized, industrialized and democratic society.

Gls 111  INTRO TO INTERNATIONAL STUDIES  3 3 0 0 0  GENERAL
This course provides an introduction to international issues and globalization from the perspective of different continents and countries. The course will cover basic historical, geographical, political, cultural, economic, health, human rights, gender and ethnic communities around the world.

GRD 301  INTRO TO DESKTOP PUBLISHING  3 1 4 0 0 0  VOC/TECH
This course introduces the student to the operating system of the Macintosh computer. Industry standard electronic layout program is used to introduce the student to the field of electronic desktop publishing. Prerequisite: ADM 105 or equivalent

GRD 401  GRAPHIC DESIGN ORIENTATION  3 3 0 0 0  VOC/TECH
A prerequisite for all commercial art courses. Commercial art terminology, tools and techniques are practiced.

GRD 405  COMMUNICATION DESIGN I  3 2 2 0 0 0  VOC/TECH
This course will create awareness of design use. Topics of lecture and lab study will include design fundamentals and the principles of design. Applications of design theories in design projects include basics of advertising design and corporate identity.

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COURSE DESCRIPTIONS

GRD 404  
**TYPOGRAPHY II**  3 2 2 0 0  V/O/C/T/ECH  
Use typography to visually communicate ideas combining images and symbols in a variety of formats. Apply typographic principles and rules learned in Typography I. Explore font choices, formatting and usage. Learn a variety of special creative type effects. Prerequisite: GRD 405

GRD 405  
**TYPOGRAPHY I**  3 2 2 0 0  V/O/C/T/ECH  
A study of the history of typography as it relates to advertising design. Includes emphasis on use of calligraphy and the use of typography in design.

GRD 407  
**PRODUCTION ART I**  3 2 2 0 0  V/O/C/T/ECH  
First of a two-part course that will enable the student to seek an entry-level position in production art. Problems and solutions in the preparation of camera ready art for printing are studied.

GRD 410  
**ILLUSTRATION I**  3 2 2 0 0  V/O/C/T/ECH  
Lab and lecture study of tools and skills necessary for entry-level visual communication in a graphic arts studio environment. Emphasis on line art, marker rendering, perspective concepts and basic drawing skills.

GRD 411  
**COMMUNICATION DESIGN II**  3 2 2 0 0  V/O/C/T/ECH  
Lab and lecture study will develop a solid base in use of appropriate technical and creative skills necessary in the field of graphic design. Emphasis on packaging design and editorial design. Prerequisite: GRD 405

GRD 414  
**ILLUSTRATION II**  3 2 2 0 0  V/O/C/T/ECH  
Lab and lecture study of tools and skills necessary to create color illustrations. Study includes a variety of surfaces and products, as well as the human figure. The illustrations will be conceived within the context of publication advertisements. Prerequisite: GRD 410

GRD 415  
**PRODUCTION ART II**  3 2 2 0 0  V/O/C/T/ECH  
This will add the student’s qualifications for taking Production Art I by emphasizing 2-color & advance camera-ready art for printing. Prerequisite: GRD 419

GRD 419  
**LETTERING AND SIGN ART**  2 0 4 0 0  V/O/C/T/ECH  
The study of traditional letter forms, typography, hand lettering skills and design principles for the production of posters, signs, logos and other graphic images.

GRD 421  
**INTERNSHIP PREPARATION**  2 2 0 0 0  V/O/C/T/ECH  
Plan an effective job-search strategy by developing necessary skills and materials such as a resume, cover letter and follow-up letter. Learn to emphasize skills and special knowledge gained in your present educational program. Develop professional interpersonal skills by participating in related class activities including interviews.

GRD 424  
**GRAPHIC DESIGN INTERNSHIP I**  3 1 0 0 8  V/O/C/T/ECH  
On-the-job training for Graphic Design students. Included is a weekly seminar for exchange of information, review and evaluation. Prerequisite: GRD 421

GRD 425  
**GRAPHIC DESIGN INTERNSHIP II**  3 1 0 0 8  V/O/C/T/ECH  
Second semester elective on-the-job training for graphic design students. Included is a weekly seminar for the exchange of advanced techniques and skills learned on the job. Prerequisite: GRD 424

GRD 426  
**COMMUNICATION DESIGN III**  3 2 2 0 0  V/O/C/T/ECH  
An advanced course using skills and understanding developed in Communication Design I and II. Application of design in advanced communication problems, with emphasis on image generation, integration of type and design, direct mail and outdoor advertising. Prerequisite: GRD 411

GRD 427  
**ILLUSTRATION III**  3 2 2 0 0  V/O/C/T/ECH  
Lab and lecture study of color theory and various media. Emphasis on creative solutions to specific communication projects. Prerequisite: GRD 414

GRD 428  
**COMMUNICATION DESIGN IV**  3 2 2 0 0  V/O/C/T/ECH  
Lab and lecture study of advanced design problems with emphasis on a Capstone Project. Prerequisite: GRD 426

GRD 430  
**PORTFOLIO PREPARATION I**  3 3 0 0 0  V/O/C/T/ECH  
Students seeking employment must have a well-prepared portfolio. A professional portfolio will be prepared by each student and reviewed by the Graphic Design advisory committee.  

GRD 437  
**COMMUNICATION DESIGN V**  3 2 2 0 0  V/O/C/T/ECH  
To complete the study of production art, emphasis will be on the preparation of portfolio projects. Prerequisite: GRD 430

GRD 444  
**PORTFOLIO PREPARATION II**  3 3 0 0 0  V/O/C/T/ECH  
Students will be required to conceptualize and produce portfolio quality projects. “Portfolio Day” is the highlight of completing this course. Students will be required to present a completed portfolio to graphic design professionals and prospective employers at the annual event. Prerequisite: GRD 445

GRD 449  
**AIRBRUSH I**  4 2 4 0 0  V/O/C/T/ECH  
The fundamental principles of airbrush techniques and application to advertising design and use of airbrush as an illustrative tool.

GRD 451  
**AIRBRUSH II**  4 2 4 0 0  V/O/C/T/ECH  
Advanced course in airbrush techniques as necessary for portfolio samples. Emphasis in utilization of advanced skills learned in Airbrush I. Prerequisite: GRD 449

GRD 459  
**COMPUTER GRAPHICS I**  3 2 2 0 0  V/O/C/T/ECH  
Use of Adobe Illustrator to produce electronic drawings in 2-D in full color. Includes study of typeface as a design and illustration element with all creative projects produced electronically.

GRD 462  
**COMPUTER GRAPHICS II**  3 1 4 0 0  V/O/C/T/ECH  
Students will learn the tools and workflow necessary to create a website from the initial visual design and user interface to going “live” on the web. Students will use industry-standard software to create web pages, optimize images and generate HTML and JavaScript. This course includes instruction and practice creating multimedia-rich animation and web pages with Macromedia Flash. Prerequisite: Permission of instructor

GRD 463  
**ELECTRONIC PHOTO EDITING**  3 2 2 0 0  V/O/C/T/ECH  
Introduction to using Adobe Photoshop. The student will learn how to electronically merge and edit color images such as scanning, color separation, combining photos, using channels and working with type will be covered. Prerequisite: GRD 301

GRD 460  
**INTRO TO PRINTING METHODS**  4 2 4 0 0  V/O/C/T/ECH  
A prerequisite for all graphic technology courses as an introduction to printing technology. Course will involve lecture and hands-on lab work in areas of lithography, screen printing and flexography. Bindery and finishing methods will also be covered.

GRD 461  
**DUGALTE PUBLISHING I**  3 2 2 0 0  V/O/C/T/ECH  
An introduction to graphic design principles and terminology. Through a combination of lecture and hands-on projects, students will focus on the creative process, principles of design and production techniques. Students will apply these principles and techniques through a series of design projects.

GRD 463  
**ELECTRONIC PHOTOGRAPHY**  3 3 0 0 0  V/O/C/T/ECH  
A prerequisite for all graphic technology courses. Students will explore the graphic communications industry, technology, terminology and related areas through instructor lecture and student activities.

GRD 466  
**DIGITAL PUBLISHING I**  3 2 2 0 0  V/O/C/T/ECH  
A planning and management course specifically for print communications. Cost estimating, ordering, inventory, quality control, job scheduling and management will be covered. Prerequisite: GRD 400, 401

GRD 470  
**PROJECT PLANNING & MANAGEMENT**  3 3 0 0 0  V/O/C/T/ECH  
This course is for students pursuing a digital publishing emphasis for either the AAS degree or diploma. This course is designed to expand and develop graphic design skills. Students will explore trademark, corporate identity, brochure design, book design and advertising design. Students will utilize computers and desktop publishing software to design and produce various projects. Prerequisite: GRD 400, 401, 402

GRD 472  
**SPECIALTY PRINTING METHODS**  2 4 4 0 0  V/O/C/T/ECH  
A course in specialty printing focusing on lithography and screen printing. The student will work in a lab environment to complete multiple color printed projects advancing their skills in both printing technologies. Prerequisite: GRD 400, 401, 402, 410

GRD 473  
**ELECTRONIC PREPRESS II**  2 4 4 0 0  V/O/C/T/ECH  
This course is a continuation of Electronic Prepress I. Students will study more in-depth principles of electronic prepress including digital workflows, file analysis and repair and digital scanning techniques. Students will learn to operate electronic prepress equipment in a workshop setting. Prerequisite: GRD 421

GRD 475  
**PRINTING METHODS CAPSTONE**  2 4 4 0 0  V/O/C/T/ECH  
This course is for students pursuing a Graphic Technology emphasis in printing technologies. Students work collaboratively to produce a capstone project utilizing their skills in print production. Resume and portfolio preparation are also covered. Prerequisite: Completion of terms 1 and 2 of the Graphic Technologies program and GRD 420, 427

GRD 476  
**DIGITAL PUBLISHING CAPSTONE**  2 4 4 0 0  V/O/C/T/ECH  
This course is for students pursuing an emphasis in digital publishing in Graphic Technologies. Students work collaboratively to produce a capstone project utilizing their skills in digital publishing and print production. Resume and portfolio preparation are also covered. Prerequisite: Completion of terms 1 and 2 of the Graphic Technologies program and GRD 425, 426
COURSE DESCRIPTIONS

HIS 109  INTRO TO HEALTH CAREERS  3 3 0 0 0  VOC/TECH
Students will discover the many options available, including roles and responsibilities in health careers. This course is designed to provide the student with the information necessary to make their health career choice.

HIS 120  MEDICAL TERMINOLOGY I  3 3 0 0 0  VOC/TECH
Builds a medical vocabulary through an understanding of anatomical roots for words denoting body structures, prefixes, suffixes and body functions.

HIS 121  MEDICAL TERMINOLOGY II  3 3 0 0 0  VOC/TECH
Continues to build a medical language vocabulary by studying body systems such as musculoskeletal, endocrine, nervous and integumentary systems. Prerequisite: HIS 120.

HIS 122  NURSE AIDE 75 HOURS  3 2 0 3 0 0 0 0
Entry-level skills to seek employment in Iowa licensed facilities. Meets OSHA/807 standards.

HIS 123  ADVANCED NURSE AIDE  3 3 0 0 0 0
A continuation of Nurse Aide to provide additional skills and clinical to work in hospital. Prerequisite: A DMACC-sponsored 75-hour Nurse Aide class or HIS 122.

HIS 182  CCND-DIPENALITY ILLNESS TRAINING  1 1 0 0 0 0 0
This 15-hour course has been developed to meet the training requirements for Intermediate Care Facilities by providing basic knowledge about Alzheimer’s disease and other chronic dementias illnesses. Emphasis is on the physical and psychological changes that take place in the Alzheimer patient and the importance of appropriate communication. Explanation of the stages of Alzheimer’s disease and appropriate interventions will be introduced.

HIS 201  IOWA HISTORY  3 3 0 0 0 0
A broad survey of Iowa history from Indian cultures and pioneer farming through modern agriculture, gradual social changes and long-term political trends.

HIS 266  THE CIVIL WAR  3 3 0 0 0 0
A general history of the American Civil War approach to the conflict as a struggle for power, a process of national growth and a period of profound social change.

HIS 282  FIELD EXPERIENCE  3 3 0 0 0 0
Field experience in one of the following treatment programs for chemically dependent people: inpatient, outpatient, follow-up care, halfway house and family therapy. Prerequisite: Acceptance into an approved practicum site.

HIS 305  COUNSELING WITH WOMEN  3 3 0 0 0 0
Supervised experience in one of the following treatment programs for chemically dependent people: inpatient, outpatient, residential or family services. Prerequisite: Acceptance into an approved practicum site.
INTRO TO ASL INTERPRETING
This course is an overview regarding the field in sign language interpreting for the Deaf Community. The course provides a basic historical framework related to the principles, ethics, roles, responsibilities and standard practices of the sign language profession. Prerequisite: Admission to the American Sign Language Interpreter Program or permission from the department chair.

DEAF CULTURE AND COMMUNITY
This course provides students with the opportunity to explore American Deaf Culture and Community; its existence, characteristics, institutions, organizations, key historical figures and events, contemporary leaders and contributions to the larger society. Diversity within the community and realities of life as a cultural minority will also be discussed. The course takes a comparative approach by integrating concepts of American Deaf Culture to the students’ own experiences with culture and community plus a comparison and contrast between American Mainstream Culture and American Deaf Culture.

ASL INTERPRET VOICE TO SIGN I
This course is organized to provide tools to the students for effectively demonstrating an accurate interpretation of meaning from spoken English to American Sign Language. Objectives include developing signing skills with a focus on chunking, dynamic equivalence, concept selection, register receptive skills, proper location of sign interpreters, team interpreting, the use of a Certified Deaf Interpreter (CDI) and other aspects of signing. Special requirements of sign interpreting will also be included, such as methods and techniques of signing for deaf individuals who are members of the Deaf Community and use ASL, as well as deaf individuals who may not use ASL and use an English Code Variation. Prerequisite: Admission to the American Sign Language Interpreter Program or permission from the department chair.

ASL INTERPRET VOICE TO SIGN II
This course is organized to provide tools to the students for effectively demonstrating an accurate interpretation of meaning from spoken English to American Sign Language. Objectives include developing signing skills with a focus on chunking, dynamic equivalence, concept selection, register receptive skills, proper location of sign interpreters, team interpreting, the use of a Certified Deaf Interpreter (CDI) and other aspects of signing. Special requirements of sign interpreting will also be included, such as methods and techniques of signing for deaf individuals who are members of the Deaf Community and use ASL, as well as deaf individuals who may not use ASL and use an English Code Variation. Voice to Sign in American Sign Language Interpreting is unique from VSASLI in that it provides a broader base of basic elements acquired and learned previously. The challenging and detailed nature and expectations of this course build on Level I understanding and skill sets. Prerequisite: Admission to the American Sign Language Interpreter Program or permission from the department chair.

ASL INTERPRET SIGN TO VOICE I
This course is organized to provide tools to the students for effectively demonstrating an accurate interpretation of meaning from American Sign Language to spoken English. Objectives include developing viewing skills with a focus on chunking, dynamic equivalence, word selection, register receptive skills, proper location of voice interpreters, team interpreting, the use of a Certified Deaf Interpreter (CDI) and other aspects of viewing. Special requirements of voice interpreting will also be included, such as methods and techniques of voice-over, voicing for deaf individuals who use ASL, as well as deaf individuals who may use ASL. Prerequisite: Admission to the American Sign Language Interpreter Program or permission from the department chair.

ASL INTERPRET SIGN TO VOICE II
This course is organized to provide tools to the student for effectively demonstrating an accurate interpretation of meaning from American Sign Language to spoken English. Objectives include developing viewing skills with a focus on chunking, dynamic equivalence, word selection, register receptive skills, proper location of voice interpreters, team interpreting, the use of a Certified Deaf Interpreter (CDI) and other aspects of viewing. Special requirements of voice interpreting will also be included, such as methods and techniques of voice-over, voicing for deaf individuals who use ASL, as well as deaf individuals who may use ASL. Sign to Voice in American Sign Language Interpreting is unique from VSASLI in that it provides a broader base of basic elements acquired and learned previously. The challenging and detailed nature and expectations of this course build on Level I understanding and skill sets. Prerequisite: ASL Interp Sign to Voice I and Admission to the American Sign Language Interpreter Training Program or permission from the department chair.

ETHICS IN ASL INTERPRETING
This course will set forth standards toward principles of ethical behavior and professional interpreting practices in regard to general guidelines, ideas and/or expectations that need to be taken into consideration regarding an interpreter’s professional behavior. Particular circumstances are inherently unique to the American Sign Language interpreter culture, a variety of situations will be examined, discussed and analyzed. Prerequisite: admission to the American Sign Language Interpreter Training Program or permission from the department chair.

ASL INTERPRETING INTERNSHIP
This course provides real-time experience within the professional field of interpreting. The experience will include 100 hours of real-time experience with an established interpreter and/or agency. The student will self-select an internship site and submit weekly journals and evaluations regarding participation, activities and other ascribed and experiential learning moments of related interpreting contact. Other requirements specific to the internship site may apply. Students will be evaluated on their ability to carry out professional responsibilities, to apply knowledge and skill in working with various groups of people across the life-span, to identify and accommodate various language preferences and to apply various service delivery models reflective of current practices in the profession. Prerequisite: satisfactory completion of the DMASS ASL-ITP program/s and authorization by the department chair.

INTRO INTERPRET & TRANSLATION
A general introduction to the field of oral language interpreting and translation (IT) including linguistic theory of communication, translation approaches, problems and processes, cultural competency and ethics, the role of the interpreter, modes of interpretation and interpreter errors. Taught in English; students need not be bilingual in other languages to take this introductory course.

TOOLS INTERPRET & TRANSLATE
In-depth training in the research and technological tools that interpreters and translators use in their field. Extensive use of monolingual and bilingual dictionaries and thesaurus. Features of Microsoft Word and Excel for language work and glossary development. Internet tools for vocabulary research and enrichment, Interpretation equipment. Digital recorders for modified consecutive interpretation. Introduction to TRADOS translation memory program. Corequisite: ITR 111 or permission of instructor.

FUNDAMENTALS OF INTERPRETATION
Study and practice of the basic theory and techniques of language interpretation, applied to general topics of current events. The modes of interpreting. Simultaneous Interpreting, Consecutive Interpreting, Sight Translation. Introduction to Lexicography and Vocabulary Development. Students are required to be functionally bilingual in English and at least one other language to take this course. Corequisite: ITR 111 or instructor permission.

FUNDAMENTALS OF TRANSLATION
Study and practice of the basic theory and techniques of language translation, applied to general topics of current events. Basic concepts. Translation as product. Translation as process. Cultural problems. Denotative vs. connotative meanings. Formal properties of texts and language work and glossary development. Prerequisite: ITR 111 or instructor permission.

ETHICS FOR THE INTER/TRANS
This course provides an introduction to basic interpreter and translator ethics, including accuracy, representation of qualifications, avoidance of conflicts of interest, professional demeanor, confidentiality, maintaining a proper role, competency, reporting ethical violations, professional development, disputes with clients, collegiality and contracts. Model scenarios are used for developing and applying ethical judgments. Prerequisite: Minimum of “C” in all ITR courses and complete minimum of three ITR courses.

LEGAL TERM & SIGHT TRANSLATION
Identification of the origins of legal terminology. Advanced sight translation training focusing on court/law enforcement documents. Lexicographical training in locating, understanding and using frequently used legal terminology in healthcare environments. Intensive notifications, patient letters, instructions for taking medication. Prerequisite: Complete the six ITR required courses with a minimum grade of “C” in each course. Corequisite: BIO 156 or instructor permission.

HEALTHCARE INTERPRETING I
Advanced consecutive interpreting training - listening, analysis, memory and interpreting – as applied to healthcare situations. Intensive practice in interpreting for the following events: police interrogations, attorney-client interviews, profit/loss hearings, witness testimony. Advanced use of note-taking techniques. Prerequisite: ITR 112

HEALTHCARE INTERPRETING II
Advanced simultaneous interpreting training - dual-talking, shadowing, paraphrasing and interpreting – as applied to court proceedings. Intensive practice in interpreting for the following court proceedings: initial appearances, bail/detention hearings, change of plea hearings, trials and sentencing hearings. Advanced use of simultaneous interpreting equipment. Prerequisite: ITR 110

JUSTICE TRANSLATION
Advanced written translation training focusing on legal documents. Advanced lexicographical training in legal terminology in criminal and civil proceedings. Intensive practice in translating the following types of legal documents: plea agreements, birth certificates, contracts, wills. Corequisite: ITR 128

HEALTHCARE TERM & SIGHT TRANSLATION
Identification of the origins of health care terminology. Advanced sight translation training focusing on healthcare/medical documents. Lexicographical training in locating, understanding and using frequently used legal terminology in healthcare environments. Intensive notifications, patient letters, instructions for taking medication. Prerequisite: Complete the six ITR required courses with a minimum grade of “C” in each course. Corequisite: BIO 156 or instructor permission.

HEALTHCARE INTERPRETING I
Advanced consecutive interpreting training - listening, analysis, memory and interpreting – as applied to healthcare situations. Intensive practice in interpreting for the following events: police interrogations, attorney-client interviews, profit/loss hearings, witness testimony. Advanced use of note-taking techniques. Prerequisite: ITR 110

HEALTHCARE INTERPRETING II
Advanced simultaneous interpreting training - dual-talking, shadowing, paraphrasing and interpreting – as applied to court proceedings. Intensive practice in interpreting for the following court proceedings: initial appearances, bail/detention hearings, change of plea hearings, trials and sentencing hearings. Advanced use of simultaneous interpreting equipment. Prerequisite: ITR 110

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INTERPRETERS AND TRANSLATORS IN A VARIETY OF HUMAN SERVICES

Corequisite: ITR 152 or ITR 158

In the classroom by interning under qualified/certified assignments in appropriate monitored situations.

Then move into actual interpreting/translation and business translation/translation, healthcare interpretation/translation, interpreting and translation in a variety of court/law substance abuse treatment facilities. Corequisite: ITR 168

Application of the knowledge, skills and attitudes gained in the classroom by interpreting under qualified/certified interpreters and translators in a variety of court/law enforcement situations. Interns will begin by shadowing their mentor and then move into actual interpreting/translation assignments in appropriate monitored situations. (PR) Prerequisite: Minimum grades of “C” in all ITR courses. Corequisite: ITR 122 or ITR 123

Application of the knowledge, skills and attitudes gained in the classroom by interpreting under qualified/certified interpreters and translators in a variety of general work and volunteer situations. Interns will begin by shadowing their mentor and then move into actual interpreting/translation assignments in appropriate monitored situations. (PR) Prerequisite: Minimum cumulative GPA of 2.5 in all Interpretation and Translation Generalist Certificate coursework. Corequisite: ITR 120

Application of the knowledge, skills and attitudes gained in the classroom by interpreting under qualified/certified interpreters and translators in a variety of human services situations. Interns will begin by shadowing their mentor and then move into actual interpreting/translation assignments in appropriate monitored situations. (PR) Prerequisite: Minimum grades of “C” in all ITR courses. Corequisite: ITR 692 or ITR 698

Application of the knowledge, skills and attitudes gained in the classroom by interpreting under qualified/certified interpreters and translators in a variety of human services situations. Interns will begin by shadowing their mentor and then move into actual interpreting/translation assignments in appropriate monitored situations. (PR) Prerequisite: Minimum grades of “C” in all ITR courses. Corequisite: ITR 110 or ITR 111 or instructor permission.

Hum Serv Term & Sign Trans

Identification of the origins of human services terminology. Advanced sight translation training focusing on human/social services documents. Lexicographical training in locating, understanding and using common human services terminology. Social work in contexts. Intensive practice in sight translating selected human services applications/financial affidavits, release of information forms, informational materials and notice of decision letters. Prerequisite: Complete the 5 ITR required courses with a minimum grade of “C” in each course: ITR 101 or instructor permission.

Hum Serv Internship I

Advanced consecutive interpreting training—listening, analysis, memorization, note-taking and interpreting—and applied to common human services situations. Intensive practice in interpreting for client/social worker interviews in the following areas/programs: Iowa Dept. of Human Services, HAWK-I, W.I.T., Great Rebuild, Title X (Medicaid), Child Support Recovery Unit, Bureau of Refugee Affairs and substance abuse treatment facilities. Corequisite: ITR 168

Judiciary I/T Internship

Application of the knowledge, skills and attributes gained in the classroom by interpreting under qualified/certified interpreters and translators in a variety of court/law enforcement situations. Interns will begin by shadowing their mentor and then move into actual interpreting/translation assignments in appropriate monitored situations. (PR) Prerequisite: Minimum grades of “C” in all ITR courses. Corequisite: ITR 122 or ITR 123

Hum Serv Internship II

Application of the knowledge, skills and attributes gained in the classroom by interpreting under qualified/certified interpreters and translators in a variety of human services situations. Interns will begin by shadowing their mentor and then move into actual interpreting/translation assignments in appropriate monitored situations. (PR) Prerequisite: Minimum grades of “C” in all ITR courses. Corequisite: ITR 110 or ITR 111 or instructor permission.

Hum Serv Internship III

Application of the knowledge, skills and attributes gained in the classroom by interpreting under qualified/certified interpreters and translators in a variety of human services situations. Interns will begin by shadowing their mentor and then move into actual interpreting/translation assignments in appropriate monitored situations. (PR) Prerequisite: Minimum grades of “C” in all ITR courses. Corequisite: ITR 110 or ITR 111 or instructor permission.
COURSE DESCRIPTIONS

MAP 248 3 3 0 0 0 MEDICAL OFFICE PROCEDURES II VOC/TECH
Student learns how to assist with examinations, tests and treatments. Inventory and use of medical and surgical supplies. Includes principles of pharmacy, injections, theory of IV therapy, sterile procedures, pulmonary function, bandaging and patient education. Outpatient scheduling, referral, prior authorization and documentation. Prerequisite: Grade of “C” or better in MAP 247; Corequisite: MAP 228

MAP 425 3 3 0 0 0 PROFESSIONAL DEVELOPMENT VOC/TECH
Emphasizes professionalism and responsibilities of the certified medical assistant. Medical specialties, first aid procedures, medical ethics and law and HIPAA are studied.

MAP 532 3 3 0 0 0 HUMAN BODY-HEALTH & DISEASE VOC/TECH
Designed to provide specialized knowledge of the human body relating to disease processes and possible methods of treatment. Includes CPR training. Drug terminology is added as well as basic knowledge of symbols and abbreviations. Prerequisite: HSC 120

MAP 544 4 4 0 0 0 HUMAN BODY-HEALTH & DISEASE II VOC/TECH
The study of the body systems is completed. Prerequisite: Grade of “C” or better in MAP 544

MAP 606 1 0 2 0 0 PROFESSIONAL DEVELOPMENT III VOC/TECH
Provides an opportunity for the student to discuss situations that arise in the clinical experience. Clinical reports by students are supplemented by a review of weekly clinical evaluations. In addition, the student is made aware of community health services available to the patient.

MAP 624 5 0 0 0 2 1 PRACTICUM VOC/TECH
A course designed especially for the preparation of students involving supervised practical application of previously studied theory. New material is integrated as the student progresses. The student receives experience in a physician’s office working under the direct supervision of the physician and office staff. There is no financial remuneration. Prerequisite: Satisfactory completion of all courses in first 2 terms; Corequisite: MAP 252

MAP 803 3 0 0 0 0 INTERNSHIP-MEDICAL OFFICE SPEC VOC/TECH
Work in a medical facility to learn the many office procedures and policies as they exist in a job situation. Prerequisites: HSC 121, MAP 532, MTR 121, ADM 25

MAT 034 3 3 0 0 0 ARITHMETIC COLLEGE PREPARATORY
A review of the fundamental operations of arithmetic including addition, subtraction, multiplication and division of whole numbers, decimals and fractions. This is a college preparatory course designed for those students who need to review and improve their knowledge of the fundamentals of mathematics. College preparatory courses cannot be used to fulfill degree requirements.

MAT 053 3 3 0 0 0 PRE-ALGEBRA COLLEGE PREPARATORY
A review of arithmetic and an introduction to algebra. This is a college preparatory course designed to strengthen arithmetic skills and introduce basic concepts of algebra. It is a college preparatory course designed for students who have not had algebra previous to this course. College preparatory courses cannot be used to fulfill degree requirements.

MAT 063 4 4 0 0 0 ELEMENTARY ALGEBRA COLLEGE PREPARATORY
An introduction to the language of algebra. It includes the real number system, solving equations and inequalities, polynomials, fractional equations and radical expressions. This is a college prep course designed for students who have had no formal algebra background or for students who need review. College preparatory courses cannot be used to fulfill degree requirements.

MAT 073 4 4 0 0 0 ELEMENTARY ALGEBRA II COLLEGE PREPARATORY
A review of elementary algebra along with the new topics including exponents and radicals, functions and graphs, quadratic equations, inequalities and systems of equations. This course cannot be used to fulfill degree requirements. Prerequisite: HSC 120 or equivalent or department permission.

MAT 093 1 1 0 0 0 MATH STUDY SKILLS COLLEGE PREPARATORY
Provides students with the study techniques necessary for successful completion of their college preparatory or college credit math courses. It also addresses feelings and attitudes that may block math learning and offers strategies and techniques designed to overcome these feelings. College preparatory courses cannot be used to fulfill degree requirements.

MAT 110 3 3 0 0 0 MATH FOR LIBERAL ARTS
The student will begin to think critically by studying logic terms and truth tables. Additional topics covered include problem solving and decision making by using probability, application of statistical data, modeling and financial mathematics. The student will become aware of possible abuses of mathematics. Finally, the student will understand the broad usefulness of mathematics by studying history of mathematics and application of mathematics in art, music, business and/or politics.

MAT 114 3 2 0 0 0 ELEMENTARY EDUCATORS MATH I
This is the first of two courses focusing on math concepts taught in K-6. Topics will be covered from both a practical and theoretical standpoint, with an emphasis on practical understanding using concrete examples. Course content includes problem solving, systems of whole numbers, numeration, algorithms for computation, topics from number theory and topics from geometry including measurement, polygons, polyhedra, congruence and transformations. This course is for students in education fields and is not appropriate for students majoring in other areas. This is not a methods course. Prerequisite: Two years of H.S. algebra or MAT 063

MAT 116 3 2 0 0 0 ELEMENTARY EDUCATORS MATH II
This course is a continuation of MAT 114. Course content includes basic 2D and 3D geometry and measurement, elementary probability, data analysis and statistics, operations and algorithms for computing with fractions, decimals, percents and integers. Prerequisite: MAT 114 with a grade of “C” or better

MAT 121 4 4 0 0 0 COLLEGE ALGEBRA
This course provides an intensified study of algebraic techniques and prepares students for future study in mathematics. The central theme of this course is the concept of a function and its graph. Topics include functions, equations, logarithmic and exponential functions, systems of equations, matrices, polynomials, conic sections and probability.

MAT 129 5 5 0 0 0 PRECALCULUS
Polynomial and rational functions, exponential and logarithmic functions, trigonometric functions, analytic trigonometry, vectors, complex numbers, elementary theory of equations, linear systems, matrices and analytic geometry. Prerequisite: Two years of high school algebra or MAT 073.

MAT 141 4 4 0 0 0 FINITE MATH
A general education course in practical mathematics for those students not majoring in mathematics or science. This course should be taken by students such as those planning a career in business or technical fields. Topics covered include logic, combinations, probability, systems of linear equations, matrices, geometric linear programming and an introduction to Markov chains. Prerequisite: One year H.S. algebra or MAT 063.

MAT 148 4 4 0 0 0 LINEAR ALGEBRA W/APPLICATIONS
A study of the use and application of matrices in the solution of systems of linear equations, determinants, vector spaces, linear transformations, eigenvalues, eigenvectors, bases and projections. Linear algebra is a core course in many engineering, physics, mathematics and computer science programs. This course may be used as the basis for computing technology. Graphing calculators required. Prerequisite: MAT 210 or equivalent.

MAT 157 4 4 0 0 0 STATISTICS
Tabular and graphical presentation, measures of central tendency and variability, standard elementary procedures involving the binomial, normal, student’s t, chi-square and F distributions, correlation, regression, analysis of variance and several nonparametric procedures. Students will not receive credit for both MAT 157 and BUS 211. Prerequisite: Two years H.S. algebra, department permission or MAT 073

MAT 160 2 2 0 0 0 STATISTICAL BUSINESS APPL.
This is the second course in the statistics sequence. Course content includes applications and interpretation of probability and statistics as applied to business situations by using sampling, confidence intervals, control charts, simple linear regression analysis, multiple regression analysis, correlation analysis, data analysis, time series analysis, hypothesis testing and computer analysis.

MAT 162 4 3 0 0 0 PRIN. OF BUSINESS STATISTICS
Make inferences about population parameters. Conduct regression inferential analyses. Obtain, present and organize statistical data using measures of location and dispersion; the Normal distribution; sampling distributions; estimation and confidence intervals; inference for simple linear regression analyses. Use computers to visualize and analyze data. Prerequisite: MAT 141 or MAT 157 or equivalent

MAT 166 4 4 0 0 0 CALCULUS FOR BUSN/SOCIAL SCI
Functions, graphs, differential calculus, integral calculus, introduction to max-min theory for functions of two variables. Emphasis on application of calculus to business problems. May be a substitute for MAT 211 and MAT 217. Prerequisite: Two years H.S. algebra and MAT 141, or MAT 073 and MAT 141.

MAT 211 5 5 0 0 0 CALCULUS I
Absolute values, inequalities, functions, limits, continuity, differentiation, definite integral, exponential and logarithmic functions. Prerequisite: MAT 129 or equivalent or department permission

MAT 217 5 5 0 0 0 CALCULUS II
Continuation of Calculus I. Topics include applications of integration, integration techniques, Taylor’s formula, the divergence theorem and Stokes theorem, multivariable functions, partial derivatives, directional derivatives and gradients, optimization of multi-variable functions. Prerequisite: MAT 211 or equivalent

MAT 227 4 4 0 0 0 DIFF EQUATIONS WITH LAPLACE
Ordinary differential equations, systems of ordinary differential equations, Laplace transforms, numerical methods and applications. Prerequisite: MAT 217 or equivalent must be taken concurrently or prior to this course

MAT 218 3 3 0 0 0 APPLIED MATH
A course in elementary mathematical skills for technicians. Topics covered include fundamental operations with whole numbers, fractions, decimals and signed numbers; percents; geometric figures and basic constructions; area and volume formulas; English/Metric systems; measurements; and the interpretation of graphs and charts.

MAT 223 3 3 0 0 0 APPLIED MATH II
A course in algebra and trigonometry for technicians. Topics covered include polynomials, equations, systems of linear equations, factoring, quadratic equations, trigonometry, vectors, roots and logarithms. Prerequisite: MAT 212

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COURSE DESCRIPTIONS

MGT 120 3 3 0 0 0

PROJECT MANAGEMENT BASICS

This class teaches basic project management theory using project management software. The student will learn to use software to create projects, organize schedules, customize reports, plus work with calendars, multiple projects, evaluate and adjust resources, costs and time factors.

MGT 128 3 3 0 0 0

ORGANIZATIONAL BEHAVIOR

This course introduces the basic concepts, methodologies and techniques used in the field of organizational development. Topics covered include fundamental concepts, leadership, organizational environment, social environment, group process and operating activities.

MGT 130 3 3 0 0 0

PRINCIPLES OF SUPERVISION

A unique view of organizational structure, the managerial function and the role of the supervisor as it relates to the human relationship between supervisor, peers and subordinates and the practice of sound personnel techniques.

MGT 145 3 3 0 0 0

HUMAN RELATIONS IN BUSINESS

Emphasizes the importance of the development of proper attitudes toward self, others and organizational settings. Stresses the development of a self-image and the relationship this has to energy levels, emotions, verbal and nonverbal communication and defensiveness.

MGT 147 3 3 0 0 0

LEADERSHIP DEVELOPMENT

The central focus of this course is the development of leadership ability. The course provides a basic understanding of leadership and group dynamics theory, assists participants in developing a personal philosophy of leadership and an awareness of one’s own ability and style of leadership.

MGT 164 3 3 0 0 0

TOTAL QUALITY MANAGEMENT

The basis of this class is to provide an understanding of the principles and concepts of continual improvement and the ability to apply them to an organization. Team concepts and the tools of SPC are also discussed.

MGT 170 3 3 0 0 0

HUMAN RESOURCE MANAGEMENT

This course studies the role of human resource management as it applies to the challenges, problems, techniques, opportunities, ethical considerations and social dynamics in organizations. Emphasis on human resource activities of both managers and human resource specialists.

MGT 194 2 2 0 0 0

RELATIONSHIP STRATEGIES IN BUS

Includes the awareness of communication styles and how to manage successful interpersonal and organizational relationships.

MGT 248 3 3 0 0 0

SYSTEMS & INFORMATION MGMT.

An introduction of managing information for decision making. Planning what information to obtain, sources and methods of collecting information; interpreting and analyzing; presenting and using information for decisions.

MKT 903 3 3 0 0 0

BUSINESS INTERNSHIP I

One semester of full-time successful introductory on-the-job training in a cooperating retail training station. Emphasis is placed on customer service and sales promotion strategies. (P/F) Corequisite: MGT 902

MKT 902 2 1 2 0 0 0

BUS. INTERNSHIP SEMINAR I

Field experience problems will be discussed, new occupational information will be presented and business people will speak on the functions, institutions and products found in the field of sales promotion. Corequisite: MGT 902

MKT 805 4 0 0 0 1 6

BUSINESS INTERNSHIP II

Sales promotion training of the level prescribed in the individual training plan. Exposure will be given to merchandising techniques. The training will be scheduled in an approved cooperating training station. Supervision of the training plan will be made by an instructor/ coordinator. (P/F) Corequisite: MKT 807

MKT 807 1 1 0 0 0

BUS. INTERNSHIP SEMINAR II

Students are exposed to areas of sales promotion through guest speakers, visual aids and discussion of business. Corequisite: MKT 815

MKT 810 4 0 0 0 1 6

BUSINESS INTERNSHIP III

Consists of one of part-time on-the-job training of the level prescribed in the individual training plan. Exposure will be given to merchandising and control and supervision. Supervision of the training plan will be made by an instructor/coordinator. (P/F) Corequisite: MGT 902

MKT 812 1 1 0 0 0

INTERNSHIP SEMINAR I

Students are exposed to areas of marketing through guest speakers, visual aids and discussion of business internship experiences. Corequisite: MKT 810

MKT 903 2 1 2 0 0 0

FIELD EXPERIENCE I SEMINAR

Field experience problems will be discussed, new occupational information will be presented and business people will speak on the functions, institutions and products found in the field of management. Corequisite: MGT 920

MKT 920 6 0 0 0 2 4

FIELD EXPERIENCE I

Consists of one of full-time successful introductory on-the-job management training in a cooperating training station. Development and supervision of a training plan will be made by a teacher/coordinator. (P/F) Corequisite: MGT 902

MKT 110 3 3 0 0 0

PRINCIPLES OF MARKETING

Marketing effectively and efficiently results in better customer loyalty, higher share of customers, relief from margin erosion and higher customer satisfaction. Explore strategies used to get, keep and grow customers. Theoretical concepts blend with real-world applications in the areas of planning, decision making, consumer behavior, ethics, product, price, distribution, promotion, service and international marketing.

MKT 105 3 3 0 0 0

BUSINESS TO BUSINESS MARKETING

Prepares functional methods of business-to-business marketing. Examines all forms of wholesaler service and manufacturer-type marketing activities.

MKT 120 3 3 0 0 0

E-MARKETING

Study of the Internet as a marketing tool. Investigation of the relevant issues and uses of Web-based marketing including influence on traditional marketing mix topics such as product, place, price and promotion. Focus will be on the use of technology rather than the technology itself.

MKT 140 3 3 0 0 0

Selling

Emphasizes the ‘consultative-style’ of personal selling. Covers the importance of establishing good relationships, finding prospect needs, providing a solution to these needs and closing a high percentage of sales interviews.

MKT 141 3 3 0 0 0

ADVANCED SELLING STRATEGIES

Explores strategies related to working effectively with high-level decision makers. Focuses on the individual adding value to the transaction to become the supplier of choice. Examines sales automation in depth. Preerequisite: MKT 140

MKT 150 3 3 0 0 0

SALES MANAGEMENT

Expands on the selling process by training the seller in functional aspects of sales force management. Emphasis on recruitment, selection and training procedures, motivation, group presentations and meeting management; compensation plans, territory management, forecasting and performance evaluation.

MKT 150 3 3 0 0 0

PRINCIPLES OF ADVERTISING

The area of promotional communication is studied to achieve an understanding of the marketplace, the various advertising media and the development of an effective promotional message.

MKT 160 3 3 0 0 0

PRINCIPLES OF RETAILING

Course examines development of retailing, organization of retail institutions, the merchandising handling process, understanding the retail customer and future directions in retailing.

MKT 165 3 3 0 0 0

RETAIL MANAGEMENT II

A Problem solving approach to the operating principles and methods in the retail field. Management decision making is emphasized. Prerequisite: MKT 160

MKT 162 3 3 0 0 0

CUSTOMER RELATIONSHIP MGMT.

Customer Relationship Management provides an overview of a business process used by over half of all retail organizations. This course outlines the steps in the process, the technology and marketing components included and explains the fundamental benefits to a business with an effective CRM program. Prerequisite: MKT 160

MKT 164 3 3 0 0 0

CUSTOMER SERVICE

Designed to make students aware of the value and reliance that a company places on their Customer Service Representative. Emphasis is placed on developing skills that enable students to effectively work with external as well as internal customers. Self-management techniques are also included to enhance the retention of a positive attitude in the workplace.

MKT 199 3 3 0 0 0

SPORTS/ENTERTAINMENT MKT.

Exploration of the essentials of effective sports/entertainment marketing. Topics include application of the marketing principles in the sports/entertainment area, licensing issues, sponsorships and endorsements, stadium and arena marketing, broadcasting and media considerations, public policy and the unique challenges for sports/entertainment, specific products (concerts, special events, concessions, football, basketball, baseball, motor sports, etc.).

MLT 115 3 3 0 0 0

CLINICAL LAB FUNDAMENTALS

A course designed to acquaint the student with the field of laboratory medicine. Basic lab math, testing methods and quality control are presented. This course also incorporates an introduction to blood collection and the study of common blood cells and blood disorders. Prerequisite: Acceptance into the Medical Laboratory Technology program.

MLT 120 1 0 0 0 0

CLINICAL LAB PRACTICUM I

Students report to a local hospital to join the phlebotomy team to practice patient approach and to draw blood specimens. Prerequisite: MLT 115

MLT 232 3 3 0 0 0

ADV. HEMATOLOGY & COAGULATION

A review of basic procedures followed by a study of normal and abnormal blood and bone marrow smears as they relate to anemias and leukemias. Hematology instrumentation, quality control, coagulation and body fluid analysis are studied. This course includes an in-depth study of various anemias, leukemias and other hematological and coagulation disorders. Prerequisite: Grade of “C” or higher in both MLT 115 and MLT 120

MLT 242 8 6 4 0 0

CLINICAL CHEMISTRY

A study and analysis of electrolytes, proteins, lipids, enzymes, hormones, drugs and various other biochemical compounds found in the human body. Test results are correlated with patients’ conditions. Laboratory math, statistics and quality control are presented. Prerequisite: Grade of “C” or better in both MLT 115 and MLT 120. Successful completion of the following courses: BIO 164 or equivalent; CHM 122 or equivalent and CHM 122 or equivalent.

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COURSE DESCRIPTIONS

MLT 251  CLINICAL MICROBIOLOGY  6 6 000  OPEN
A study of clinically important microorganisms. Students learn and practice techniques used to isolate and identify pathogenic bacteria, parasites and fungi. Prerequisite: Grade of “C” or higher in MLT 150 and MLT 151. Successful completion of the following courses: BIO 154 or equivalent; BIO 157 or equivalent; CHM 122 or equivalent and CHM 152 or equivalent.

MLT 261  IMMUNOHEMATOLOGY  5 6 000  OPEN
Principles of immunohematology with the practices of blood banking are presented. ABO grouping, Rh typing and transfusion testing procedures are performed. Blood group antigens and antibodies are studied. Prerequisite: Grade of “C” or better in MLT 232; MLT 270 must be taken prior to or concurrently & Seroscopy must be taken prior to or concurrently with MLT 261. Successful completion of the following courses: BIO 164 or equivalent; BIO 152 or equivalent; CHM 122 or equivalent.

MLT 270  IMMUNOLOGY & SEROSCOPY  2 1 000
Immune reactions of the body will be studied. Reactions between antigens and antibodies will be reviewed as a means to detect diseases such as hepatitis, infectious mononucleosis and rheumatoid arthritis. Prerequisite: Grade of “C” or higher in MLT 232.

MLT 282  CLINICAL LAB PRACTICUM I  1 2 000 4 0 0
Students rotate through the various departments (Hematology, Chemistry, Microbiology, Blood Bank and Urinalysis) of the hospital laboratory, applying the knowledge and skills learned in the classroom. Prerequisite: Completion of first 4 terms of MLT program with a GPA of 2.0 or higher.; Corequisite: MLT 290.

MLT 290  CLINICAL SEMINAR AND REVIEW  2 2 000
Students review medical laboratory subjects, share experiences in the clinical area and prepare case studies. Job-seeking skills, continuing education opportunities, legal responsibilities and professional organizations are also discussed. A mock certification exam is given. Prerequisite: Successful completion of first four terms in the Med Lab Tech program with a GPA of 2.0 or higher.; Corequisite: MLT 282.

MLW 440  BLUEPRINT READING AND LAYOUT  3 2 000  VOC/TECH
An introduction to blueprint reading and layout and the application of the knowledge with the use of specific tools.

MLW 441  MATERIAL IDENTIFICATION/USAGE  3 2 000  VOC/TECH
An introduction to the materials used in making architectural millwork products.

MLW 442  INTRODUCTION TO PORTABLE TOOLS  3 2 000  VOC/TECH
An introduction to safe use and the proper care and selection of power tools.

MLW 443  STATIONARY EQUIPMENT  4 2 000  VOC/TECH
The purpose of this course is to train the student in the identification, operation and the maintenance of stationary equipment.

MLW 444  ADVANCED EQUIPMENT TECHNIQUES  3 2 200  VOC/TECH
Advanced Equipment Techniques gives the student the opportunity to become proficient on the following equipment and associated software; CNC router operation and programming; Point to Point Machine Center operation and programming; Water cooler operation including template making, setup and maintenance; Beam saw programming, operation and maintenance; Edgerunner operation programming and maintenance. Prerequisite: MLW 441, MLW 442, 443.

MLW 445  MILLIPLIER CABINET TECH  3 2 200  VOC/TECH
This course is an introduction to the rationale of cabinet making and millwork. Prerequisite: MLW 440, 441, 442, 443.

MLW 446  MILLWORK TECHNIQUES  4 2 000  VOC/TECH
An introduction to the initial steps of applying various millwork techniques to projects. Prerequisite: MLW 440, 441, 442, 443.

MLW 447  INTRODUCTION TO APPLICATION  3 2 200  VOC/TECH
This course will allow students to begin combining their knowledge of the previous courses in Architectural Millwork to produce mock-up projects. Prerequisite: MLW 440, 441, 442, 443.

MLW 448  ADV MILLWORK APPLICATION I  5 1 000  VOC/TECH
This course will combine the skills learned from the previous courses to produce a completed project from beginning to installation. Prerequisite: MLW 444, 445, 446, 447.

MLW 449  ADV MILLWORK APPLICATION II  5 1 000  VOC/TECH
This course will combine the students’ previous courses to produce a completed project from beginning to installation. Prerequisite: MLW 444, 445, 446, 447.

MLR 305  HISTORY OF FUNERAL SERVICE  2 2 000  VOC/TECH
Students will trace the history of funeral services from ancient times through current practices with emphasis on the development of funeral practices in the United States. Students study the customs of various cultures throughout the world including customs in the United States. Prerequisite: Admission to the Mortuary Science program.

MLR 310  PATHOLOGY FOR MORTUARY SCIENCE  3 3 000  VOC/TECH
Students will be introduced to the study of the cause, course and effects of diseases upon the human body, with stress on ways in which tissue changes affect the embalming process. Pathologic conditions that require special treatment and terminology associated with the causes of death. Prerequisite: Admission to the Mortuary Science program.

MLR 315  FUNERAL LAW  3 3 000  VOC/TECH
Deals with the statutory laws and practices pertaining to funeral services. The student will study the laws that govern the funeral director and the embalmer and their legal responsibilities to the consumer. Prerequisite: Admission to the Mortuary Science program.

MLR 320  THAUMATOLOGY  3 3 000  VOC/TECH
Designed to acquaint the student with an overview of psychology in funeral service as applied to death, grief and mourning. Students will be taught specific counseling procedures used when counseling the bereaved family. Pre-exam and after-care services will be explored. Prerequisite: Admission to the Mortuary Science program.

MLR 325  FUNERAL DIRECTING  3 3 000  VOC/TECH
Surveys the principles related to funeral directing customs, religions, human relations, relations with clergy and the professional behavior required of funeral directors. Requirements for burial, cremation, anatomical donation and burial at sea as model of disposition are presented. Prerequisite: Admission to the Mortuary Science program.

MLR 330  FUNERAL MERCHANDISING  3 3 000  VOC/TECH
This course is designed to give the student an understanding of the various products available through funeral homes and competing industries. Topics of study include merchandising, casket, urn and vault construction. Prerequisite: Admission to the Mortuary Science program.

MLR 335  EMBALMING I  3 3 000  VOC/TECH
Basic techniques of embalming through dissection, preservation and restoration of deceased human remains. Included are instruments, treatment planning and the practical application of modern embalming theory. Prerequisite: Admission to the Mortuary Science program and BIO 175 or BIO 164.

MLR 336  EMBALMING I CLINICAL  3 3 000  VOC/TECH
This course is a study of basic techniques of embalming through dissection, preservation and restoration of deceased human remains. Included are instruments, treatment planning and the practical application of modern embalming theory. Prerequisite: Admission to the Mortuary Science program and BIO 175 or BIO 164.

MLR 340  EMBALMING II  3 3 000  VOC/TECH
This course is a continuation of MLR 335. Theories and principles of embalming, embalming chemicals, cavity treatments and disaster management will be studied with an emphasis on application to specific cases. Prerequisite: Admission to the Mortuary Science program and MLR 335.

MLR 341  EMBALMING II CLINICAL  1 0 200  VOC/TECH
This course is an advanced study of embalming techniques. Included in the study will be the embalming of difficult cases. Prerequisite: MLR 335 and admission to the Mortuary Science program; Corequisite: MLR 340.

MLR 345  RESTORATIVE ART  3 3 000  VOC/TECH
Students will develop knowledge of anatomical modeling, facial expressions, color, cosmetics, display lighting, instruments and materials and techniques necessary to rebuid the human face that has been destroyed by traumatic and/or pathological conditions. Prerequisite: MLR 335 and admission to the Mortuary Science program.

MLR 346  RESTORATIVE ART LAB  1 0 200  VOC/TECH
This course is designed to provide the student with the theories applied in restorative art procedures. The student will study the anatomical structure of the cranial and facial areas of the human skull, facial proportions and markings, methods and techniques used to restore facial features destroyed by traumatic or pathological conditions and color and cosmetology theory. Prerequisite: MLR 335; Corequisite: MLR 345.

MLR 350  SURVEY OF INFECTIONOUS DISEASES  2 2 000  VOC/TECH
This course provides a survey of infectious disease processes, nonspecific and specific defense mechanisms and principles of infection control and epidemiology. Safe handling of infectious materials and personal protective equipment are emphasized. Prerequisite: Admission to the Mortuary Science program.
COURSE DESCRIPTIONS

MUS 101  APPLIED VOCAL I  1 0 2 0 0 0  V/TECH
Individual instruction in voice. Weekly half-hour lessons, breath control, dictation, literature and stage presence. May be repeated for a maximum of 4 credits.

MUS 120  APPLIED PIANO I  1 0 2 0 0 0  GENERAL
Individual instruction in piano. Weekly half-hour lessons. Beginning, intermediate or advanced students accepted. May be repeated for a maximum of 4 credits.

MUS 121  APPLIED PIANO II  2 1 2 0 0 0  GENERAL
This course is especially for the beginning in piano. Students will be introduced to the fundamentals of piano playing, beginning note reading for the keyboard, technical development and appropriate repertoire.

MUS 147  APPLIED INSTRUMENTAL  1 0 2 0 0 0  GENERAL
Individual instruction in an instrument. Weekly half-hour lessons. May be repeated for a maximum of 4 credits.

MUS 100  MUSIC APPRECIATION  3 3 0 0 0 0  CORE
A survey of the development of western art music through study of representative compositions of many periods and styles. Includes definitions of musical terminology and a major emphasis on listening.

MUS 102  MUSIC FOUNDATIONAL  3 3 0 0 0 0  CORE
This course introduces students to the elements of music through performance on recorder and piano. Includes instruction in teaching the elements of music to pre-school and elementary school children.

MUS 106  MATERIALS OF MUSIC I  4 3 2 0 0 0  GENERAL
All aspects of music theory will be introduced and explored with the experienced music student. Activities will include ear training, sight singing, keyboard training and written theory assignments.

MUS 107  MATERIALS OF MUSIC II  4 3 2 0 0 0  GENERAL
As a sequel to Materials of Music I, this course will examine music theory in greater complexity and will emphasize the harmonic aspects of music. Activities will include ear training, sight singing, keyboard skills and written theory assignments. Prerequisite: MUS 106.

MUS 143  CONCERT CHORUS  2 1 2 0 0 0  GENERAL
The concert chorus is open to all students. Varied literature is chosen. May be repeated for a maximum of 8 credits. Prerequisite: MUS 104.

MUS 150  CHAMBER ENSEMBLE  1 0 2 0 0 0  GENERAL
This course is open to members of the Concert Choir who are selected by auditioning with the director. Chamber Choir sings a variety of musical styles and the music is generally more difficult than the music in Concert Choir. Prior choir experience is most helpful. May be repeated for a maximum of 4 credits. Prerequisite: Audition with director Corequisite: MUS 143.

MUS 123  COMPUTER HARDWARE BASICS  4 2 4 0 0 0  V/TECH
A study of microprocessors/micorcomputer interface methods. It includes parallel interfacing using the 8255 PPI and serial interfacing using UART and USART. Digital-to-Analog and Analog-to-Digital converters are also examined. Prerequisite: ELT 611, 612; Corequisite: NET 125.

MUS 125  MICROPROCESSOR INTERFACING LAB  4 0 8 0 0 0  V/TECH
Provides technical level of understanding in the areas of microcontroller networking, communication data and concept protocols and communication concepts.

MUS 126  NETWORKING TECH-MAINFRAME  2 2 0 0 0 0  V/TECH
To provide a technical level of understanding in the areas of mainframe networking connectivity, data communications and protocol communication.

MUS 127  SERVICE & SUPPORT  2 2 0 0 0 0  V/TECH
A survey of the development of western art music through study of representative compositions of many periods and styles. Includes definitions of musical terminology and a major emphasis on listening.

MUS 128  NETWORK COMPATIBILITY PRODUCTS  4 4 0 0 0 0  V/TECH
Concepts of the software and hardware used to link various computers and operating systems. Prerequisite: NET 144, 144A; Corequisite: NET 129.

MUS 129  NETWORK COMPATIBILITY PROD LAB  4 2 4 0 0 0  V/TECH
Course covers installing and configuring compatibility software and hardware. Use of software to share data among dissimilar system types. Prerequisite: NET 445, 444; Corequisite: NET 129.

MUS 139  MCSE DESKTOP OP SYSTEM  4 3 2 0 0 0  V/TECH
Course involves installation, configuration, maintenance and administration of Windows XP Professional software. Prepares students with a knowledge base for Windows XP Pro version certification exam. Prerequisite: NET 225 or Net Plus Certification.

MUS 144  DIGITAL & COMPUTER ELECT. LAB  3 2 2 0 0 0  V/TECH
In the context of today’s computer technology, this class studies digital electronic circuits concentrating on gates, counters, registers and memory. Also included is the study of data communications by bus structure, parallel and serial ports and microprocessors. Corequisite: NET 145.

MUS 215  CISCO NETWORKING  4 2 4 0 0 0  V/TECH
This course provides the student with a technical level of understanding in the areas of PC and mainframe networking connectivity, data communications and protocol communication.

MUS 223  CISCO ROUTERS  4 2 4 0 0 0  V/TECH
This course includes network standards, LANs, WANs, OSI models, routers, router programming, Ethernet and IP Protocol addressing and decision making and problem solving techniques. Prerequisite: NET 215.

MUS 225  CISCO SWITCHES  4 2 4 0 0 0  V/TECH
CISCO training includes learning the basics of setting up, configuring and maintaining a switch, bridge and router. Additional areas cover layer 2 and 3 network design, IP addressing scheme, VLANs, IPX compatibility, access lists, TCP/IP and Telnet. Corequisite: NET 223.

MUS 243  CISCO WIDE AREA NETWORKS (WAN)  4 2 4 0 0 0  V/TECH
CISCO training involves WAN design, point-to-point protocol, ISDN, frame relay and network management. Part of this course is involved with extensive review of semester one through semester four material in preparation for the CCNA. Prerequisite: NET 233.

MUS 245  WINDOWS NETWORK MANAGEMENT  4 2 4 0 0 0  V/TECH
This course is designed to meet the requirements of MCSE test #209-298. It covers the basic, entry-level, Windows networking materials and skills. Prerequisite: NET 125.

MUS 333  IMP WINDOWS NETWORK INFRA  3 3 0 0 0 0  V/TECH
This course concentrates on the specifics of network infrastructure administration, including setting up, maintaining and administering the network. The content is geared toward preparation for the associated Microsoft certification test. Prerequisite: NET 223, 625, 626.

MUS 343  WINDOWS DIRECTORY SERVICE  3 2 2 0 0 0  V/TECH
This course concentrates on the specifics of active directory administration. Course includes setting up, maintaining and administering the active directory services of current Windows server products. Prerequisite: NET 225, 625, 628.

MUS 355  DESIGN MS ACTIVE DIR & NETWORK  3 3 0 0 0 0  V/TECH
This course covers the current curriculum for designing MS active directory services and network infrastructure. Prerequisite: NET 335, NET 343, NET 664.

MUS 376  DESIGNING SECURITY FOR MS NET  3 3 0 0 0 0  V/TECH
Provides knowledge and skills to design a secure network infrastructure, to design security policies and the operations framework. Topics include the design team, modeling threats, analyzing security risks in order to meet business requirements for securing computers in a networked environment, designing an acceptable use policy, designing policies for managing networks and designing an operations framework for managing security. Prerequisite: NET 331, 341, 664.

MUS 402  LINUX NETWORK ADMINISTRATION  3 2 2 0 0 0  V/TECH
This is the first in a series of ITNA Linux courses. This course covers the basic installation and administration of the Linux operating system. For more information contact the program chairperson of the ITNA Department. Prerequisite: NET 623 or instructor permission.

MUS 412  LINUX SYSTEM ADMINISTRATION  3 2 2 0 0 0  V/TECH
This is the second in a series of ITNA Linux courses. This course covers administration of the Linux operating system. For further information contact the program chairperson of the ITNA Department. Prerequisite: NET 402 or instructor permission.

MUS 422  LINUX SYSTEM PROGRAMMING  3 2 2 0 0 0  V/TECH
This is the third in a series of ITNA Linux courses. This course covers systems programming for the Linux operating system. The final project for the course will be creating your own Pocket Sniffer/Intrusion Detection System/Firewall. For more information contact the program chairperson of the ITNA Department. Prerequisite: NET 412 or instructor permission.

MUS 432  LINUX SYSTEM SECURITY  3 2 2 0 0 0  V/TECH
This is the first in a series of ITNA Security courses. This course details how to protect your network from malicious users and how to choose and configure a Firewall for Microsoft Windows, Novell, Linux and Cisco. For further information contact the program chairperson of the ITNA Department. Prerequisite: NET 623 or instructor permission.
**COURSE DESCRIPTIONS**

**NET 454** 3 2 2 0 0
**LINUX SYSTEMS & CERTIFICATION**  VOC/TECH
This course provides the student with a thorough study into various Linux/Unix systems available, the advantages and disadvantages, installation techniques and management functions. A significant amount of time will be spent loading, operating and contrasting the various operating systems. Prerequisite: NET 402, 432

**NET 455** 3 2 2 0 0
**LINUX PROGRAMMING FOR ADMIN**  VOC/TECH
This course includes the study of creating and installing bash and Perl scripts as well as a detailed study of their uses and power controlling a Linux or UNIX environment. The student will also create, compile and link C code and explore the UNIX/Linux kernel. Prerequisite: NET 422

**NET 456** 3 2 2 0 0
**LINUX NETWORK PROGRAMMING**  VOC/TECH
The purpose of this class is to familiarize the student with the functions and program skills to successfully support Linux in a network environment. The course will include a major project of programming and installing a successful Linux network service. Prerequisite: NET 435

**NET 444** 3 3 2 0 0
**UNIX OPERATING SYSTEM**  VOC/TECH
Concepts of the UNIX operating system commands. Use of shells, shell scripts, facilities and management commands. Completive: NET 444

**NET 448** 4 3 2 0 0
**NETPLUS CERTIFICATION**  VOC/TECH
This course is a comprehensive study for learning, mastering and practicing the concepts required to pass the compTIA Net Plus Certification Exam. The student will have a significant amount of reading and studying, as well as skill building lab time. This course is intended for the student seeking certification.

**NET 488** 2 2 0 0 0
**NETWARE 4.X ADMINISTRATION**  VOC/TECH
Course covers the knowledge and skills needed to perform NetWare 4.x network administration and system management tasks effectively.

**NET 532** 3 2 2 0 0
**LINUX ENTERPRISE ADMIN I**  VOC/TECH
Provides knowledge and skills to perform competently in the role of Network Administrator or System Manager for NetWare 5. Prerequisite: NET 235, 225

**NET 521** 3 2 2 0 0
**NOVELL SYSTEM ADMINISTRATION**  VOC/TECH
Work as a design team using a case company. Create a design document for IntranetWare and create an implementation schedule. Prerequisite: NET 454, 522

**NET 522** 3 2 2 0 0
**NOVELL ENTERPRISE ADMIN II**  VOC/TECH
Provides advanced administration skills to design, configure and administer a complex NetWare 5 network. Prerequisite: NET 225, 225

**NET 541** 3 2 0 0 0
**NOVELL SYSTEM PROGRAMMING**  VOC/TECH
The two main goals of the service and support course are NetWare installation and upgrade and basic network troubleshooting. After completing this course, you will be able to install the servers and workstations, configure and install network boards and cables and locate and diagnose common network problems. Prerequisite: NET 521, 522

**NET 621** 2 2 0 0 0
**CORSERIA NETWORK SECURITY**  VOC/TECH
Prerequisite: NET 512, 532

**NET 623** 4 2 0 0 0
**NETWORK APPLICATIONS**  VOC/TECH
Prerequisite: NET 225 (Completive: NET 428, 427)

**NET 640** 2 1 0 0 0
**TCP/IP FOR NETWORKING**  VOC/TECH
Concepts of the TCP/IP protocol suite. Includes protocol formats, usage and network commands. Concepts of design, installation and management are introduced. Prerequisite: NET 443, 444; Completive: NET 689

**NET 681** 1 0 2 0 0
**TCP/IP FOR NETWORKING LAB**  VOC/TECH
Hands-on experience with the TCP/IP protocol. Prerequisite: NET 680. Students will learn the practical aspects of TCP/IP network administration. Prerequisite: NET 454, 453, 445

**NET 771** 3 3 0 0 0
**SQL DATABASE**  VOC/TECH
This course covers the core curriculum for implementing a database in Microsoft SQL Server. For more information, contact the program instructor of the IT/NA program. Prerequisite: NET 331, 664, 344

**NET 871** 3 1 4 0 0
**GOLF I**  VOC/TECH
This course is designed for men and women. Includes basics of golf skills. Prerequisite: PEA 134 or equivalent

**PEC 160** 1 0 2 0 0
**SPORTS OFFICIALING**  VOC/TECH
Introduction to the rules and officials mechanics for high school sports, track and field. Includes sports psychology, preparation for competition and issues in coaching.

**PEC 161** 2 1 0 0 0
**COACHING ETHICS, TECH & THEORY**  VOC/TECH
Course covers techniques and theory of coaching in addition to sports participation for preparation for competition and issues in coaching.

**PEC 184** 1 0 2 0 0
**BOWLING I**  VOC/TECH
Beginning skills only.

**PEC 185** 2 1 0 0 0
**BOWLING II**  VOC/TECH
Continued study of bowling concepts. Prerequisite: PEC 184

**PEC 186** 1 0 2 0 0
**BOWLING III**  VOC/TECH
Continued study of bowling concepts. Prerequisite: PEC 185

**PEA 100** 1 0 2 0 0
**FIRST AID**  VOC/TECH
This course will provide the student with the practical, cognitive, behavioral and decision making skills needed for lifeguarding and the necessary skills to conduct first aid at all levels of Red Cross swimming and water safety lesson programs. Upon successful completion, student will receive Red Cross Certification in Lifeguarding and Water Safety Instruction.

**PEA 101** 3 3 0 0 0
**SPORTS OFFICIALING**  VOC/TECH
Study of the rules and official’s mechanics for high school football, basketball and baseball. Provides guidelines for students to become licensed officials in Iowa for these sports.

**PEA 102** 3 3 0 0 0
**PERSONAL WELLNESS**  VOC/TECH
This course will aid in the enhancement of knowledge, skills and attitudes necessary to promote positive, life-long wellness decisions. Students will look at the physical, social, intellectual, emotional, occupational and spiritual components of wellness.

**PEA 103** 1 0 2 0 0
**COACHING ETHICS, TECH & THEORY**  VOC/TECH
Course covers techniques and theory of coaching in addition to sports psychology, preparation for competition and issues in coaching.
COURSE DESCRIPTIONS

INTRO TO PHYSICAL EDUCATION OPEN
History of physical education. Careers and professional leadership in physical education with emphasis on teaching. Examines the four areas of most vital concern to the physical educator: recreation and leisure, sports, curriculum and research and evaluation.

PEH 170 SPORTS DIVERSITY VOC/TECH 33000
This course explores diversity in sports and in sports organizations: how individuals differ, how differences influence organizations, how to manage diversity in the workplace, how to understand legal issues and manage diversity training.

PEH 190 SPORTS NUTRITION VOC/TECH 22000
Basic principles of human nutrition and nutritional needs for athletes and/or physically active populations. Issues discussed include: ergogenic aids, carbohydrate loading, manipulation, eating disorders, protein supplements, and hydration. Practical application will include dietary analysis and composition for people in various activities and conditions.

PEH 255 PRINCIPLES-SPORTS MANAGEMENT OPEN 33000
The foundation and principles of sport management. Theory, ethics and practice of management are discussed in relation to the fitness and sport industries.

PEH 262 WELLNESS/PROG/PLANNING/ORGANZ OPEN 33000
The purpose of this course is to familiarize the student with wellness programs in the workplace. Emphasis will be on program design, health assessment, corporate management issues and promotion.

PEH 265 LEADERSHIP TECH/FITNESS PROG OPEN 21200
Development of exercise leadership skills for a variety of activities. Includes the planning and promotion as well as the teaching techniques for developing fitness in others using a variety of exercise modalities. Aerobic, weight training and aquatic fitness are included. Prerequisite: PEH 144.

PEH 920 FIELD EXPERIENCE 20008
Supervised experience in fitness or sports management agencies. The student will be able to apply their own knowledge and skills in a professional setting.

PET 110 INTRO TO ATHLETIC TRAINING OPEN 21200
Entry-level course designed to introduce the potential coach or athletic trainer to the field of athletic training. Basic care and prevention of athletic injuries will be dealt with in order to equip the coach or trainer with the knowledge to make intelligent decisions regarding common athletic injuries.

PEV 115 VARSITY BASEBALL OPEN 10200
Provides experience and instruction in men’s baseball. Course is designed for the varsity athlete in terms of conditioning, practice, game preparation and weight training. Limit 1 credit per year with a maximum of 2 credits total. Credit for a sport course may not be applied toward graduation if credit is also received for any skill technique course in the same sport. Prerequisite: Permission of the head coach

PEV 121 VARSITY BASKETBALL, MEN 10200 OPEN
Provides experience and instruction in men’s basketball. Course is designed for the varsity athlete in terms of conditioning, practice, game preparation and weight training. Limit 1 credit per year with a maximum of 2 credits total. Credit for a sport course may not be applied toward graduation if credit is also received for any skill technique course in the same sport. Prerequisite: Permission of the head coach

PEV 122 VARSITY BASKETBALL, WOMEN 10200 OPEN
Provides experience and instruction in women’s basketball. Course is designed for the varsity athlete in terms of conditioning, practice, game preparation and weight training. Limit 1 credit per year with a maximum of 2 credits total. Credit for a sport course may not be applied toward graduation if credit is also received for any skill technique course in the same sport. Prerequisite: Permission of the head coach

PEV 130 VARSITY CROSS COUNTRY OPEN 10200
Provides experience and instruction in cross country. Course is designed for the varsity athlete in terms of conditioning, practice, game preparation and weight training. Limit 1 credit per year, with a maximum of 2 credits total. Credit for a sport course may not be applied toward graduation if credit is also received for any skill technique course in the same sport. Prerequisite: Permission of the head coach

PEV 140 VARSITY GOLF OPEN 10200
Provides experience and instruction in golf. Course is designed for the varsity athlete in terms of conditioning, practice, game preparation and weight training. Limit of 1 credit per year, with a maximum of 2 credits total. Credit for a sport course may not be applied toward graduation if credit is also received for any skill technique course in the same sport. Prerequisite: Permission of the head coach

PEV 170 VARSITY VOLLEYBALL OPEN 10200
Provides experience and instruction in women’s volleyball. Course is designed for the varsity athlete in terms of conditioning, practice, game preparation and weight training. Limit 1 credit per year, with a maximum of 2 credits total. Credit for a sport course may not be applied toward graduation if credit is also received for any skill technique course in the same sport. Prerequisite: Permission of the head coach

PEV 190 VARSITY SPIRIT SQUAD OPEN 10200
Men and women desiring to be basketball cheerleaders for varsity basketball season.

PHI 115 PRINCIPLES OF PHLEBOTOMY VOC/TECH 32200
An orientation course designed to give students a thorough background in blood collection, including demonstrations of and practice performing venipuncture and skin puncture techniques. This course is required for students who wish to obtain certification in Phlebotomy. Students must also enroll in the Phlebotomy Clinical course (PHI 280). Corequisite: PHI 280

PHI 190 APPLIED NUTRITION AND WEIGHT MANAGEMENT Open 10200
Provides experience and instruction in nutrition and weight management. Course is designed for the varsity athlete in terms of nutrition, exercise, weight management and practical application. Prerequisite: Permission of the head coach

PHI 237 CLASSICAL PHYSICS I CORE 65200
This course is calculus-based and intended for engineering and science majors. Topics covered include statics, dynamics, kinematics, fluid behavior, wave motion, vibrating systems, heat and thermodynamics. Corequisite: MAT 211 or equivalent must be taken concurrently or prior to this course

PHI 238 CLASSICAL PHYSICS II CORE 65200
This course is a continuation of Classical Physics I. Topics covered include static electricity, electrical circuits, magnetism, time-dependent electric and magnetic fields, optics and modern physics. Prerequisite: PHI 237 or equivalent; Corequisite: MAT 217 must be taken concurrently or prior to this course
COURSE DESCRIPTIONS

PRL 125  COMPARATIVE GOVT & POLITICS  3   CORE
Examination of the government and politics of such countries as Great Britain, Mexico, Germany and Russia. Each nation is viewed in terms of its political culture, party system, executive, legislative and legal organization.

PRL 127  NEWS MEDIA-ELECTORAL POLITICS  3   GENERAL
Course will examine the role the news media play in electoral strategy and outcomes. Focus will be on the relationship among the voting public, television and print media and public officials. The most recent election will be assessed. The course is designed for prospective journalists and political science majors. Corequisite: JST 165

PRL 129  POLITICS OF TERRORISM  3   GENERAL
An interactive course analyzing the philosophy and methodology of prominent extremist groups in the USA and the world. Focus will be on definitions, conditions, media response and prospects for future terrorist activity. Assessments will be student-centered and emphasize research and composition.

PRL 131  INTRO TO PUBLIC ADMINISTRATION  3   CORE
Study of the theory and practice of public administration examining alternate organization theories and practices, personnel administration, problems of communications within organizations and styles of leadership. Course emphasizes the interrelationships of professional and political influences on decision making.

PRL 133  INTRODUCTION TO LAW  3   OPEN
A general introduction to the American legal system including case briefing, court structure and civil, criminal and administrative procedure. An examination of ethical and professional practice standards applicable to the legal profession. Understanding of the roles of the judge, jury, attorney and legal assistant.

PRL 134  LEGAL RESEARCH & WRITING I  3   OPEN
The nature of legal authority and tools and techniques of basic legal research and writing. Emphasis will be on Iowa law. Degree Students: If transcript has not been submitted you must contact the registration office to register for this course. Prerequisite: ENG 101

PRL 135  LEGAL RESEARCH & WRITING II  3   OPEN
Advanced application of principles of legal research. Preparation of interoffice memorandums and demand letters. Out-of-state and federal law. Prerequisite: PRL 133, 112

PRL 136  ADV LEGAL RESEARCH & WRITING  3   OPEN
Research and analysis of complex and multiple factual and legal issues. Preparation of legal documents using analysis and application of legal research. Use of specialized research sources. Prerequisite: PRL 134

PRL 138  COMPUTERIZED LEGAL RESEARCH  3   OPEN
Introduction to computer assisted legal research. Training in legal research search strategies using both the Lexis and Westlaw systems. Prerequisite: PRL 112

PRL 139  EVIDENCE: THEORY & PRACTICE  3   OPEN
A study of the substantive and procedural laws of evidence. Introduction to the rules of evidence. Methods of discovering, preserving and presenting evidence in civil and criminal trials. Prerequisite: PRL 111 or instructor permission

PRL 140  BUS & CORPORATE LAW I  3   OPEN
Continuation of Business & Corporate Law I. Survey of rights of debtors and creditors in collections and bankruptcy. Formation of proprietorships, partnerships and corporations and a survey of the law applicable to each. Preparation of documents necessary to the organization and operation of each. Prerequisite: PRL 141

PRL 141  BUSINESS & CORPORATE LAW II  3   OPEN
A study of the fundamentals of the law of contracts, the uniform commercial code and the rights of creditors in transactions.

PRL 142  DEBTOR/CREDITOR LAW  3   OPEN
Procedures in non-bankruptcy debt collection. Fundamentals of bankruptcy law and bankruptcy procedure. Examination of alternatives to formal bankruptcy proceedings. Prerequisite: PRL 111, 112 or instructor permission

PRL 143  REAL ESTATE LAW  3   OPEN
A study of the law of real property and a survey of the more common types of real estate transactions. Emphasis is on the preparation of the instruments necessary to complete various real estate transactions. Prerequisite: PRL 111, 112 or instructor permission

PRL 144  FAMILY LAW  3   OPEN
The legal aspects of the family relationship. The rights and duties of the parties in marriage, annulment, divorce, child custody and adoption. The course will emphasize the use of domestic law forms. Prerequisite: PRL 111, 112 or instructor permission

PRL 145  PROBATE PROCEDURE  3   OPEN
A study of wills including validity requirements, modification and revocation. Formation of trusts and the characteristics and requirements of ex-ante gifts of testate and intestate succession. Forms and procedures for proving an estate. Prerequisite: PRL 111, 112 or instructor permission

PRL 146  WILLS/ESTATE PLANNING/TAXATION  3   OPEN
Basic principles of estate planning in order to minimize estate and gift tax consequences. Preparation of federal estate, gift tax returns and Iowa inheritance tax returns. Drafting of wills designed to carry out estate plans. Prerequisite: PRL 139

PRL 147  ADMINISTRATIVE PRACTICE  3   OPEN
A study of administrative law and procedures for administrative hearings in various governmental agencies. Drafting and researching administrative rules and regulations will be covered. Prerequisite: PRL 103, 112 or instructor permission

PRL 148  MEDIATION  3   OPEN
Classroom study of mediating legal disputes. Students will study the purposes of mediation using “objective” criteria, impediments to resolution, moving beyond impasse and reaching an agreement. Prerequisite: PRL 111, 112 or instructor permission

PRL 149  DEBT COLLECTION  4   OPEN
Application of the theoretical knowledge gained in the classroom by interning in a private law office, governmental agency or private business that utilizes attorneys. Students will participate in seminars concerning their internship experiences and legal ethics. Total internship requirement is 225 hours. (FY) Prerequisite: Minimum grades of “C” in all PRL courses and complete a minimum of eight PRL courses

PRL 150  HUMAN RELATIONS & ETHICS  3   OPEN
Emphasizes an awareness of the factors inherent in human relationships and psychological adjustment patterns of individuals and groups. Effort is made to develop the techniques of interpersonal relations and coping.

PRL 151  INTRODUCTION TO PSYCHOLOGY  3   CORE
A survey of psychology including theoretical and experimental findings and applications from areas such as neurobiology, learning, memory, personality, social, abnormal and therapies.

PRL 152  DEVELOPMENTAL PSYCHOLOGY  3   CORE
The study of factors that affect human development from conception to death, with emphasis on topics such as physical, cognitive and social-change, methods of study and current issues.

PRL 153  EXPLORING MENTAL HEALTH  3   GENERAL
Examines the basic causes, manifestations and treatment of common psychological disorders. The course introduces mental illness along a continuum from functional to dysfunctional.

PRL 154  STRESS & STRESS MANAGEMENT  3   GENERAL
This course provides basic instruction in understanding stress reactions, their causes and effects and the theory and application of stress management techniques. Includes theories of stress and stress reduction, physiological/psychological reactions to stress, measurement of stress reactions and application of stress reduction.

PSE 241  ABNORMAL PSYCHOLOGY  3   CORE
An introduction to the study of abnormal behavior, with emphasis on anxiety, depression, schizophrenia and personality disorders. The course includes understanding the personal dynamics of mental disorders and biopsychosocial factors involved in assessment, etiology and treatment. Recommend PSE 241 be taken prior to this course.

PSE 251  SOCIAL PSYCHOLOGY  3   CORE
This course surveys selected topics in social psychology including social perception, social influence, attraction, altruism, aggression, persuasion, attitude formation, group processes and applications of research to everyday situations.

PSE 261  HUMAN SEXUALITY  3   CORE
This course provides students with definitive and precise information about the nature of human sexuality and gender roles. An interdisciplinary approach will be used to present a more comprehensive view, stressing the biological, social and psychological aspects of sexuality and gender roles.

PSE 281  EDUCATIONAL PSYCHOLOGY  3   GENERAL
The principles of psychology applied to classroom teaching, with emphasis on such topics as development, learning, motivation, evaluation, adjustment and educational techniques and innovations.

PSE 291  PRIN. OF BEHAVIOR MODIFICATION  3   GENERAL
The principles of learning theory with a major emphasis on operant conditioning will be studied. Emphasis will be on the practical application of these principles to the areas of mental health, mental retardation and education.

RCP 100  INTRO TO RESPIRATORY CARE  3   OPEN
This initial course in the Respiratory Therapy program emphasizes the assessment and evaluation of patients. Also included will be a history of health care, medical specialities, communication skills and medical terminology. Students must demonstrate skill in the assessment of patient vital signs. Prerequisite: BIO 135 or BIO 164

RCP 140  RESPIRATORY THERAPEUTICS  4   OPEN
This course introduces the student to basic therapeutic techniques utilized in respiratory care. Major topics include medical gas therapy, humidity and aerosol, cylinder systems and physical principles of gases and liquids. Students will be required to demonstrate competence in the techniques to receive a passing grade in the course. Prerequisite: RCP 100 must be taken concurrently or prior to this course

RCP 250  CARDIO/POULMONARY THERAPEUTICS  4   OPEN
Students will learn basic patient care techniques of hyperinflation therapy, secretion clearance, airway care, patient assessment, pulmonary rehabilitation, subacute respiratory care and assessment of effectiveness of therapies. Students will be required to demonstrate competence in procedures to succeed in this course. Corequisite: RCP 240 must be taken concurrently with or prior to this course. Corequisite: RCP 240

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COURSE DESCRIPTIONS

RCP 360 5 5 0 0 0
CARDIO/PULMONARY RENAL PATHOPHYSIOLOGY OPEN
An in-depth study of the normal functioning of the cardiovascular, pulmonary and renal systems, emphasizing their interactions, is presented. Progresses to study of the common adolescent and adult diseases affecting the three systems. Interpretation of the results of arterial blood gas pli data will be taught. Prerequisite: RCP 250 and BIO 734 must be taken concurrently with or prior to this course.

RCP 400 3 3 0 0 0
RESP THERAPY PHARMACOLOGY OPEN
This course provides a study of the actions and interactions of drugs with and within the body. Theories of drug action, pharmacodynamics and methods for drug administration will be taught. Drugs affecting the cardiovascular, pulmonary and renal systems will be emphasized. Prerequisite: RCP 250 and BIO 734 must be taken concurrently with or prior to this course.

RCP 430 3 3 0 0 0
CARDIO/PULMONARY DIAGNOSTICS OPEN
Principles and techniques of testing of cardiovascular and pulmonary function will be learned with an emphasis on the evaluation and interpretation of the results of the tests. Integration of test results with clinical picture with emphasis on therapeutics and principles of polygraphy will be learned. Prerequisite: BIO 734 or 164, RCP 360, 400.

RCP 500 5 4 2 0 0
ADVANCED RESPIRATORY THERAPY OPEN
Techniques of initiation, monitoring, maintenance and discontinuation of mechanical ventilation in a variety of care settings will be learned. Students will develop skill in ABG analysis and electrocardiography. Adjusts for the advanced life support will be learned. Students will become proficient in the analysis of arterial blood gases and basic techniques of electrocardiography. Students will learn the use of adjuncts for the treatment of cardiopulmonary arrest. Prerequisite: BIO 734 or BIO 164, RCP 360.

RCP 600 3 3 0 0 0
NEONATAL/PEDIATRIC RESPIR THER OPEN
Embyronic development of the respiratory and cardiovascular systems will begin this course, which progresses to the learning of normal function and a consideration of the common neonatal and pediatric diseases. Therapeutic techniques and monitoring of the patients will be learned. Prerequisite: BIO 734 or RCP 360.

RCP 700 4 2 0 0 0
RESP THERAPY PRACTICUM I OPEN
This is the initial hospital experience which consists of supervised care of patients with respiratory disorders. Students will administer IPPB, aerosol, postural drainage and incentive breathing therapies. Other therapeutic modalities which have been learned will be introduced as well. Prerequisite: RCP 250 Corequisite: RCP 360, 400.

RCP 705 5 2 0 0 0
RESP THERAPY PRACTICUM II OPEN
This practicum will continue the supervised experience in provision of basic patient care techniques to therapies from Practicum I. Arterial puncture, arterial line sampling and analysis of blood samples will be introduced. Suctioning of airways will be emphasized. Prerequisite: RCP 360.

RCP 710 7 2 0 0 0
RESP THERAPY PRACTICUM III OPEN
The practicum continues supervised experience in basic therapeutic techniques with emphasis on increased speed and efficiency. Neonatal intensive care will be introduced. Students will continue development of skills in sampling and analyzing arterial blood. EKG and other cardiac diagnostic tests will be observed. Prerequisite: RCP 600, 705.

RCP 715 7 2 0 0 0
RESP THERAPY PRACTICUM IV OPEN
Hospital respiratory care with the addition of mechanical ventilation and care of patients in critical care units will complement the techniques from the prior practicums. Observation and performance of pulmonary function testing will be learned. Prerequisite: RCP 500, 710, 410 must be taken concurrently with or prior to this course.

RCP 720 5 2 0 0 0
RESP THERAPY PRACTICUM V OPEN
The fourth clinical experience with emphasis on the care of patients in critical care areas of the hospital. All techniques and procedures previously performed will continue to be administered to patients. Prerequisite: RCP 410, 715.

RCP 800 3 3 0 0 0
RESP THERAPY MGMT & ETHICS OPEN
Begins with study of the organization and management of a respiratory therapy department. Consideration of issues of jurisprudence and medicolegal aspects of health care. Tactful interactions and ethical dilemmas will be emphasized. Will also serve to review much of what has been assimilated in the program. Prerequisite: RCP 710.

RDG 038 3 3 0 0 0
COLLEGE PREPARATORY READING I: COLLEGE PREPARATORY OPEN
The first in a series of courses designed to help students succeed with college-level reading assignments. Emphasis will be placed on vocabulary development and basic comprehension skills, particularly the skill of recognizing the main idea and supporting details. College preparatory courses cannot be used to fulfill degree requirements. Prerequisite: COMPASS reading score of 35 or higher or instructor permission based on alternative test.

RDG 039 3 3 0 0 0
COLLEGE PREPARATORY READING II: COLLEGE PREPARATORY OPEN
The second in a series of courses designed to help students succeed with college-level reading assignments. Emphasis is on strengthening vocabulary and comprehension skills including annotating, summarizing, making inferences and reading critically. College preparatory courses cannot be used to fulfill degree requirements. Prerequisite: Grade of “C” or higher in RDG 038 or COMPASS score of 61 or higher on the Reading section or instructor permission based on alternative test.

RDG 163 3 3 0 0 0
SPEED READING GENERAL
An advanced reading course designed to improve reading speed and comprehension. Emphasis on adapting to varying context and levels of difficulty and reading purposes. Prerequisite: Grade of “C” or higher in RDG 039. ACT reading score of 19 or higher, COMPASS score of 88 or higher on the Reading section or instructor permission based on alternative test.

REL 101 3 3 0 0 0
SURVEY OF WORLD RELIGIONS CORE
Study of major living religions, their commonalities and contrasts. How these religions enrich human lives.

ROE 101 2 2 0 0 0
RAILROAD SAFETY VOC/TECH
General course on photography and crime scene photography. Topics include crime scene photography, legal aspects of photography, and photography specific to crime scenes. Prerequisite: Basic photography literacy.

SFD 010 1 1 0 0 0
THE COLLEGE EXPERIENCE OPEN
Prerequisite: Corequisite: RCP 101, 715.

SFD 015 2 2 0 0 0
STORY STRATEGIES VOC/TECH
Provides students with study reading strategies for independent learning and academic success. An examination of college policies and procedures is also included.

SFD 019 1 1 0 0 0
CAREER EXPLORATION GENERAL
Provides help in choosing a career goal. Emphasis will be placed on how to access labor market information, interests, abilities and values, explore options and make decisions that will lead to career success and success.

SFD 015 2 2 0 0 0
PRE EMPLOYMENT STRATEGIES VOC/TECH
Covers all aspects of professional job placement procedures including career testing. Developing prospective employer lists, resume writing, job application forms, employment tests, personal appearance, interviewing and follow-up.

SFD 017 1 1 0 0 0
BUILDING A PROFESSIONAL PORTFOLIO VOC/TECH
This course provides the writing and research skills necessary to complete a professional portfolio highlighting abilities, experiences and accomplishments. The portfolio will include a resume, reference letters, certificates, sample demonstrations of work performance, documentation that shows knowledge of subject area and other applicable forms.

SFD 016 2 2 0 0 0
ELECTRONIC PORTFOLIO DEVELOPMENT GENERAL
Provides students with the information, resources, and tools necessary to plan a successful transition from a community college to a four-year college or university. Special emphasis will be placed on developing individual transfer plans.

SFD 017 1 1 0 0 0
LIBRARY INSTRUCTION VOC/TECH
General
This course will provide students with practical knowledge of information literacy skills; specifically the process of conducting information research for academic assignments and lifelong learning. Students will learn and be able to articulate and perform the research process.

SFD 017 1 1 0 0 0
INTERNET RESEARCH TECHNIQUES VOC/TECH
Study of major living religions, their commonalities and contrasts. How these religions enrich human lives.

SFD 022 1 1 0 0 0
COOP CAREER SEMINAR VOC/TECH
Examination of topics relevant to the internship experience, sharing workplace problems encountered and the solutions found to those problems. May be repeated for a maximum of 4 credits. Corequisite: See SDV 222, 223, 224, 225, 226 or 227.

SFD 022 1 1 0 0 0
COOP CAREER EXPERIENCE I VOC/TECH
Supervised work experience with employers that enables students to apply their skills and knowledge. Work experiences will relate to the students’ academic programs of study. (P/F) Prerequisite: SFD 022.

SFD 023 1 1 0 0 0
COOP CAREER EXPERIENCE II VOC/TECH
Supervised practical experience on-the-job training in an approved business setting. Tasks will be consistent with student’s career objectives, skills and knowledge. (P/F) Prerequisite: SDV 222.

SFD 024 1 1 0 0 0
COOP CAREER EXPERIENCE III VOC/TECH
See SDV 222, (P/F) Prerequisite: SDV 222.

SFD 025 1 1 0 0 0
COOP CAREER EXPERIENCE IV VOC/TECH
See SDV 222, (P/F) Prerequisite: SDV 222.

SFD 026 1 1 0 0 0
COOP CAREER EXPERIENCE V VOC/TECH
See SDV 222, (P/F) Prerequisite: SDV 222.

SFD 027 1 1 0 0 0
COOP CAREER EXPERIENCE VI VOC/TECH
See SDV 222, (P/F) Prerequisite: SDV 222.

SOC 100 3 3 0 0 0
INTRODUCTION TO SOCIOLOGY CORE
The study of human interaction, groups and society. Topics included are culture, socialization, organizations, deviance, inequality, institutions, health, population, ecology, social change and research methods.

SOC 105 3 3 0 0 0
SOCIAL PROBLEMS CORE
The course is an analysis of the nature, dimensions, causes and characteristics of selected social problems of major interest. Consideration is given to theories research and programs for prevention and treatment.

SOC 120 3 3 0 0 0
MARRIAGE & FAMILY CORE
This course analyzes the sociological, physical, psychological, legal and economic aspects of the American family. Included are investigations of childbirth and marriage relationships, preparation for marriage, family, parenthood, interpersonal relationships and marital adjustment.

SOC 165 3 3 0 0 0
GROUP DYNAMICS GENERAL
The study of group behavior including leadership, interaction, team building, decision making, cooperation, cohesion, power, problem solving and conflict between and within groups.

SOC 200 3 3 0 0 0
MINORITY GROUP RELATIONS CORE
This course is the study of the relations between racial, ethnic and gender categories. Focus on stereotypes, prejudices, discrimination and exploitation. Major emphasis upon group relations in the United States. SDV 101 is recommended.

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**SOC 225**  
**SOCIAL GERONTOLOGY/APPL**  
**OPEN**

The influence of social factors on the aging process and experience including family, gender, ethnicity, retirement, living environments and health/elder care services. Students will complete an older adult service learning project.

**SOC 226**  
**ISSUES IN AGING**  
**OPEN**

This course will address the issues of aging in transition, explore the conflicts of change and examine the needs and strategies to best meet the demands and challenges presented to this fast-growing segment of our population.

**SOC 230**  
**JUVENILE DELINQUENCY**  
**GENERAL**

An investigation of juvenile delinquency in American society, sociological theories and research of delinquency, impact of groups, juvenile justice system and prevention programs. Prerequisite: SOC 110 or instructor permission.

**SOC 240**  
**CRIMINOLGY**  
**GENERAL**

The nature and extent of crime and criminality, society’s efforts to control crime, theories of causation, emphasis on social processes, systems and methods of correction. Prerequisite: SOC 110 or instructor permission.

**SOC 282**  
**ENVIRONMENTAL SOCIOLOGY**  
**GENERAL**

This course examines the relationships between society and the natural environment. It focuses upon human understanding of nature, the use and abuse of natural resources and what can be done to improve the relationship. It is recommended that students take SOC 110 prior to this course.

**SPO 101**  
**FUND OF ORAL COMMUNICATION**  
**CORE**

An introduction to interpersonal and small group communication and the composition and delivery of short speeches.

**SPO 120**  
**INTERCULTURAL COMMUNICATION**  
**GENERAL**

An introduction to theories and implications of intercultural communication as applied to the workplace and interpersonal relationships. Topics and activities are directed toward improving skills in intercultural competence.

**SUR 200**  
**SURVEY DRAFTING**  
**3 3 0 0 0**

This course includes the application of manual and computer-aided techniques in survey drafting. The topics include plan maps, topography, field notebook sketches and property descriptions. Third party software will be utilized. Prerequisite: CET 119.

**SUR 210**  
**US PUBLIC LANDS SURVEY SYSTEM**  
**5 4 2 0 0**

This course will develop a working knowledge of the United States Public Land Survey System and its application in Iowa surveying. Topics will include: the general plan; methods of survey; the system of rectangular surveys; monumentation; restoration of lost or obliterated corners; reserves; special surveys and special instructions; field notes and plats. Prerequisite: CET 110.

**SUR 230**  
**SAFETY IN THE WORK ENVIRONMENT**  
**1 1 0 0 0**

This course will address the various safety hazards and causes of illness and injury in the work environment. Topics will include acceptable safety conduct and personal and general safety attitudes and practices, basic first aid techniques, proper traffic control procedures, avoiding the effects of temperature extremes; recognizing and avoiding hazardous materials; potential hazards from poisonous plants and animals and ergonomic principles to prevent musculoskeletal disorders.

**SUR 240**  
**BOUNDARY LAW**  
**4 4 0 0 0**

This is an in-depth course dealing with evidence and procedures used in the determination and location of property boundaries and recognized landmarks. Laws and administrative rules relating to land surveying in the state of Iowa will be addressed. The role of the surveyor in issuing opinions regarding boundary locations and in resolving boundary disputes will be examined. Prerequisite: SUR 220.

**SUR 305**  
**FIELD COOP**  
**5 0 0 2 0**

Practical experience through on-the-job training in an approved surveying setting. Tasks will be consistent with students’ career objectives, skills and knowledge. Co-requisite: Successful completion of 13 credit hours of SUR program courses and/or department approval.

**SUR 101**  
**INTRO TO SURGICAL TECHNOLOGY**  
**2 2 0 0 0**

This course introduces the field of surgical technology, history of the profession, roles and responsibilities will be covered. Hospital administration, standards of conduct, working as a team, ethical issues, safety, lines, scope of practice and the physical environment will be reviewed. This course includes one operating room shadowing experience.

**SUR 140**  
**FUNDAMENTALS OF SURGICAL TECH**  
**5 3 4 0 0**

Teaches the skills needed to work as a surgical technician. Focuses on circulating duties. Instruction on how to admit the patient, consent and anesthesia will be discussed. Patient care, safety, transferring, positioning and draping the patient will be taught. The goal is to demonstrate the skills needed to function in a surgical setting.

**SUR 150**  
**MED TERMINOLOGY FOR SURG TECH**  
**2 2 0 0 0**

This course is designed to help students gain the knowledge needed to communicate clearly with other health care team members. Instruction starts with a foundation of word parts, prefixes, suffixes and word roots and then builds words by combining the parts. The course also covers terms not built from word parts and includes specialized vocabulary for surgical technologists. Exercises are included to help recognize and define new medical terms.

**SUR 200**  
**SURG PROCEDURES/TECHNIQUES I**  
**5 3 4 0 0**

Teaches the students about common surgical procedures. Focuses on the core areas of surgery including general, gynecological, orthopedic, ear, nose and throat and ophthalmology. Major and minor cases in all of these specialties will be taught. This course will discuss how and why procedures are performed, risks, benefits and outcomes.

**SUR 201**  
**SURG PROCEDURES/TECHNIQUES II**  
**3 1 0 0 0**

This class will discuss advanced surgical procedures and emergency cases. All specialty areas will be included, along with neurosurgery and cardiovascular. Helps develop the student’s critical thinking skills. This course prepares the students to think about unplanned situations in the surgical setting and to develop autonomy. Prerequisite: SUR 201 with a grade of “C” or better.

**SUR 420**  
**PHARMACOLOGY FOR THE SURG TECH**  
**2 2 0 0 0**

In this course the student will review basic math skills. The student will learn a framework of pharmacological principles to apply in surgical situations. Commonly used medications by category, with frequent descriptions of actual surgical applications, will be identified. The student will also learn basic anesthesia concepts to function more effectively as a surgical team member.

**TEL 111**  
**BASIC ELECTRICITY/ELECTRONICS I**  
**3 3 0 0 0**

For beginners to solve basic electronic problems involving voltage, resistance and power. Relationship between electricity and magnetism, operation of resistors, meters, switches, relays, capacitors, inductors and batteries will be explained.

**TEL 112**  
**BASIC ELECTRICITY/ELECTRONICS II**  
**2 2 0 0 0**

For those who have an understanding of volts, ohms, amps and series parallel circuits. Explain the difference between alternating current (AC) and direct current (DC), the AC generator, analyze simple AC circuits, transformer action, series and parallel resonant circuits. May also be taken as a study course.

**TEL 116**  
**ELECTRONIC CIRCUITS**  
**2 2 0 0 0**

Basic and operational amplifiers, power supplies, oscillators, pulse circuits and modulation. Must have prior knowledge in electricity/electronics. Prerequisite: TEL 112.

**TEL 118**  
**SEMICONDUCTOR DEVICES**  
**3 3 0 0 0**

N-type, P-type, PN junctions, diodes, Zener diode, transistors, bipolar characteristics, field effect, thyristors, integrated circuits and opto-electronics. Should have knowledge in AC/DC electronics.

**TEL 210**  
**TELECOMMUNICATIONS I**  
**3 3 0 0 0**

Provides an overview of telecommunications. Covers basic telecommunications circuits, equipment & diagnostic procedures for lines, basic key systems and an understanding of the telecommunications industry. Co-requisite: TEL 210.
COURSE DESCRIPTIONS

TEL 203  INTRODUCTION TO TELEPHONE LAB 3 0 6 0 0 V/O/C/T/ECH
Provides hands-on experience in installation and fault isolation of telephone lines and basic key systems, basic cable counts, cable splicing and cable termination procedures. Corequisite: TEL 210

TEL 220  TELECOMMUNICATIONS II 4 4 0 0 0 V/O/C/T/ECH
Covers basic telecommunications equipment used by businesses and its connection to a switched public or private network. Covered subjects include electronic key systems, private branch exchange systems (PBX), trunks and associated equipment. Analog and digital communications and associated equipment are also covered. Experienced individuals may contact the instructor to gain admittance to this course. Corequisite: TEL 223

TEL 222  TELECOM OUTSIDE PLANT 4 0 8 0 0 V/O/C/T/ECH
Provides hands-on training in the telecommunications outside plant field. Topics covered include basic installation and repair troubleshooting, fiber and copper cable repair and troubleshooting, outside plant cable splicing and design, ladder safety, working aloft and pole climbing. Prerequisite: TEL 210; Corequisite: TEL 220

TEL 223  TELECOM TRANSPORT LAB 3 0 6 0 0 V/O/C/T/ECH
Provides hands-on training on a private branch exchange system, user data modification for a digital central office switch, digital key systems and associated equipment. Experience includes wiring, soldering, call routing, fault isolation and modular splicing. Prerequisite: TEL 210, TEL 220; Corequisite: TEL 220

TEL 230  ADVANCED TOPICS IN TELECOM 4 4 0 0 0 V/O/C/T/ECH
Covers advanced digital switching principles and practices, system configuration and diagnostic procedures common to digital central office switching systems and private branch exchanges. Advanced topics using high speed broadband links and fiber optics are introduced. Experienced individuals may contact the instructor to gain admittance to this course. Prerequisite: TEL 220, TEL 223; Corequisite: TEL 235

TEL 252  DATA COMMUNICATIONS 3 3 0 0 0 V/O/C/T/ECH
An introduction to data communications and data networks. Includes digital communications, analog communications and interfaces. Networks including both LAN and WAN operation and common test techniques. Prerequisite: TEL 210, TEL 235

TEL 233  ADVANCED TOPICS IN TELECOM LAB 3 0 6 0 0 V/O/C/T/ECH
Provides hands-on learning experience with broadband fiber circuits, digital multiplex systems and high-speed transport devices. Focus on system configuration and diagnostics are also presented. Prerequisite: TEL 220, TEL 223; Corequisite: TEL 230

TEL 240  TELECOMMUNICATIONS MANAGEMENT 3 3 0 0 0 V/O/C/T/ECH
Telecom management course covering new and emerging technology and implementation in the business environment. Discussion covering technology management and leveraging of telecom assets. Prerequisite: TEL 230, TEL 235; Corequisite: TEL 243

TEL 234  INTERNETWORKING LAB 3 0 6 0 0 V/O/C/T/ECH
Provides hands-on lab experience configuring and troubleshooting networks. Internetworking is the primary focus using various software tools and test equipment to connect and analyze differing networks. Voice over IP, ATM, ISDN and other technologies are used and implemented in the lab setting. Prerequisite: TEL 230, TEL 240

VIN 101  INTRO TO STARTING A VINEYARD 4 3 2 0 0 V/O/C/T/ECH
Introduction to selecting and preparing successful vineyard sites, economics of vineyards and cultural practices for non-bearing vineyards.

VIN 102  INTRO TO BEARING VINEYARDS 4 3 2 0 0 V/O/C/T/ECH
Introduction to management of bearing vineyards: cultural practices, fertility and economics.

VIN 103  INTRO TO VINEYARD PEST MGMT 4 3 2 0 0 V/O/C/T/ECH
Introduction to pests that affect vineyards, pest management and proper use of control methods. This course will also involve preparation for students to take the test for commercial pesticide applicator’s license.

VIN 149  GRAPE AND WINE SCIENCE 4 3 2 0 0 V/O/C/T/ECH
This course introduces the grape and wine industry worldwide and in the Midwest. It investigates grape origin, vine growth habit, wine production and winery quality control.

VIN 150  INTRODUCTION TO WINE 3 3 0 0 0 V/O/C/T/ECH
This course presents introductory information on wine appreciation, focusing on sensory analysis, production, classification and culture of wine.

VIN 151  CELLAR TECH. AND OPERATIONS 4 3 2 0 0 V/O/C/T/ECH
This course presents winery technology and provides practical instruction on grape processing equipment. Prerequisite: VIN 150 or industry experience

VIN 152  INTRO TO WINE SCIENCE 4 3 2 0 0 V/O/C/T/ECH
This course examines the basic scientific principles of wine production and provides instruction of wine laboratory analysis equipment. Prerequisite: VIN 150 or industry experience

VIN 189  WINE MICROBIOLOGY 2 1 2 0 0 V/O/C/T/ECH
This course examines beneficial and spoilage unicellular organisms specifically related to wine production. Prerequisite: BIO 167

VIN 190  WINE SCIENCE 4 3 2 0 0 V/O/C/T/ECH
This course focuses on principles of enology and wine laboratory analysis focusing on the most common evaluation methods utilized in a successful winery quality control program. Prerequisite: CHEM 122 and VIN 149

VIN 201  VITICULTURAL SCIENCE 4 3 2 0 0 V/O/C/T/ECH
Advanced concepts in the science of viticulture. Prerequisite: VIN 140 or instructor permission

VIN 202  VINE HEALTH 4 3 2 0 0 V/O/C/T/ECH
Advanced concepts in the identification, life cycles, management and control of vineyard pests. Prerequisite: VIN 201 or instructor permission

VIN 203  VINEYARD ESTABLISHMENT 4 3 2 0 0 V/O/C/T/ECH
Advanced concepts in vineyard establishment. Prerequisite: VIN 201 or instructor permission

VIN 204  ENGINEERING IN AGRICULTURE 4 3 2 0 0 V/O/C/T/ECH
A study of engineering principles that relate to agricultural industries. Prerequisite: Instructor permission

VIN 240  HORT/PHYTO LAB 1 0 2 0 0 V/O/C/T/ECH
Laboratory exercises designed to introduce the principles of botany. Corequisite: Hort 221 or instructor permission

VIN 249  PLANT PHYSIOLOGY 4 3 2 0 0 V/O/C/T/ECH
A study of how plants function and interact with the environment. Prerequisite: AGRI 212 or instructor permission

VIN 255  SENSORY SCIENCE 4 3 2 0 0 V/O/C/T/ECH
This course presents applied information on wine sensory analysis required to recognize personal sensory biases and evaluate wine types and styles critically and scientifically. Prerequisite: MAT 175

VIN 290  COMMERCIAL WINE PROD 4 3 2 0 0 V/O/C/T/ECH
This course presents applied enology and industry topics related to the production of commercial grade wines.

VIN 910  FIELD EXPERIENCE 3 0 0 0 1 4 V/O/C/T/ECH
This course provides viticulture work experience. The student will maintain employment at a vineyard working in the production of grapes and gain experience/proficiency conducting vineyard operations. Prerequisite: VIN 201 or instructor permission

VIN 925  INTERNSHIP IN ENOLOGY 3 0 0 0 1 4 V/O/C/T/ECH
This course provides enological work experience. The student will maintain employment at a commercial winery working in the production of wine and gain experience as a cellar worker, laboratory technician, or logistic coordinator. Prerequisite: VIN 201 or instructor permission

VIN 911  WELDING BLUEPRINT READING 3 3 0 0 0 V/O/C/T/ECH
The basic skills needed to read shop drawings (including welding symbols) will be learned. Prerequisite: MAT 172

WEL 120  OXY FUEL WELDING/CUTTING 2 0 4 0 0 V/O/C/T/ECH
Skills will be developed in oxy-acetylene welding, cutting and repair. Safety is emphasized.

WEL 150  ARC WELDING I (SMAW) 2 0 4 0 0 V/O/C/T/ECH
Skills will be developed in welding corner fillet joints, weld arounds and sheet metal weldments in the flat positions. Safety is emphasized. Prerequisite: WEL 165

WEL 165  ARC WELDING III (SMAW) 2 0 4 0 0 V/O/C/T/ECH
Skills will be developed in welding corner fillet joints, weld arounds and sheet metal weldments in the flat positions. Safety is emphasized. Prerequisite: WEL 165

WEL 167  ARC WELDING IV (SMAW) 3 0 6 0 0 V/O/C/T/ECH
Skills will be developed in welding beads, buildup surfacing and fillet weldments in the horizontal position. Safety is emphasized. Prerequisite: WEL 166

WEL 168  ARC WELDING V (SMAW) 3 0 6 0 0 V/O/C/T/ECH
Skills will be developed in welding fillet joints in the vertical downwill and vertical upfillet position. Safety is emphasized. Prerequisite: WEL 167

WEL 169  ARC WELDING VI (SMAW) 2 0 4 0 0 V/O/C/T/ECH
Skills will be developed in welding and testing vee groove joints in the flat and horizontal positions. Safety is emphasized. Prerequisite: WEL 169

WEL 170  ADV ARC WELDING I (SMAW) 3 0 6 0 0 V/O/C/T/ECH
Skills will be developed in welding and testing vee groove joints in the flat and horizontal positions. Safety is emphasized. Prerequisite: WEL 169

WEL 177  ADV ARC WELDING II (SMAW) 3 0 6 0 0 V/O/C/T/ECH
Skills will be developed in welding and testing in the vertical and overhead positions. Safety is emphasized. Prerequisite: WEL 176

WEL 181  GAS METAL ARC WELDING 2 0 4 0 0 V/O/C/T/ECH
Practical application in the use of the gas metal arc welding process including submerged arc and flux cored arc. Safety is emphasized.

WEL 190  GAS TUNGSTEN ARC WELDING 2 0 4 0 0 V/O/C/T/ECH
A course to develop skills in the gas tungsten arc welding process using mild steel, stainless steel and aluminum. Safety is emphasized. Prerequisite: WEL 102

WEL 203  PIPE WELDING/SMAW 3 0 6 0 0 V/O/C/T/ECH
Welding practice and testing on open groove plate weldments in the 2G, 5G and 6G positions and, as time permits, on pipe weldments in the 3G, 5G and 6G positions. Safety is emphasized. Prerequisite: WEL 177
FACULTY AND STAFF

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