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### ARTS AND SCIENCES AND PREPROFESSIONAL EMPHASIS

**Preprofessional Emphasis - Programs available at selected campuses**

- Accounting & Bookkeeping - Diploma
- Agribusiness – Agronomy - Certificate
- Agribusiness – Animal Science - Certificate
- Airbrush Art - Certificate
- Business Information Systems - AAS
- Business Administration - AS
- Chemical Dependency Counseling - Certificate
- Computer Languages - Certificate
- Computer Applications - Certificate
- Commercial Horticulture - AAS
- Database Specialist - Certificate
- Digital Publishing & Prepress - Certificate
- Digital Systems Technology - Diploma
- Digital Publishing & Prepress - Certificate
- Early Childhood Education - AS, Diploma
- Emergency Med Tech Basic - Certificate
- Entrepreneurship - Diploma, Certificate
- Fashion - Certificate
- Fashion/Design - Diploma, AAS
- Fire Science Technology - AS
- Grazing Management - Certificate
- Heating, AC, Refrigeration Technology - AAS
- Horticulture - Diploma
- Horticulture - Certificate
- Industrial Electro-Mechanical Technology - AAS
- Information Processing Support - Certificate
- Information Technology Network Admin. - AAS
- Interior Design Consultant - Certificate
- Interpretation & Translation - Certificate
- Interpretation & Translation, Generalist - Certificate
- Interpretation & Translation, Healthcare - Certificate
- Internet Technology Network Admin. - AAS
- Legal Assistant - Certificate
- Long-Term Care Administrator - Certificate
- Machinist Technology - Diploma
- Management Information Systems - AS
- Manufacturing Technology - AAS
- Marketing - AAS
- Medical Office Specialist - Diploma
- Medical Assistant - Diploma
- Medical Insurance/Coding - Certificate
- Medical Laboratory Technology - AAS
- Medical Transcriptionist - Certificate
- Microcomputers - Certificate
- Mortuary Science–Advanced Standing - Diploma
- Network Security Manager - Certificate
- Nurse Aide - Certificate
- Office Assistant - Diploma
- Office Specialist - Certificate
- Office Specialist - Certificate
- Phlebotomy - Certificate
- Printing Technologies - Certificate
- Production Art - Certificate
- Respiratory Therapy - AAS
- Retailing - Diploma, Certificate
- Sales - Certificate
- Sales & Management - Diploma
- Secretarial Careers:
  - Administrative Assistant - AAS
  - Medical Administrative Assistant - Diploma
  - Office Assistant - Diploma
  - Office Specialist - Certificate
  - Supervision - Certificate
- Surgical Technology - Diploma
- Telecommunications Technology - AAS, Certificate
- Tool & Diemaking - AAS
- Turf Maintenance - Certificate
- Veterinary Technology - AAS
- Welding - Diploma
- Welding-Blueprint Reading - Certificate
- Welding-Gas Metal Arc - Certificate
- Welding-Gas Tungsten Arc - Certificate
- Welding-Oxyacetylene - Certificate
- Welding-Pipefitter - Certificate
- Welding-Shielded Metal Arc - Certificate
- Welding-Structural Welding - Certificate

**Programs Available 2006–07**

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<td>Civil Engineering Technology</td>
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<td>Commercial Horticulture</td>
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<td>Computer Literacy</td>
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<td>Criminal Justice</td>
<td>AS or AA</td>
<td>A,B,C,U,N,U</td>
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<td>Culinary Arts</td>
<td>AAS, Diploma</td>
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<td>Data Entry</td>
<td>Certificate</td>
<td>A,B,C,U</td>
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<td>Database Specialist</td>
<td>Certificate</td>
<td>A,W</td>
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<td>Dental Hygiene</td>
<td>AAS</td>
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<td>Digital Publishing &amp; Prepress</td>
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<td>A</td>
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<tr>
<td>Fire Science Technology</td>
<td>AAS</td>
<td>A,U</td>
</tr>
</tbody>
</table>

**CAMPUS CODES:**

(A) Ankeny (B) Boone (C) Carroll (N) Newton (U) Urban/Des Moines (W) West

* Selected courses in this program are offered at this campus

(AA = Associate in Arts degree  AS = Associate in 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 and Synergy Center, 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.
• Provide 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 Officer, or the ombudsman 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 50023-3993
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 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

<table>
<thead>
<tr>
<th>Name</th>
<th>District</th>
</tr>
</thead>
<tbody>
<tr>
<td>Harold Belken, Des Moines</td>
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</tr>
<tr>
<td>James Crawford, Clive</td>
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<tr>
<td>Kevin Halterman, Indianola</td>
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<tr>
<td>Jim Knott, Carroll</td>
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<td>Cheryl Langston, Ames</td>
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<tr>
<td>Ben Norman, Board Vice-Chair, Ankeny</td>
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<tr>
<td>Joe Pugel, Board Chair, Newton</td>
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<tr>
<td>Wayne Rouse, M.D., Boone</td>
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<tr>
<td>Madelyn Tursi, Des Moines</td>
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</tbody>
</table>
**Newton Campus**
(641) 791-3622 or 1-800-362-2127
Campus Code #5

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

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

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### Newton Campus

<table>
<thead>
<tr>
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<tr>
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<td>Accidents-Auto (on Campus)</td>
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<td>Address Changes</td>
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<td>Advising</td>
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<td>Assessment Center</td>
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<td>Bookstore</td>
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<tr>
<td>Campus Clubs</td>
<td>Advisors</td>
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<tr>
<td>Campus Events</td>
<td>Info Desk</td>
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<tr>
<td>Career Planning</td>
<td>Info Desk</td>
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<td>Drop/Adds</td>
<td>Info Desk</td>
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<td>Financial Aid</td>
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<td>Graduation</td>
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<td>Health Insurance/Services</td>
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<td>Program Changes</td>
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Veterans Services: Refer all inquiries to: 964-6284 or 800-362-2127 Ext.# 6284 Ankeny Campus

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### Urban Campus

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

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### West Campus

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<td>Associate Dean</td>
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<td>Assessment Center</td>
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<td>Provost's Secretary</td>
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<td>Financial Aid</td>
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<td>Registration/Records</td>
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<td>Resource Center (Library)</td>
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<td>Student Accounts</td>
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<td>Veterans Services: Refer all inquiries to: 964-6284 or 800-362-2127 Ext.# 6284 Ankeny Campus</td>
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8 DES MOINES AREA COMMUNITY COLLEGE CATALOG 2007-2008
2007–2008 ACADEMIC CALENDAR

Fall Semester 2007
Aug. 27, 2007.....................Fall Semester Begins
(first day of classes)
Sept. 3, 2007 ......................Labor Day, No Classes,
Offices Closed
Oct. 1, 2007.......................Application Deadline
for Fall Graduates
Oct. 19, 2007......................MIDTERM
Nov. 5, 2007 .......................*Last Day to Withdraw from
Regular Term Classes
Nov. 22–25, 2007 ...............Thanksgiving Holiday
No Classes, Offices Closed
Dec. 14, 2007 .....................Last Day of Fall Semester
Dec. 24, 07–Jan. 1, 08 .......Holidays, Offices Closed

Spring Semester 2008
Jan. 7, 2008 ........................Spring Semester Begins
(first day of classes)
Jan. 21, 2008 ......................Martin Luther King Holiday
Offices Closed
Feb. 1, 2008.......................Application Deadline for
Spring/Summer Graduates
Feb 29, 2008.......................MIDTERM
Mar. 7, 2008 .......................All Staff In-Service
No Classes, Offices Closed
Mar. 17–23, 2008 ...............Spring Break
No Classes, Offices Open
Mar. 25, 2008 .....................*Last Day to Withdraw from
Regular Term Classes
May 1, 2008.......................Last Day of Spring Semester
May 1, 2008.......................7:00 p.m. Ankeny/Urban/
Newton/West Graduation
May 2, 2008.......................10:00 a.m. Boone Graduation
May 5, 2008.......................6:00 p.m. Carroll Graduation

Summer Semester 2008
May 28, 2008......................Summer Semester Begins
(first day of classes)
July 4, 2008.......................Holiday, No Classes
Offices Closed
Aug. 7, 2008.......................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 the course placement of students 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 to the 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-served 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 must be mailed to 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 a 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 reading assessment before enrolling in any course that has writing expectations or requirements.

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

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.

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.

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.
ADMISSIONS

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.
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
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 120 days prior to the first day of the semester.

Semester | Deadline
--- | ---
Fall 2007 | April 29, 2007
Spring 2008 | September 7, 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 April 29, DMACC will process the application for the spring semester.

Deadlines for International Transfer Students

Semester | Deadline
--- | ---
Fall 2007 | July 6, 2007
Spring 2008 | November 16, 2007
Summer 2008 | April 11, 2007

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 class.

International students requesting admission and issuance of an I-20 must provide:
1. A completed and signed DMACC 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 $15,000.00 (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.

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:

VISIT US ONLINE: www.DMACC.edu
ADMISSIONS

a. TOEFL (Test of English as a Foreign Language) score of 173 on the computer test or 500 on the paper test 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 center 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 $750.00 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 scholastic standards must meet the requirement for readmission as found in the Scholastic 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.

TRANSFER 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.

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
ADMISSIONS/REGISTRATION

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.” Students may register by calling 1-800-362-2127, ext. 7100 or via the web at www.dmacc.edu /discover.htm.

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 ....................... 515-248-7236
- 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.

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 in person, by phone, fax or via the Web. 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 50th class day of the fall and spring semesters and the 30th class day of the summer term. 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 Business 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.
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.

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.

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: Students eligible for a refund will receive a check in the mail 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-term 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.ed.gov/inits/hope/.
## EDUCATIONAL EXPENSE

### STUDENT TUITION RATE FOR CREDIT OFFERINGS

<table>
<thead>
<tr>
<th>Description</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full- or part-time enrollment (per credit) Resident</td>
<td>$102.00</td>
</tr>
<tr>
<td>Full- or part-time enrollment (per credit) Nonresident</td>
<td>$204.00</td>
</tr>
<tr>
<td>Audit (per credit)</td>
<td>$102.00</td>
</tr>
<tr>
<td>Career Supplemental noncredit courses (per contact hour)</td>
<td>Market Rate</td>
</tr>
<tr>
<td>Continuing and General Adult Ed–Local schools (per contact hour)</td>
<td>Market Rate</td>
</tr>
<tr>
<td>High School Completion (per course)</td>
<td>$100.00</td>
</tr>
<tr>
<td>High School Completion Diploma</td>
<td>$10.00</td>
</tr>
<tr>
<td>High School Correspondence (per course)</td>
<td>$100.00</td>
</tr>
</tbody>
</table>

Nonresident tuition is 200% of resident rate.

### FEES

<table>
<thead>
<tr>
<th>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>Convenience fee–not refundable (TV classes–per course)</td>
<td>$30.00/course</td>
</tr>
<tr>
<td>Convenience fee (Online classes–per credit hour)</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>

### TRANSACTION FEES

<table>
<thead>
<tr>
<th>Description</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regular request (sent within two business days)</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>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 2006–2007 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>$2,940</td>
<td>$5,880</td>
</tr>
<tr>
<td>Books and Supplies</td>
<td>$900</td>
<td>$900</td>
</tr>
<tr>
<td>Room and Board</td>
<td>$5,050</td>
<td>$5,050</td>
</tr>
<tr>
<td>Personal/Misc.</td>
<td>$1,568</td>
<td>$1,568</td>
</tr>
<tr>
<td>Transportation</td>
<td>$1,950</td>
<td>$1,950</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$12,408</strong></td>
<td><strong>$15,348</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. Applications are available at all campuses. Students may 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.

1. Continuing students will be mailed a renewal FAFSA and student PIN from the U.S. Department of Education between November and December each year.
2. New students may apply on the Web at www.fafsa.ed.gov or pick up a copy of the FAFSA from high school guidance offices or from the DMACC Financial Aid Office on the Ankeny Campus or from the Business Office on the Boone, Carroll, Newton, Urban and West Campuses.

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. Mail the FAFSA in the attached envelope.
5. If the student will be 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 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.
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 fund-raising 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 full 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; filing 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. Scholarships become available after January 10 each year and are due April 1 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 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/ America Reads/Counts
DMACC is an America Reads/Counts College. Students who are College Work-Study eligible may be employed as tutors for children in reading and math. As America Reads tutors, students may work in a child care center, a school, an after-school program or a library. Community Service and America Reads/ Counts opportunities are listed in the Employment Assistance Offices on all DMACC campuses.
FINANCIAL AID

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 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.

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. Loan funds cannot be released until 30 days after the term starts if the student is a first-time borrower. Entrance and exit counseling are required.

Federal Direct Parent Loans for Undergraduate Students (PLUS)
A PLUS loan is a fixed 7.9 percent interest rate loan on Direct Loans is 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.

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.dl.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 Veteran’s 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 50 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. The Iowa Adjutant General (IAG) determines eligibility for this tuition assistance program and funding for it is determined annually by the Iowa General Assembly.

Individuals must apply for this grant through their Guard unit commander each spring for the coming academic year. 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; child care 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, 515-248-7520.

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 from the STRIVE coordinator on the Ankeny Campus.
FINANCIAL AID

Vocational Rehabilitation
Through a special agreement with the Iowa Division of Vocational Rehabilitation Services, a rehabilitation counselor is assigned to DMACC to provide rehabilitation services to eligible students. These services include assistance in obtaining medical evaluations, vocational evaluations, physical restoration, job training, financial aid and job placement.

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 acceptable only from the standpoint that it is figured into the cumulative GPA.
   d. If a student receives an I (incomplete), W (withdraw or dropped), X (repeats), or F (failing), he/she may receive financial aid as long as the student completes the required minimum hours for each calendar year and maintains a cumulative 2.00 GPA.

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 (16 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 in 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 in 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 have 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 completing the program, he/she will need to seek advice from an academic counselor.)
   NOTE: The student’s program of study may require more credit hours than the minimums stated by this policy.
Financial Aid

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.

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 RECEIPIENTS
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 $1,261
- Federal Pell Grant 998
- Federal SEOG 250

Total Financial Aid Awarded $2,509

Bill completed only 11 days of classes or 10 percent of the semester. Bill’s tuition and fee charges for the full semester are $1,224.00. 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 $2,509
Multiply Percent of Unearned Aid X .90

Amount of Unearned Aid $2,258.10

Per federal requirements, DMACC and Bill must repay a total of $2,258.10.
FINANCIAL AID/ACADEMIC INFORMATION

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 $1,224.00
Multiply Percent of Unearned Aid X .90
Amount to Be Repaid $1,101.60

Bill is required to return the remaining unearned amount.

Total Unearned Aid $2,258.10
Subtract Percent of Unearned Aid - $1,101.60
Amount Bill Must Repay $1,156.50

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 $1,101.60 to Bill's loan. Bill will be required to repay $159.40 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, $997.10 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 $997.10
X .50
Amount Bill Must Repay $498.55

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 their 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 may enroll in any course on an audit basis if space is available. The same tuition and fees are due for audited courses. Each audited course will appear on the student's transcript with no credit and a mark of audit ("N"). Students auditing courses are not required to complete regular assignments or examinations, though attendance is expected. 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 classes. The completion of a Drop/Add form is required. Once a class has been placed on an audit status, it cannot be changed back to credit.

GRADE REPORTS
Final grade reports are issued approximately one to two weeks after the end of a term. Students’ grade reports on the Web also. 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>
ACADEMIC INFORMATION

Other Grade Designations:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>W</td>
<td>Withdrawn/Dropped</td>
</tr>
<tr>
<td>I</td>
<td>Incomplete</td>
</tr>
<tr>
<td>N</td>
<td>Audit</td>
</tr>
<tr>
<td>P</td>
<td>Pass</td>
</tr>
<tr>
<td>T</td>
<td>Testing</td>
</tr>
<tr>
<td>L</td>
<td>Life Experience</td>
</tr>
</tbody>
</table>

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>Course</th>
<th>Hours</th>
<th>Grade</th>
<th>Quality Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Composition I</td>
<td>3</td>
<td>B+</td>
<td>(3.33) 9.99</td>
</tr>
<tr>
<td>Fundamentals of Speech</td>
<td>3</td>
<td>A</td>
<td>(4.00) 12.00</td>
</tr>
<tr>
<td>Finite Mathematics</td>
<td>4</td>
<td>C-</td>
<td>(1.67) 6.68</td>
</tr>
<tr>
<td>Intro to Computer Literacy</td>
<td>3</td>
<td>C+</td>
<td>(2.33) 6.99</td>
</tr>
<tr>
<td>Elementary Spanish</td>
<td>4</td>
<td>D+</td>
<td>(1.33) 5.22</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>17</td>
<td></td>
<td><strong>40.98</strong></td>
</tr>
</tbody>
</table>

Divide 40.98 points by 17 semester hours = 2.411

REPEAT COURSEWORK
Students may repeat a course previously taken at DMACC if the course is currently being offered. 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

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Grade value included in the GPA calculation</td>
</tr>
<tr>
<td>E</td>
<td>Grade value excluded in the GPA calculation</td>
</tr>
</tbody>
</table>

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

Example:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Quality Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>FL 92-93 PSCH 101</td>
<td>D 3.00 E</td>
</tr>
<tr>
<td>SP 95-96 PSCH 101</td>
<td>A 3.00 I</td>
</tr>
</tbody>
</table>

GRADE APPEALS
Students should first attempt to resolve the matter 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 Service office. An ombudsperson is available on each campus to assist with the appeal process.

Repeat, Incomplete and Failing Mark Policies
Students 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 midterm 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.

Students who fail a required course may repeat and pass that course at Des Moines Area Community College in order to fulfill graduation requirements. Whenever a course is repeated, only the latter grade is included in the computation of the grade point average. Both grades will appear on the transcript. The earlier grade will be followed by the symbol (E) because that grade is excluded from the grade point average. The new grade will be followed by the symbol (I) to designate that it is included in the GPA. 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. Withdrawing from a course that is being repeated and receiving a grade of “W” does not constitute a course repeat.

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 (TRF) credit after a minimum of 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
ACADEMIC INFORMATION

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.

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 a test 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.
- 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 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 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 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 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 (TRF) 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 course work 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.
ACADEMIC INFORMATION

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 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.

Scholastic Standards
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. A student on CONDITIONAL ENROLLMENT who earns a term GPA of less than 2.00 will be placed on ACADEMIC SUSPENSION and will not be allowed to enroll in credit coursework for a period of one term.
   b. Students who are placed on ACADEMIC SUSPENSION at the end of the Spring semester may not reenroll until the following Spring semester.
   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.

5. Guidelines for REENROLLMENT OF SUSPENDED students:
   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.

6. A student placed on ACADEMIC SUSPENSION may appeal. Students wishing to appeal should contact the Director of Student Development, Ankeny Campus, 515-964-6222.

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
ACADEMIC INFORMATION/PROGRAM REQUIREMENTS & GRADUATION

height of members of athletic teams, and email address.

With the exception of the Directory Information items listed above, all student records are considered to be confidential and are only open to College employees with a legitimate educational interest in the records and others as designated in the College’s FERPA 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 the DMACC Student Handbook.

TRANSFER CREDIT

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 2.00 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 and information on colleges and universities throughout the United States are available in the Career Resource Center in Building 1, Ankeny Campus.

PROGRAM REQUIREMENTS & 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
- 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 transfer 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/skills.
- 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.

**Graduation Evaluation Report (GER)**

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.

**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 1
Summer ................... February 1
(if students plan to participate in the annual commencement ceremonies)
Summer ................... June 1

**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 course work 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 course work 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. 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.
   c. Recognize and value the existence of cultural diversity.
   d. Identify, interpret and manipulate relevant data.

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.

5. 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.

6. Developing an understanding 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 course work. 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.
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
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 64 semester credit hours.
5. Include at least 28 semester credit hours of Independent Study.
   - Communications – 3 credits
   - Social & Behavioral Sciences/ Humanities – 3 credits
   - Math & Sciences – 3 credits
   - Distributed Requirements – 3 credits
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)**

Programs of study that lead to an Associate in Applied 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 to 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:
   - Communications – 3 credits
   - Social & Behavioral Sciences/ Humanities – 3 credits
   - Math & Sciences – 3 credits
   - Distributed Requirements – 3 credits
   - Humanities – 3 credits
6. Complete the following core requirements:
   - Communications ..............................3 credits
   - Social & Behavioral Science/ Humanities ..................................................3 credits
   - Math & Sciences ....................................3 credits
   - Distributed Requirements – 3 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 Science Degree (AS)**

To receive an AS degree, students must:

1. Maintain a 2.00 grade point average on all work applicable for the AS 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 64 semester credit hours.
5. Include at least 28 semester credit hours of Independent Study courses.
   - Communications ..............................9 credits
   - Social & Behavioral Sciences ........6 credits
   - Math & Sciences ..............................6 credits
   - Humanities .....................................3 credits
   - Distributed requirements ................4 credits
6. Include at least 36 semester credit hours of elective credit.

   Students may include 16 semester credit hours of vocational/technical credit.

   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.

For specific programs, see program section for program requirements and course listing.
PROGRAM REQUIREMENTS & GRADUATION/STUDENT SERVICES

Diploma
To receive a diploma, students must:
1. Maintain a 2.00 grade point average on all work applicable for the diploma.
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 or Humanities Core 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.
   - One Math Core course
   - One Communications Core course
   - One Social & Behavioral or Humanities Core Science course
   - One Math Core course
   - Maintain a 2.00 grade point average in all work applicable to the advanced standing diploma.
   - Earn at DMACC a minimum of 1/3 of the semester credit hours applicable to the diploma being pursued.
   - Complete the final 10 semester credit hours at DMACC (or petition the Registrar for an exception).
   - Complete a minimum of one general education course as part of the program of study.
   - Complete all required courses in the particular program of study, which will include a minimum of 30 semester credit hours.

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) COMPASS tests for students whose native language is not English. Starting in the 2007–2008 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.

The Ankeny Assessment Center offers:
In addition, the Ankeny Assessment Center offers ACT and VUE Certification Tests, LSAT, MPRE, PRAXIS, Medical Assistant and Medical Office Specialist typing test, Veterinary Technology biology test, mechanical reasoning aptitude test, Iowa Dental Board test, Plumbers and Steamfitters Local Union Math test.

The Boone Assessment Center also offers CLEP testing.

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.

VISIT US ONLINE: www.DMACC.edu
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-televisions, 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.

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 for 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.

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.

COLLEGE BOOKSTORES
The College bookstores are located at all DMACC campuses to serve students, faculty and staff.

In addition to 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 book buyback at the end of each semester. Check with the bookstore about further details regarding the Buyback Policy. Representatives from wholesale companies may be present at the beginning of the semester and at mid-term. 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 on 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 on the Ankeny and Boone Campuses. 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 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 free of charge on the Ankeny Campus. 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 small 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.

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

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 and Urban Campuses. The DMACC Libraries’ website provides access to information from any computer on the College network at www.library.dmacc.edu. Library orientation classes and additional instruction on computer database searching are provided upon request at the Ankeny Campus Library. All participating libraries are 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 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 intra-campus 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 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.
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 videocassettes 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.

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 videocassettes that supplements the textbooks in accounting and mathematics, videocassettes for the telecourse division of the College and videocassettes 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 audiovisual 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.

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 Kraftsins, 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 CENTER
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 or Urban Campuses and the Learning Resource Center at the West Campus.
STUDENT SERVICES/STUDENT ACTIVITIES

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 tutor offices hire 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 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 four pool tables, a ping pong table and various arcade games. The games are provided by Playin' Around Games.

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 discussions, but only members may vote.

STUDENT ACTIVITIES
Much of a student's growth is the result of participation in activities, clubs and organizations. It is the philosophy of the College that cocurricular 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.

STUDENT CENTERS
Student lounge and recreation areas are provided for student use during nonclassroom hours. Various types of game equipment are available, and food and beverage facilities are located in or near each of these areas.

STUDENT CLUBS AND ORGANIZATIONS
Students are encouraged to participate in campus clubs and organizations. Students may form a new club by contacting the Student
Activities Coordinator on the respective campus for information. Most recognized organizations fall into one of the following classifications:

1. Preprofessional and departmental clubs are joined by students wishing to pursue interests that contribute to the development of career fields.
2. Service organizations have as their primary purpose activities that will contribute positively to the College and the community.
3. Scholastic honorary organizations offer membership on the basis of academic excellence and performance.
4. Special interest organizations are planned by students who desire to develop or broaden their interest in some particular aspect of their lives.

STUDENT PUBLICATIONS
On the Boone Campus, students publish “The Banner” and on the Ankeny Campus students publish “The Chronicle.” On the Urban Campus, students publish “The Urban Vibe.” These are student newspapers that emphasize news, features, entertainment, sports and college events. For additional information, contact the publications advisor at the Ankeny, Boone or Urban Campus.

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, Buccaneers and Iowa Stars hockey in Des Moines. The Carroll Campus offers discount tickets to 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

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.

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.
CONTINUING EDUCATION & SPECIALIZED PROGRAMS

Conference Center - Newton
The DMACC Newton Conference Center is located on the DMACC Newton 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/distance 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 4:00–7:00 pm., 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 hands-on driving. 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.

VISIT US ONLINE: www.DMACC.edu
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 http://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 http://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 is be 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.

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 http://www.dmacc.edu/programs/pdp/.

DMACC has entered into a new partnership program with Iowa State University. Information about that program is listed under the Program Requirements and Graduation section of this catalog. 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

**Accounting**
- △ Accounting Information Systems
- △ Accounting Paraprofessional
- △ Accounting Specialist
- q Accounting & Bookkeeping
- g Accounting Certificate I
- △ Accounting Certificate II

**Administrative Assistant/Legal/Secretarial Careers**
- △ Administrative Assistant
- △ Legal Assistant
- q Medical Office Specialist
- p Office Assistant
- g Medical Insurance & Coding
- q Medical Transcriptionist
- g Information Processing Support
- q Office Specialist
- q Supervision

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

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

**Art**
- △ Graphic Design
- q Air Brush Art Certificate
- △ Production Art Certificate

**Biotechnology**
- △ Biotechnology

**Business**
- △ Business Administration
- △ Fashion/Design
- △ Marketing
- △ Management
- △ Entrepreneurship
- △ Mortuary Science
- △ Sales and Management
- △ Interior Design Consultant

**Building Trades**
- △ △ Heating, Air Conditioning & Refrigeration Technology
- p 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
- △ △ Data Base Specialist
- △ △ Data Entry
- △ △ Computer Languages
- △ △ E-Commerce Design
- △ △ Microcomputers
- △ △ Network Security

**Culinary Arts, Hotel Management, Dietary Management**
- △ △ Culinary Arts
- △ △ Hotel & Restaurant Management
- △ △ Hospitality & Business
- △ △ Dietary Management

**Engineering & Electronics Technology**
- △ △ Civil Engineering Technology
- △ △ Electronic Systems Servicing Technology
- △ △ Electronics, Robotics & Automation
- △ △ 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
- △ △ Licensed Practical Nursing (LPN)
- △ △ Medical Assistant
- △ △ Surgical
- △ △ Adult Services Specialist
- △ △ Emergency Medical Technology (EMT)
- △ △ Gerontology Specialist
- △ △ Long-Term Care Administrator
- △ △ Phlebotomy
- △ △ Nurse Aide

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

**Interpretation & Translation**
- △ △ Interpretation & Translation
- △ △ Interpretation & Translation, General
- △ △ Interpretation & Translation, Healthcare
- △ △ Interpretation & Translation, Judiciary

**Manufacturing**
- △ △ Graphic Technologies
- △ △ Industrial Electro-Mechanical Technology
- △ △ Manufacturing Technology
- △ △ Tool and Diemaking
- △ △ Machinist Technology
- △ △ Diemaking
- △ △ Welding
- △ △ Digital Publishing & Prepress
- △ △ Graphic Sales & Customer Service
- △ △ Printing Technologies
Choose a Career Path

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

**STEP 1** 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, i.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

### 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

### Art

- Operate computers
- Create or copy drawings to use in advertising
- Enjoy expressing my feelings
- Can visually express ideas
- Have good spatial perception
- Work well under stress

### 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

### Hospitality

- Enjoy preparing food
- Use math principles in practical situations
- Like working with the public
- Comfortable working a flexible schedule, sometimes under pressure

### 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

---

**STEP 3**

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.

**STEP 4**

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.
Degrees and Diplomas

**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 particular 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:**

- **Accounting**
- **Architecture**
- **Business**
- **Chiropractic**
- **Computer Science**
- **Dentistry**
- **Education**
- **Engineering**
- **Law**
- **Medicine**
- **Nursing**
- **Optometry**
- **Pharmacy**
- **Physician’s Assistant**
- **Social Work**
- **Veterinary Medicine**

**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.

- **Accounting**
- **Anthropology**
- **Architecture**
- **Art**
- **Biology**
- **Business Administration**
- **Chemistry**
- **Chiropractic**
- **Computer Science**
- **Criminal Justice**
- **Drama**
- **Dentistry**
- **Education**
- **Engineering**
- **English**
- **Environmental Science**
- **Environmental Management**
- **Foreign Language**
- **Geography**
- **Global Studies**
- **History**
- **Humanities**
- **Languages**
- **Liberal Arts**
- **Literature**
- **Math & Sciences**
- **Mathematics**
- **Medicine**
- **Music**
- **Nursing**
- **Optometry**
- **Pharmacy**
- **Philosophy and Religion**
- **Physicians Assistant**
- **Physics and Astronomy**
- **Political Science**
- **Psychology**
- **Physician’s Assistant**
- **Sociology**
- **Social Work**
- **Spanish**
- **Speech**
- **Veterinary**

**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.
PROGRAMS AVAILABLE

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
   *Students who plan 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 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).

- AN 101 Introduction to Anthropology
- AN 105 Cultural Anthropology
- AN 120 Principles of Macroeconomics
- AN 130 Principles of Microeconomics
- ED 110 Intro to Geography
- ED 125 Regional Geography of the Dev World
- ED 124 Reg Geography of the Non West World
- HN 112 Western Civ: Ancient to Early Modern
- HN 115 Western Civ: Early Modern to Present
- HN 150 US History to 1877
- HN 155 US History since 1877
- POL 111 American National Government
- POL 112 American State & Local Government

Mathematics & Sciences  
9 Credits

1. Students must take one laboratory science course from BIO, CHM, ENV or PHY AND one MAT course (or BUS 211) listed below.

- ENV 115 Environmental Science
- ENV 116 Environmental Science Lab
- BIO 131 Field Ecology
- BIO 156 Human Biology w/Lab
- BIO 100 Introductory Biology w/Lab
- BIO 112 General Biology I
- BIO 115 General Biology II
- BIO 187 Microbiology w/Lab
- BIO 154 Essentials Anatomy/Physiology
- BIO 157 Anatomy & Physiology I
- BIO 158 Anatomy & Physiology II
- BUS 211 Business Statistics OR MAT 157 Statistics
- CHM 105 Survey of Chemistry
- CHM 122 Intro to General Chemistry
- CHM 132 Intro to Organic/Biochemistry
- CHM 165 General/Inorganic Chemistry I
- CHM 175 General/Inorganic Chemistry II
- CHM 263 Organic Chemistry I
- CHM 273 Organic Chemistry II
- MAT 114 Math for Elementary Teachers Math I
- MAT 116 Math for Elementary Teachers Math II
- MAT 120 Precalculus
- MAT 121 Calculus I
- MAT 127 Calculus II
- MAT 129 Calculus III
- MAT 227 Differential Equations with Laplace
- PHY 106 Survey of Physics
- PHY 160 General Physics I
- PHY 161 General Physics II
- PHY 233 Classical Physics I
- PHY 234 Classical Physics II

Humanities  
9 Credits

- ART 101 Art Appreciation
- ASL 151 American Sign Language I
- ASL 181 American Sign Language II
- ASL 251 American Sign Language III
- ASL 291 American Sign Language IV
- DRA 110 Intro to Theatre
- FLA 141 Elementary Arabic I
- FLA 142 Elementary Arabic II
- FLA 241 Intermediate Arabic I
- FLA 242 Intermediate Arabic II
- FLA 243 Intermediate Arabic III
- FLA 244 Intermediate Arabic IV
- FLA 245 Elementary Chinese I
- FLA 246 Elementary Chinese II
- FLA 247 Intermediate Chinese I
- FLA 248 Intermediate Chinese II
- FLA 249 Elementary French I
- FLA 250 Elementary French II

Degrees and Diplomas

Distributed Requirement  
12 Credits

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

Total AA Degree Requirements  
64 Credits

Associate 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
- Criminal Justice
- Early Childhood Education
- 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.

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.

Core Requirements 28 credits

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 and Behavioral Sciences 6 credits

ANT 100 Introduction to Anthropology
ANT 105 Cultural Anthropology
EON 120 Principles of Microeconomics
EON 130 Principles of Macroeconomics
GEO 110 Intro to Geography
GEO 125 Regional Geography of the Dev World
GEO 124 Reg Geography of the Non West World
HIS 112 Western Civ: Ancient to Early Modern
HIS 115 Western Civ: Early Modern to Present
HIS 110 US History since 1877
HIS 115 US History since 1877
POL 110 American National Government
POL 112 American State & Local Government

Mathematics & Sciences 6 Credits

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

ENV 115 Environmental Science
ENV 116 Environmental Science Lab (if student has credit for Env 115)
BIO 130 Field Ecology
BIO 156 Human Biology w/Lab
BIO 104 Introductory Biology w/Lab
BIO 112 General Biology I
BIO 113 General Biology II
BIO 187 Microbiology w/Lab
BIO 164 Essential Anatomy/Physiology
BIO 168 Anatomy & Physiology I
BIO 173 Anatomy & Physiology II
BUS 211 Business Statistics
CHM 105 Survey of Chemistry
CHM 122 Intro to General Chemistry
CHM 132 Intro to Organic/Biochemistry
CHM 165 General/Inorganic Chemistry I
CHM 175 General/Inorganic Chemistry

Distributed Requirement 4 Credits

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

Total AS Degree Requirements 64 Credits

Associate in General Studies (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:
A. Maintain a 2.0 grade point average on all work applicable for the AGS 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, and receive, an exception).
D. 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.
E. Complete a minimum of 64 semester credit hours.
F. Satisfy the following core:
   • Communications
   • Social & Behavioral Sciences/Humanities
   • Math or Sciences
   • Distributed Requirements

Programs Available

Math or Sciences

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENV 115</td>
<td>Environmental Science</td>
<td>3</td>
</tr>
<tr>
<td>ENV 116</td>
<td>Environmental Science Lab</td>
<td>3</td>
</tr>
<tr>
<td>BIO 138</td>
<td>Field Ecology</td>
<td>4</td>
</tr>
<tr>
<td>BIO 156</td>
<td>Human Biology w/Lab</td>
<td>4</td>
</tr>
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<td>BIO 732</td>
<td>Health Science Microbiology</td>
<td>3</td>
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<tr>
<td>BIO 733</td>
<td>Health Science Anatomy</td>
<td>3</td>
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<tr>
<td>BIO 734</td>
<td>Health Science Physiology</td>
<td>3</td>
</tr>
<tr>
<td>BIO 104</td>
<td>Introductory Biology w/Lab</td>
<td>3</td>
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<td>BIO 112</td>
<td>General Biology I</td>
<td>3</td>
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<tr>
<td>BIO 113</td>
<td>General Biology II</td>
<td>3</td>
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<tr>
<td>BIO 187</td>
<td>Microbiology w/Lab</td>
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</tr>
<tr>
<td>BIO 164</td>
<td>Essentials Anatomy/Physiology</td>
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<td>BIO 166</td>
<td>Anatomy &amp; Physiology I</td>
<td>3</td>
</tr>
<tr>
<td>BIO 175</td>
<td>Anatomy &amp; Physiology II</td>
<td>3</td>
</tr>
<tr>
<td>BUS 211</td>
<td>Business Statistics (OR MAT 157 Statistics)</td>
<td>3</td>
</tr>
<tr>
<td>BUS 112</td>
<td>Business Math</td>
<td>3</td>
</tr>
<tr>
<td>CHM 105</td>
<td>Survey of Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHM 122</td>
<td>Intro to General Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHM 132</td>
<td>Intro to Organic/Biochemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHM 165</td>
<td>General/Inorganic Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td>CHM 175</td>
<td>General/Inorganic Chemistry II</td>
<td>3</td>
</tr>
<tr>
<td>CHM 263</td>
<td>Organic Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td>CHM 273</td>
<td>Organic Chemistry II</td>
<td>3</td>
</tr>
</tbody>
</table>

Electives

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 157</td>
<td>Statistics (OR MAT 157 Statistics)</td>
<td></td>
</tr>
<tr>
<td>BUS 116</td>
<td>Survey of Physics</td>
<td>3</td>
</tr>
<tr>
<td>GEN 101</td>
<td>General Physics</td>
<td>3</td>
</tr>
<tr>
<td>PHY 205</td>
<td>Classical Physics</td>
<td>3</td>
</tr>
<tr>
<td>PHY 223</td>
<td>Classical Physics</td>
<td>3</td>
</tr>
<tr>
<td>PHY 710</td>
<td>Technical Physics</td>
<td>3</td>
</tr>
</tbody>
</table>

Total AGS Degree Requirements

64 Credits

ASEP - General Motors

The Automotive Service Educational Program (ASEP), cosponsored 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.

Visit us online: www.DMACC.edu
PROGRAMS AVAILABLE

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

Required Courses
ATG 312 GM Specialized Electronics Training 4
ATG 316 GM Shop Fund & Minor Service 4
ATG 320 GM Brake Systems 4
ATG 322 GM Steering & Suspension 3
ATG 329 Technical Internship I 3
ATG 326 GM Auto Air Conditioning Systems 3
ATG 327 Minor Service/Repair-GM Engines 3
ATG 328 Diagnosis/Repair-GM Electrical Systems 3
ATG 330 Technical Internship II 3
ATG 333 Major Service Procedures/GM Engines 3
ATG 336 GM Carb and Fuel Induction Systems 3
ATG 337 GM Tune-Up Proc and Emission Control 4
ATG 340 Technical Internship III 3
ATG 344 GM Manual Drivetrains 4
ATG 345 GM Automatic Drivetrains 4
ATG 350 Technical Internship IV 3
ATF 330 Advanced GM Motors Systems 5
BUS 102 Intro to Business 3
COM 703 Communication Skills 3
MAT 772 Applied Math 3
PHY 710 Technical Physics 3
PSY 102 Human and Work Relations 3
Total credits required to complete this program 74

ASSET - Ford
The Automotive Student Service Educational Training Program (ASSET), cosponsored 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 and ability 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 course work as prescribed and maintain a 2.0 grade point average.

Required Courses
ATF 330 Technical Internship II 3
ATF 333 Ford Engine Diagnosis/Repair 4
ATF 336 Ford Fuel Systems & Injection 3
ATF 337 Ford Tune-Up Proc and Emission Control 4
ATF 340 Technical Internship III 3
ATF 344 Ford Driveline and 4X4 Diagnosis and Repair 2
ATF 345 Ford Manual Transmissions 2
ATF 346 Ford Transmissions and Transaxes 4
ATF 350 Technical Internship IV 3
ATF 354 Ford Advanced Engine Controls, Electronics 5
BUS 102 Intro to Business 3
COM 703 Communication Skills 3
MAT 772 Applied Math 3
PHY 710 Technical Physics 3
PSY 102 Human and Work Relations 3
Total credits required to complete this program 73
### PROGRAMS AVAILABLE

#### 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.

**Locations:** 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.
- 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 course work 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>
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</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>
</tbody>
</table>

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

#### Total minimum credits required to complete this program 42

### Accounting Certificate I & Accounting Certificate II

(see Certificate Section page 87)

### Accounting Information Systems

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**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>
</tbody>
</table>

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

#### Total minimum credits required to complete this program 42

### Term 2–Select 1 Course from Option 1

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</tr>
</thead>
<tbody>
<tr>
<td>ACC 132</td>
<td>Principles of Accounting II</td>
<td>4</td>
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<tr>
<td>ENG 106</td>
<td>Composition II</td>
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<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>3</td>
</tr>
</tbody>
</table>

#### Total credits required to complete this program 67

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

#### 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>ACC 132</td>
<td>Principles of Accounting II</td>
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</tr>
<tr>
<td>ENG 106</td>
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</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>
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#### Term 3–Select 1 Course from Option 2

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

Any AA/AS degree Core MAT or BUS 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 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>CIS 413</td>
<td>COBOL II</td>
<td>Opt 3</td>
</tr>
<tr>
<td>BCA 113</td>
<td>Computer Network Literacy</td>
<td>Opt 3</td>
</tr>
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</table>

Any AA/AS Degree Core BIO, CHM, ENV or PHY course 3

Any AA/AS Degree Core Humanities course 3

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

**VISIT US ONLINE:** www.DMACC.edu 45
**Programs Available**

- 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 course work as prescribed and maintain a 2.0 grade point average. A grade of “C” or better is required in all ACCT course work.

**Term 1**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 131</td>
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<td>CSC 110</td>
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<tr>
<td>ECN 120</td>
<td>3</td>
</tr>
<tr>
<td>ENG 105</td>
<td>3</td>
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</tbody>
</table>

Any AA/AS degree Core MAT or BUS course 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 2**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 132</td>
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<td>ACC 191</td>
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<tr>
<td>ACC 311</td>
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<td>ACC 161</td>
<td>3</td>
</tr>
<tr>
<td>ENG 106</td>
<td>3</td>
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</table>

Any AA/AS degree Core MAT or BUS course 4

**Term 3**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 231</td>
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<td>ACC 222</td>
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<td>ECN 130</td>
<td>3</td>
</tr>
<tr>
<td>SPC 101</td>
<td>3</td>
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</table>

Any AA/AS degree Core MAT or BUS course 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 Each Option

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ACC 261</td>
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</tr>
<tr>
<td>ACC 272</td>
<td>4</td>
</tr>
<tr>
<td>ACC 361</td>
<td>3</td>
</tr>
</tbody>
</table>

Any AA/AS degree Core BIO, CHM, ENV or PHY course Opt 1 3

Any AA/AS degree Core Humanities course Opt 2 3

Students planning to transfer to a four-year institution should check with that institution regarding science and humanities before selecting courses for option 1 and 2 in this program.

**Total minimum credits required to complete this program** 67

**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.

**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 course work.

**Term 1**–Select 1 Course from Option 1

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
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<td>ENG 105</td>
<td>3</td>
</tr>
<tr>
<td>ADM 157</td>
<td>3</td>
</tr>
</tbody>
</table>

Any AA/AS degree Core MAT or BUS course 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 2**–Select 1 Course from Option 2

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 132</td>
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<td>ACC 311</td>
<td>3</td>
</tr>
<tr>
<td>ACC 161</td>
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<tr>
<td>ENG 106</td>
<td>3</td>
</tr>
<tr>
<td>ENG 108</td>
<td>3</td>
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</tbody>
</table>

Any AA/AS degree Core MAT or BUS course 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 3**–Select 1 Course from Option 3

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ACC 946</td>
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</table>

Any AA/AS degree Core MAT or BUS course 4

**Term 4**–Select 1 Course from Option 4

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ACC 231</td>
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<td>ACC 222</td>
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<tr>
<td>BUS 185</td>
<td>4</td>
</tr>
<tr>
<td>ECN 120</td>
<td>3</td>
</tr>
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</table>

Any AA/AS degree Core MAT or BUS course 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 5**–Select 1 Course from Option 5

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 261</td>
<td>3</td>
</tr>
<tr>
<td>ACC 272</td>
<td>4</td>
</tr>
<tr>
<td>ACC 361</td>
<td>3</td>
</tr>
<tr>
<td>MGT 145</td>
<td>3</td>
</tr>
<tr>
<td>PSY 111</td>
<td>3</td>
</tr>
<tr>
<td>ECN 130</td>
<td>3</td>
</tr>
</tbody>
</table>

Any AA/AS degree Core MAT or BUS course 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.

**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 ADM157 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 MAT073 and/or MAT141 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 course work.

**Program Entry Requirements**

- Complete an application, satisfy the assessment requirement and attend any required information/registration session.
- Successful completion of ADM157 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 MAT073 and/or MAT141 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 course work.

**Term 1**–Select 1 Course from Option 1

<table>
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<tbody>
<tr>
<td>ACC 131</td>
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<td>ACC 124</td>
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<td>CSC 110</td>
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<td>ENG 105</td>
<td>3</td>
</tr>
<tr>
<td>ADM 157</td>
<td>3</td>
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</table>

Any AA/AS degree Core MAT or BUS course 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 2**–Select 1 Course from Option 2

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ACC 132</td>
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<td>ACC 311</td>
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<td>ACC 161</td>
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<tr>
<td>ENG 106</td>
<td>3</td>
</tr>
<tr>
<td>ENG 108</td>
<td>3</td>
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</table>

Any AA/AS degree Core MAT or BUS course 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 3**–Select 1 Course from Option 3

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ACC 946</td>
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</table>

Any AA/AS degree Core MAT or BUS course 4

**Term 4**–Select 1 Course from Option 4

<table>
<thead>
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<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ACC 231</td>
<td>4</td>
</tr>
<tr>
<td>ACC 222</td>
<td>4</td>
</tr>
<tr>
<td>BUS 185</td>
<td>4</td>
</tr>
<tr>
<td>ECN 120</td>
<td>3</td>
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</table>

Any AA/AS degree Core MAT or BUS course 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 5**–Select 1 Course from Option 5

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 261</td>
<td>3</td>
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<tr>
<td>ACC 272</td>
<td>4</td>
</tr>
<tr>
<td>ACC 361</td>
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<td>MGT 145</td>
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<tr>
<td>PSY 111</td>
<td>3</td>
</tr>
<tr>
<td>ECN 130</td>
<td>3</td>
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</table>

Any AA/AS degree Core MAT or BUS course 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.

**Total minimum credits required to complete this program** 68
## PROGRAMS AVAILABLE

### 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 course work 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 course work 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>
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<tr>
<td>ADM 131</td>
<td>Office Calculators</td>
<td>1</td>
</tr>
<tr>
<td>BCA 212</td>
<td>Intro to Computer Business Applications</td>
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#### Term 2

<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>SDV 153</td>
<td>Pre-Employment Strategies</td>
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<tr>
<td>ADM 162</td>
<td>Office Procedures</td>
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<tr>
<td>ADM 154</td>
<td>Business Communication</td>
<td>3</td>
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<tr>
<td>BCA 137</td>
<td>Word Processing Skill Development II</td>
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<td>Intermed. Computer Business Applications</td>
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<tr>
<td>ADM 259</td>
<td>Professional Development</td>
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#### Term 3—In addition to the required course, students must select 1 Course from Option 1, 1 Course from Option 2, and 2 Courses from Option 3

<table>
<thead>
<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>MGT 115</td>
<td>Administrative Management</td>
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<td>ACC 131</td>
<td>Principles of Accounting I</td>
<td>Opt 1</td>
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<td>ACC 111</td>
<td>Intro to Accounting</td>
<td>Opt 1</td>
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<tr>
<td>SPC 101</td>
<td>Fundamentals 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>
<tr>
<td>BUS 102</td>
<td>Intro to Business</td>
<td>Opt 3</td>
</tr>
<tr>
<td>FIN 121</td>
<td>Personal Finance</td>
<td>Opt 3</td>
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<tr>
<td>BUS 148</td>
<td>Small Business Management</td>
<td>Opt 3</td>
</tr>
<tr>
<td>BUS 185</td>
<td>Business Law I</td>
<td>Opt 3</td>
</tr>
<tr>
<td>BCA 113</td>
<td>Computer Network Literacy</td>
<td>Opt 3</td>
</tr>
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<td>MGT 248</td>
<td>Systems &amp; Information Management</td>
<td>Opt 3</td>
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<tr>
<td>MKT 110</td>
<td>Principles of Marketing</td>
<td>Opt 3</td>
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#### Term 4—Select 3 Credits from Option 4

<table>
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<tr>
<th>Course Code</th>
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</thead>
<tbody>
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<td>Administrative Office Applications</td>
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<tr>
<td>BCA 111</td>
<td>Emerging Technologies</td>
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<tr>
<td>BCA 250</td>
<td>Desktop Publishing</td>
<td>3</td>
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<tr>
<td>ADM 265</td>
<td>Supervised Practical Experience</td>
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</tr>
<tr>
<td>ADM 937</td>
<td>Prof Office Careers Seminar</td>
<td>1</td>
</tr>
</tbody>
</table>

### Degrees and Diplomas

#### Adult Minimum credits required to complete the AAS degree 64

### 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 students.

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 515-964-6014 or 515-964-6262 regarding additional important information to meet state licensure requirements for nursing home administrators.

**Required Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course 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>
<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/Care</td>
<td>2</td>
</tr>
<tr>
<td>ASM 283</td>
<td>Aging Policies &amp; 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>
PROGRAMS AVAILABLE

Long-Term Care Administrator
(see Certificate Section, page 94)

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 agricultural supply and service and farm management.

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.

Students who elect to take agricultural supply and service courses will be capable of filling entry-level jobs including agronomist, or livestock, grain and petroleum marketing specialist. Other job opportunities may be found within the seed, chemical, banking and commodity brokerage industry.

Students who elect to take farm management courses may enter production agriculture or find employment as a farm management specialist.

Students should visit with program instructors and counselors for information regarding courses that transfer to four-year institutions.

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 course work 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>
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<tbody>
<tr>
<td>AGS319</td>
<td>Animal Nutrition</td>
<td>3</td>
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<tr>
<td>AGA381</td>
<td>Crop Scouting</td>
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<tr>
<td>AGS323</td>
<td>Animal Nutrition II</td>
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<td>Survey of the Animal Industry</td>
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<td>AGA114</td>
<td>Principles of Agronomy</td>
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<tr>
<td>AGS242</td>
<td>Animal Health</td>
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<tr>
<td>AGA157</td>
<td>Soil Fertility</td>
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<tr>
<td>AGB235</td>
<td>Intro to Agricultural Markets</td>
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<tr>
<td>AGP333</td>
<td>Precision Agriculture Applications</td>
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<tr>
<td>AGA154</td>
<td>Fundamentals of Soil Science</td>
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<td>AGB101</td>
<td>Agricultural Economics</td>
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<td>AGA154</td>
<td>Fundamentals of Soil Science</td>
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<td>AGA284</td>
<td>Pesticide Application Certification</td>
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<td>AGB802</td>
<td>Agribusiness Internship I</td>
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<td>AGA222</td>
<td>Grain Management</td>
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<td>AGB812</td>
<td>Agribusiness Internship II</td>
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<td>CSC110</td>
<td>Intro to Computers</td>
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<td>SDV153</td>
<td>Pre-Employment Strategies</td>
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<td>SPC101</td>
<td>Fundamentals of Oral Communication</td>
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Option Courses--Select 1 Course from Options 2 and a Minimum of 10 Credits from Option 3

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<tr>
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<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ACC131</td>
<td>Principles of Accounting I</td>
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<td>ACC111</td>
<td>Intro to Accounting</td>
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<tr>
<td>ASM251</td>
<td>Governance of NF/SNF</td>
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</tr>
<tr>
<td>ASM252</td>
<td>Governance of Assisted Living</td>
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</tr>
<tr>
<td>ASM238</td>
<td>Financial Management in Aging Services</td>
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</tr>
<tr>
<td>ASM295</td>
<td>Death and Dying</td>
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</tr>
<tr>
<td>ASM292</td>
<td>Activities in Long-Term Care</td>
<td>4 Opt 3</td>
</tr>
<tr>
<td>DTM355</td>
<td>Food Production Management</td>
<td>1 Opt 3</td>
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<tr>
<td>DTM356</td>
<td>Food Service Management</td>
<td>2 Opt 2</td>
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<tr>
<td>HCM236</td>
<td>Human Nutrition</td>
<td>3 Opt 3</td>
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<tr>
<td>HSV130</td>
<td>Interviewing/Interpersonal Relations</td>
<td>3 Opt 3</td>
</tr>
<tr>
<td>MAP129</td>
<td>Medical Terminology</td>
<td>1 Opt 3</td>
</tr>
<tr>
<td>MKT110</td>
<td>Principles of Marketing</td>
<td>3 Opt 3</td>
</tr>
<tr>
<td>PEH102</td>
<td>Health</td>
<td>3 Opt 3</td>
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<tr>
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</tbody>
</table>

Adult Services Track
The Adult Services AS degree track provides students with the course work to qualify to be administrators or directors of Residential Care Facilities, Assisted Living programs, Adult Day Care programs, home, and community-based services and agencies that work with the elderly. Administrators or directors play a vital role in planning, organizing, staffing, directing and controlling the operation of adult services programs.

Note: If you are planning to work in a residential care facility, it is recommended that you take SOC 110 Introduction to Sociology and PSY 111 General Psychology to fulfill the Social and Behavioral Sciences component of the AS degree core requirements.

Required Courses

<table>
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<tr>
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</thead>
<tbody>
<tr>
<td>ASM278</td>
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<td>ASM282</td>
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<td>SOC226</td>
<td>Issues in Aging</td>
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<td>ASM239</td>
<td>Information Systems in Health Care</td>
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<td>ASM257</td>
<td>Capstone</td>
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<td>ASM256</td>
<td>Agency Experience</td>
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<td>ASM274</td>
<td>Law and Ethics in Health Care</td>
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Option Courses--Select 1 Course from Option 1 and a Minimum of 10 Credits from Option 3

<table>
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<td>Principles of Accounting I</td>
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<td>ACC111</td>
<td>Intro to Accounting</td>
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<tr>
<td>HCM236</td>
<td>Human Nutrition</td>
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<td>HSV130</td>
<td>Interviewing/Interpersonal Relations</td>
<td>3 Opt 3</td>
</tr>
<tr>
<td>MAP129</td>
<td>Medical Terminology</td>
<td>1 Opt 3</td>
</tr>
<tr>
<td>MKT110</td>
<td>Principles of Marketing</td>
<td>3 Opt 3</td>
</tr>
<tr>
<td>PEH102</td>
<td>Health</td>
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Total minimum credits required to complete this program with either track: 68

Option Courses--Select 1 Course from Options 1, 2, 3 and 4. Select 4 Courses from Option 5

<table>
<thead>
<tr>
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<th>Course Title</th>
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<tbody>
<tr>
<td>MAT141</td>
<td>Finite Math</td>
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<tr>
<td>MAT772</td>
<td>Applied Math</td>
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</table>
PROGRAMS AVAILABLE

ACC 131  Principles of Accounting I  Opt 2  4
ACC 111  Introduction to Accounting  Opt 2  3
ENG 105  Composition I  Opt 3  3
COM 703  Communication Skills  Opt 3  3
MGT 145  Human Relations in Business  Opt 4  3
PSY 111  Introduction to Psychology  Opt 4  3
SOC 110  Introduction to Sociology  Opt 4  3
AGS 222  Survey of the Aquaculture Industry  Opt 5  3
AGS 225  Swine Science  Opt 5  3
AGS 226  Beef Cattle Science  Opt 5  3
AGA 211  Grain and Forage Crops  Opt 5  3
AGB 331  Agribusiness Management  Opt 5  3
AGB 330  Farm Business Management  Opt 5  3
AGM 335  Petroleum Products in Agriculture  Opt 5  3
BUS 185  Business Law I  Opt 5  3
MKT 140  Selling  Opt 5  3

Total minimum credits required to complete this program  72

Agribusiness Agronomy,
Agribusiness Animal Science,
Agribusiness Farm Management
& Agribusiness Sales/Service
Certificates  (see Certificate Section starting on page 87)

Airbrush Art  (See Certificate Section, page 88)

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.

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

All MLW courses are reserved for students accepted into the full-time Architectural Millwork program.

Term 1
MLW 440  Blueprint Reading and Layout  3
MLW 441  Material Identification and Usage  3
MLW 442  Introduction to Portable Tools  3
MLW 443  Stationary Equipment  4
HSC 102  Emergency Care  1
MAT 772  Applied Math  3

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.

NOTE: BCA 113 has a prerequisite of CSC 110 Introduction to Computers.

The requirement for MAT 772 & 773 can be fulfilled with evidence of a grade of “C” or above in MAT 130 or an equivalent mathematics course; and a COMPASS Trigonometry score of 35. When students meet their math requirement this way, additional credits to meet the 65 credit program requirement must come from courses in Option 1 or as approved by the program chair.

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

Term 1
ARC 114  Architectural Drafting I  5
ARC 165  Materials & Assemblies I  3
ARC 116  Construction Estimating  2
CAD 119  Intro to Computer Aided Drafting  3

Term 2
ARC 127  Architectural Drafting II  5
ARC 167  Materials & Assemblies II  3
CAD 126  Intermediate CADD-Architectural  3
ENG 105  Composition I  3
MAT 772  Applied Math  3
COM 703  Communication Skills  3
MAT 772  Applied Math  3
CRR 101  Sheet Metal Welding  2

Total credits required to complete the diploma  46

Auto Collision - AAS

CRR 150  Basic Shop Safety  1
CRR 325  Sheet Metal Fundamentals  5
CRR 841  Principles of Refinishing  5
CRR 742  Estimating Theory  2
CRR 877  Refinishing Applications  7
CRR 202  Plastic Repair  3
CRR 502  Frame Damage Analysis  2
CRR 876  Refinishing Production  6
CRR 760  Advanced Estimating  2
CRR 655  Advanced Collision Repair  5
AUT 603  Basic Automotive Electricity  3
AUT 652  Advanced Automotive Electricity  3
AUT 704  Auto Heating & AC  4
AUT 503  Automotive Basic Brakes  3
AUT 404  Basic Suspension & Steering  4
COM 703  Communication Skills  3
HSC 102  Emergency Care  1
MAT 772  Applied Math  3
PHY 710  Technical Physics  3
CRR 101  Sheet Metal Welding  2

Option Courses—Select 1 Course from Each Option

MGT 145  Human Relations in Business  Opt 1  3
PSY 102  Human & Work Relations  Opt 1  3
PSY 111  Introduction to Psychology  Opt 1  3
SOC 110  Introduction to Sociology  Opt 1  3
BUS 148  Small Business Management  Opt 2  3
BUS 185  Business Law I  Opt 2  3

Total credits required to complete the AAS degree  73

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 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 Automotive Collision Technology diploma or AAS degree, a student must complete all course work as prescribed and maintain a 2.0 grade point average.

Auto Collision - AAS

AAS Requirements

CRR 403  Basic Shop Safety  1
CRR 325  Sheet Metal Fundamentals  5
CRR 841  Principles of Refinishing  5
CRR 742  Estimating Theory  2
CRR 877  Refinishing Applications  7
CRR 202  Plastic Repair  3
CRR 502  Frame Damage Analysis  2
CRR 876  Refinishing Production  6
CRR 760  Advanced Estimating  2
CRR 655  Advanced Collision Repair  5

Total credits required to complete the AAS degree  65
Location: Ankeny
Selected courses offered at the other campuses.
Auto Maintenance & 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 and 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 course work 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</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUT 109</td>
<td>Auto Measurement and Tools</td>
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<tr>
<td>AUT 834</td>
<td>Automotive Fuel Systems</td>
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<tr>
<td>AUT 603</td>
<td>Basic Automotive Electricity</td>
<td>3</td>
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<td>AUT 652</td>
<td>Advanced Automotive Electricity</td>
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<td>AUT 704</td>
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<td>AUT 163</td>
<td>Automotive Engine Repair</td>
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</tr>
<tr>
<td>AUT 844</td>
<td>Automotive Electronic Engine Controls</td>
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<td>AUT 823</td>
<td>Advanced Automotive Tune-Up</td>
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<td>AUT 870</td>
<td>Automotive Service Management</td>
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<td>AUT 173</td>
<td>Advanced Automotive Engine Repair</td>
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<tr>
<td>COM 703</td>
<td>Communication Skills</td>
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<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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</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</th>
<th>Title</th>
<th>Credits</th>
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<tr>
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<td>AUT 404</td>
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<tr>
<td>AUT 243</td>
<td>Advanced Automotive Power Train</td>
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<tr>
<td>AUT 535</td>
<td>Advanced Auto Brakes &amp; Alignment</td>
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<tr>
<td>COM 703</td>
<td>Communication Skills</td>
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<td>HSC 102</td>
<td>Emergency Care</td>
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<tr>
<td>MGT 145</td>
<td>Human Relations in Business</td>
<td>Opt 1 3</td>
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<tr>
<td>PSY 111</td>
<td>Introduction to Psychology</td>
<td>Opt 1 3</td>
</tr>
<tr>
<td>PSY 102</td>
<td>Human and Work Relations</td>
<td>Opt 1 3</td>
</tr>
<tr>
<td>SOC 110</td>
<td>Introduction to Sociology</td>
<td>Opt 1 3</td>
</tr>
</tbody>
</table>

Total credits required for 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</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
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<tr>
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<td>AUT 870</td>
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<td>4</td>
</tr>
<tr>
<td>AUT 535</td>
<td>Advanced Auto Brakes &amp; Alignment</td>
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<td>HSC 102</td>
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<tr>
<td>MAT 772</td>
<td>Applied Math</td>
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<td>MGT 145</td>
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<td>Introduction to Psychology</td>
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<tr>
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<tr>
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<td>Introduction to Sociology</td>
<td>Opt 1 3</td>
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Total credits required for the Auto Maintenance & Light Repair diploma: 40

Automotive Mechanics Technology - AAS degree
Required Courses—Select 1 Course from Option 1

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<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
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<td>Auto Measurement and Tools</td>
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<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 823</td>
<td>Advanced Automotive Tune-Up</td>
<td>4</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>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>
<tr>
<td>MAT 772</td>
<td>Applied Math</td>
<td>3</td>
</tr>
<tr>
<td>MGT 145</td>
<td>Human Relations in Business</td>
<td>Opt 1 3</td>
</tr>
<tr>
<td>PSY 111</td>
<td>Introduction to Psychology</td>
<td>Opt 1 3</td>
</tr>
<tr>
<td>PSY 102</td>
<td>Human and Work Relations</td>
<td>Opt 1 3</td>
</tr>
<tr>
<td>SOC 110</td>
<td>Introduction to Sociology</td>
<td>Opt 1 3</td>
</tr>
</tbody>
</table>

Total credits required for the Auto Mechanics AAS degree: 74
**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 course work 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>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 Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AA/AS Core Social and Behavioral Sciences</td>
<td></td>
<td>Opt 1</td>
</tr>
</tbody>
</table>

**Select 6 Credits From Option 2**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AA/AS Core Social and Behavioral Sciences</td>
<td></td>
<td>Opt 2</td>
</tr>
</tbody>
</table>

**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>CSC 110</td>
<td>Intro to Computers</td>
<td>3</td>
</tr>
<tr>
<td>ENG 108</td>
<td>Comp II: Technical Writing</td>
<td>3</td>
</tr>
</tbody>
</table>

**Select 2 Courses from Option 4 OR 2 Courses from Option 5**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHM 122*</td>
<td>Intro to General Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>CHM 132*</td>
<td>Intro Organic/Biochemistry</td>
<td>4</td>
</tr>
<tr>
<td>CHM 165</td>
<td>General/Inorg Chemistry I</td>
<td>5</td>
</tr>
<tr>
<td>CHM 175</td>
<td>General/Inorg Chemistry II</td>
<td>5</td>
</tr>
</tbody>
</table>

*Students who plan to transfer to a four-year school should take CHM 165 and 175 in place of CHM 122 & 132.

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

---

**Building Maintenance**

(see Certificate Section, page 88)

**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 course work 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>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>
<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>Course Code</th>
<th>Course Title</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>Course Code</th>
<th>Course Title</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
PROGRAMS AVAILABLE

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

The Business Administration program offers the student a number of career and educational opportunities. The curriculum is designed for career-oriented students who desire career positions in business; college transfer students who wish to complete a four-year degree; working adults who want to complete their associate degree, gain advancement opportunities, or who are considering a career change.

Unique features of the Business Administration curriculum include: introductory business studies in business administration areas, a complement of arts and science transfer courses and an Associate in Science degree.

This program helps prepare the student for a career, or should the student decide to transfer to a four-year college, this program provides a curriculum that will satisfy most freshman and sophomore Business Administration requirements of four-year colleges. The Student Development Office can provide course check sheets 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.

Locations: Ankeny, Boone, Carroll, Newton, Urban, West

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

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Required/Option</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 131</td>
<td>Required</td>
<td>4</td>
</tr>
<tr>
<td>ACC 132</td>
<td>Required</td>
<td>4</td>
</tr>
<tr>
<td>BUS 102</td>
<td>Required</td>
<td>3</td>
</tr>
<tr>
<td>BUS 220</td>
<td>Required</td>
<td>3</td>
</tr>
<tr>
<td>BUS 185</td>
<td>Required</td>
<td>3</td>
</tr>
<tr>
<td>CSC 110</td>
<td>Required</td>
<td>3</td>
</tr>
<tr>
<td>ECN 120</td>
<td>Required</td>
<td>3</td>
</tr>
<tr>
<td>ECN 130</td>
<td>Required</td>
<td>3</td>
</tr>
</tbody>
</table>

| Total        |                  | 54      |

NOTE: ECN 120 and ECN 130 can be used to satisfy the Social and Behavioral Sciences component of the AS degree core. Students choosing this option will need to complete an additional 6 credit hours from either AS degree core or General Business Option courses to meet program requirements.

In addition to the required courses, students must choose one of the following plans:

1. College Transfer Plan

Students planning to transfer to a four-year institution should complete:

Additional Course Requirements

a. Any AS degree Core MAT or BUS Course 4 credits. Students should check with the four-year institution regarding math requirements before selecting a MAT or BUS course for this program.

b. AS degree Core Requirement Course 3 credits. Students should check with the four-year institution regarding requirements for Social and Behavioral Sciences, Science or Humanities before selecting courses for this program.

c. One Course from the General Business Option Course Plan below 3 credits

Total minimum credits required for the College Transfer Plan 64

2. General Business Option Course Plan

Complete both courses from Option 1 and select 1 course from Option 2

<table>
<thead>
<tr>
<th>Course</th>
<th>Required/Option</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<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>CIS 207</td>
<td>Fund of Web Programming</td>
<td>3</td>
</tr>
<tr>
<td>CIS 413</td>
<td>COBOL II</td>
<td>4</td>
</tr>
<tr>
<td>CIS 604</td>
<td>Visual BASIC</td>
<td>3</td>
</tr>
<tr>
<td>CIS 612</td>
<td>Advanced Visual BASIC</td>
<td>3</td>
</tr>
<tr>
<td>BCA 113</td>
<td>Computer Network Literacy</td>
<td>3</td>
</tr>
<tr>
<td>CIS 421</td>
<td>COBOL - Intermediate</td>
<td>4</td>
</tr>
<tr>
<td>CIS 161</td>
<td>C++</td>
<td>3</td>
</tr>
<tr>
<td>CIS 303</td>
<td>Introduction to Data Base</td>
<td>3</td>
</tr>
<tr>
<td>CIS 332</td>
<td>Data Base and SQL</td>
<td>3</td>
</tr>
<tr>
<td>CIS 338</td>
<td>SQL/Oracle</td>
<td>2</td>
</tr>
<tr>
<td>CIS 346</td>
<td>Data Base Design</td>
<td>3</td>
</tr>
<tr>
<td>BCA 213</td>
<td>Inter. Computer Business Applications</td>
<td>3</td>
</tr>
</tbody>
</table>

| Elective     |                  | 1       |

Total minimum credits required for the General Business Plan 64

3. Business Computer Option Plan

Complete both courses from Option 1 and select 1 course from Option 2

<table>
<thead>
<tr>
<th>Course</th>
<th>Required/Option</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<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>CIS 207</td>
<td>Fund of Web Programming</td>
<td>3</td>
</tr>
<tr>
<td>CIS 413</td>
<td>COBOL II</td>
<td>4</td>
</tr>
<tr>
<td>CIS 604</td>
<td>Visual BASIC</td>
<td>3</td>
</tr>
<tr>
<td>CIS 612</td>
<td>Advanced Visual BASIC</td>
<td>3</td>
</tr>
<tr>
<td>BCA 113</td>
<td>Computer Network Literacy</td>
<td>3</td>
</tr>
<tr>
<td>CIS 421</td>
<td>COBOL - Intermediate</td>
<td>4</td>
</tr>
<tr>
<td>CIS 161</td>
<td>C++</td>
<td>3</td>
</tr>
<tr>
<td>CIS 303</td>
<td>Introduction to Data Base</td>
<td>3</td>
</tr>
<tr>
<td>CIS 332</td>
<td>Data Base and SQL</td>
<td>3</td>
</tr>
<tr>
<td>CIS 338</td>
<td>SQL/Oracle</td>
<td>2</td>
</tr>
<tr>
<td>CIS 346</td>
<td>Data Base Design</td>
<td>3</td>
</tr>
<tr>
<td>BCA 213</td>
<td>Inter. Computer Business Applications</td>
<td>3</td>
</tr>
</tbody>
</table>

| Elective     |                  | 1       |

Total minimum credits required for the Business Computer Option Plan 64

Total minimum credits required for this program using any plan 64

VISIT US ONLINE: www.DMACC.edu
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 course work 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, Newton, Urban, West

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 course work as prescribed and maintain a 2.0 grade point average.

Required Courses

- ACC 131 Principles of Accounting I 4
- BUS 102 Intro to Business 3
- CIS 125 Intro to Programming Logic w/language 3
- CIS 402 COBOL 3
- CSC 110 Intro to Computers 3
- CIS 604 Visual BASIC 3
- BCA 113 Computer Network Literacy 3
- CIS 303 Introduction to Data Base 3
- CIS 332 Data Base and SQL 3
- CIS 505 Structured Systems Analysis 4
- MGT 248 Systems & Information Management 3
- 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

- ENG 105 Composition I Opt 1 3
- COM 703 Communication Skills Opt 1 3
- SPC 101 Fund of Oral Communication Opt 2 3
- Any AA/AS Core Speech Course (SPC) Opt 2 3
- MGT 145 Human Relations in Business Opt 3 3
- PSY 111 Introduction to Psychology Opt 3 3
- SOC 110 Intro to Sociology Opt 3 3
- ACC 311 Computer Accounting Opt 4 3
- BUS 150 E-Commerce on the Web Opt 4 3
- CIS 207 Fund of Web Programming Opt 4 3

CAP - Chrysler

The Chrysler Automotive Program (CAP), cosponsored by DMACC and DaimlerChrysler Company, is a two-year automotive program designed to upgrade the technical competence and professional level of the incoming DaimlerChrysler dealership technician. The curriculum, designed by DaimlerChrysler 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, aptitude and ability tests and be accepted by DaimlerChrysler as a participant. In addition, all program participants must be employed by a participating Chrysler, Dodge or Jeep dealership. Students start in October each year.

Graduation Requirements

To earn a CAP-Chrysler AAS degree, a student must complete all course work as prescribed and maintain a 2.0 grade point average.

Required Courses

- ATC 312 Chrysler Electrical/Electronics 4
- ATC 317 Shop Fundamentals and Minor Service 4
- ATC 318 Basic Brakes 4
- ATC 320 Technical Internship I 3
- ATC 328 Chrysler Electrical Systems Repair 4
- ATC 329 Chrysler Steering & Suspension 3
- ATC 330 Technical Internship II 3
- ATC 335 Service/Repair Chrysler Engines 5
- ATC 336 Chrysler Fuel Systems 3
- ATC 340 Technical Internship III 3
- ATC 346 Chrysler Engine Performance 5
- ATC 347 Chrysler Heating & AC 3
- ATC 350 Technical Internship IV 3
- ATC 354 Chrysler Manual Drivetrains 4
- ATC 355 Chrysler Automatic Drivetrains 4

Total credits required to complete AAS degree 65
Chemical Dependency Counseling
(see Certificate Section, page 88)

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 course work. 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 course work as prescribed and maintain a 2.0 grade point average.

Required Courses
CET 102 Fundamentals of Civil Engineering 3
CET 119 Survey I 3
CET 135 Materials I 3
CET 138 Construction I 3
CET 169 Survey II 4
CET 171 Highway Design I 4
CET 178 Automated Design I 4
CET 192 Statics 4
CET 219 Survey III 4
CET 222 Soils and Foundations 3
CET 235 Construction II 3
CET 244 Materials II 3
CET 278 Automated Design II 4
CET 283 Highway Design II 4
CET 291 Structure Design and Construction 3
MAT 773 Applied Math 3
CSC 110 Intro to Computers 3
CET 305 Field Coop 5

With faculty approval, students may take the following in place of SRV 305
CET307 Field Orientation 2

Total credits required to complete AAS degree 80
PROGRAMS AVAILABLE

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

<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 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 I</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>MGT 145</td>
<td>Human Relations in Business</td>
<td>Opt 3 2</td>
</tr>
<tr>
<td>PSY 111</td>
<td>Intro to Psychology</td>
<td>Opt 3 2</td>
</tr>
<tr>
<td>PSY 102</td>
<td>Human and Work Relations</td>
<td>Opt 3 2</td>
</tr>
</tbody>
</table>

Total credits required to complete AAS degree: 72

Recommended Electives (not required for the AAS degree)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAD 119</td>
<td>Intro to Computer-Aided Drafting</td>
<td></td>
</tr>
<tr>
<td>SPC 101</td>
<td>Fund of Oral Communication</td>
<td></td>
</tr>
<tr>
<td>MAT 130</td>
<td>Trigonometry</td>
<td></td>
</tr>
<tr>
<td>SRV 215</td>
<td>Intro to Land Information Systems</td>
<td></td>
</tr>
</tbody>
</table>

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 course work 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>AGA 157</td>
<td>Soil Fertility*</td>
<td>1</td>
</tr>
<tr>
<td>AGA 154</td>
<td>Fundamentals of Soil Science*</td>
<td>3</td>
</tr>
<tr>
<td>AGH 159</td>
<td>Landscape Drafting</td>
<td>2</td>
</tr>
<tr>
<td>AGH 221</td>
<td>Principles of Horticulture</td>
<td>3</td>
</tr>
<tr>
<td>AGH 142</td>
<td>Construction, Safety &amp; Maintenance</td>
<td>3</td>
</tr>
<tr>
<td>AGH 123</td>
<td>Woody Plant Materials</td>
<td>3</td>
</tr>
</tbody>
</table>

Computer-Aided Design Technology

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

first-year diploma requirements and in the second year apply advanced CAD software operations including three-dimensional (solid) modeling, computer analysis and rendering. Associate degree students will also be taught a variety of specialized drafting standards in their respective field of interest.

Engineering and manufacturing design drafting, computer animation and graphics, 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 course work as prescribed and maintain a 2.0 grade point average.

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>CAD 151</td>
<td>CAD Graphics I</td>
<td>6</td>
</tr>
<tr>
<td>CAD 155</td>
<td>Networking Systems Involving CAD</td>
<td>3</td>
</tr>
<tr>
<td>MAT 772</td>
<td>Applied Math</td>
<td>3</td>
</tr>
<tr>
<td>MGT 145</td>
<td>Human Relations in Business</td>
<td>3</td>
</tr>
<tr>
<td>PSY 102</td>
<td>Human and Work Relations</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>MAT 773</td>
<td>Applied Math II</td>
<td>3</td>
</tr>
<tr>
<td>CAD 242</td>
<td>Manufacturing Interfaces</td>
<td>3</td>
</tr>
<tr>
<td>ENG 105</td>
<td>Composition I</td>
<td>3</td>
</tr>
<tr>
<td>CAD 152</td>
<td>CAD Graphics II</td>
<td>6</td>
</tr>
</tbody>
</table>

Total credits required to complete the diploma 39

Term 4

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAD 153</td>
<td>CAD Applications I</td>
<td>3</td>
</tr>
<tr>
<td>CAD 246</td>
<td>Parametric CAD I</td>
<td>3</td>
</tr>
<tr>
<td>CAD 215</td>
<td>Mechanical Systems</td>
<td>3</td>
</tr>
<tr>
<td>CAD 252</td>
<td>Design Project I</td>
<td>4</td>
</tr>
<tr>
<td>ENG 108</td>
<td>Comp II: Technical Writing</td>
<td>3</td>
</tr>
</tbody>
</table>

Term 5

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAD 148</td>
<td>Introduction to Finite Element Analysis</td>
<td>3</td>
</tr>
<tr>
<td>CAD 154</td>
<td>CAD Applications II</td>
<td>3</td>
</tr>
<tr>
<td>CAD 248</td>
<td>Parametric CAD II</td>
<td>3</td>
</tr>
<tr>
<td>CAD 254</td>
<td>Design Project II</td>
<td>5</td>
</tr>
</tbody>
</table>

Total credits required to complete this AAS degree 69

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

Required Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRJ 100</td>
<td>Intro to Criminal Justice</td>
<td>3</td>
</tr>
<tr>
<td>CRJ 119</td>
<td>Community Relations</td>
<td>3</td>
</tr>
<tr>
<td>CRJ 132</td>
<td>Constitutional Law</td>
<td>3</td>
</tr>
<tr>
<td>CRJ 107</td>
<td>Survey/Criminal Justice Agencies</td>
<td>3</td>
</tr>
<tr>
<td>POL 171*</td>
<td>Intro to Public Administration</td>
<td>3</td>
</tr>
<tr>
<td>SOC 240</td>
<td>Criminology</td>
<td>3</td>
</tr>
</tbody>
</table>

Complete remaining AA Degree Core Requirements 45

*POL 171 is a required course for this program and may also be used to fulfill 3 credits of Social & Behavioral Science AA Core

Option Courses–Select 12 Credits from Option 1

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRJ 130</td>
<td>Criminal Law</td>
<td>Opt 1</td>
</tr>
<tr>
<td>CRJ 137</td>
<td>Juvenile Law</td>
<td>Opt 1</td>
</tr>
<tr>
<td>CRJ 109</td>
<td>Theories of Interviewing</td>
<td>Opt 1</td>
</tr>
<tr>
<td>CRJ 165</td>
<td>Intro to Electronic Crime</td>
<td>Opt 1</td>
</tr>
<tr>
<td>CRJ 229</td>
<td>Penology</td>
<td>Opt 1</td>
</tr>
<tr>
<td>CRJ 222</td>
<td>Correctional Treatment Methods</td>
<td>Opt 1</td>
</tr>
<tr>
<td>CRJ 136</td>
<td>Correctional Law</td>
<td>Opt 1</td>
</tr>
<tr>
<td>CRJ 141</td>
<td>Criminal Investigation</td>
<td>Opt 1</td>
</tr>
<tr>
<td>CRJ 932</td>
<td>Internship</td>
<td>Opt 1</td>
</tr>
<tr>
<td>CRJ 147</td>
<td>Criminal Investigation II</td>
<td>Opt 1</td>
</tr>
<tr>
<td>CRJ 204</td>
<td>Introduction to Security</td>
<td>Opt 1</td>
</tr>
<tr>
<td>CRJ 248</td>
<td>Scientific Investigation</td>
<td>Opt 1</td>
</tr>
<tr>
<td>CRJ 101</td>
<td>Ethics in Criminal Justice</td>
<td>Opt 1</td>
</tr>
</tbody>
</table>

Total minimum credits required to complete the AA degree 75

Computer Applications and Computer Languages Certificates

(see Certificate Section, page 89)
## AS Degree

### Required Courses

Complete AS Degree Core Requirements 28  
(ENG 105, 106 and 108 are required for this AS degree)

- CRJ 100 Intro to Criminal Justice 3
- CRJ 119 Community Relations 3
- CRJ 132 Constitutional Law 3
- CRJ 107 Survey/Criminal Justice Agencies 3
- CRJ 932 Internship 3
- POL 171* Intro to Public Administration 3
- SOC 240 Criminology 3

*POL 171 is a required course for this program and may also be used to fulfill 3 credits of Social & Behavioral Science AS Core

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

- CRJ 130 Criminal Law Opt 1 3
- CRJ 137 Juvenile Law Opt 1 3
- CRJ 109 Theories of Interviewing Opt 1 3
- CRJ 165 Intro to Electronic Crime Opt 1 3
- CRJ 229 Penology Opt 1 3
- CRJ 222 Correctional Treatment Methods Opt 1 3
- CRJ 136 Correctional Law Opt 1 3
- CRJ 141 Criminal Investigation Opt 1 3
- CRJ 147 Criminal Investigation II Opt 1 3
- CRJ 204 Introduction to Security Opt 1 3
- CRJ 248 Scientific Investigation Opt 1 3
- CRJ 101 Criminal Justice Ethics Opt 1 3

Total minimum credits required to complete the AS degree 64

## Culinary Arts

The DMACC Culinary Arts program has been designated the Iowa Culinary Institute, signifying world-class prominence of the program.

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.

Upon successful completion of terms 1 through 5, students will receive a Culinary Arts AAS degree. The first three terms must be completed before enrollment is allowed in terms 4 and 5. Students with a shorter-term educational goal may receive a diploma upon completion of terms 1, 2 and 3.

The Culinary Arts program is accredited by the American Culinary Federation.

### 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 Culinary Arts AAS degree or diploma, a student must complete all course work as prescribed and maintain a 2.0 grade point average.

## Degrees and Diplomas

### Culinary Arts

#### Term 1–Select 1 Course from Option 1

- HCM 100 Sanitation and Safety 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 2
- BUS 112 Business Math Opt 1 3
- MAT 772 Applied Math Opt 1 3
- Any MAT or BUS course designated as AAS Core Opt 1 3

#### Term 2–Select 1 Course from Option 2

- HCM 110 Baking (Lab) 2
- HCM 200 Dining Room Service 2
- HCM 152 Food Preparation II (Lec) 2
- HCM 153 Food Preparation II Lab 2
- HCM 231 Nutrition 2
- HCM 240 Menu Planning & Design (Lec) 2
- COM 703 Communication Skills Opt 2 3
- Any ENG course designated as AAS Core Opt 2 3

#### Term 3

- HCM 270 Garde Manger (Lab/Lec) 2
- HCM 510 Work Experience 3
- MGT 145 Human Relations in Business 3

#### Total credits required to complete the diploma 37

#### Term 4–Select 1 Course from Option 3

- HCM 172 International Cuisine (Lab) 3
- HCM 173 International Cuisine (Lec) 2
- HCM 210 Restaurant Management (Lec) 2
- HCM 250 Purchasing (Lec) 2
- HCM 167 Culinary Skill Development 3
- SPC 101 Fundamentals of Oral Communication Opt 3 3
- Any SPC course designated as Core Opt 3 3

#### Term 5

- SDV 153 Pre-Employment Strategies 2
- HCM 175 International Cuisine Lab II 3
- HCM 124 Advanced Baking/Buffet Decorating (Lec/Lab) 2
- HCM 169 Culinary Cuisine Lab 4
- HCM 168 Advanced Culinary Cuisine (Lec) 2
- HCM 300 Beverage Management 2

#### Total credits required to complete the AAS degree 67

## Data Entry I and Data Specialist Certificates

(see Certificate Section, page 89)

## 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.
Programs Available

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 or spring term.

Graduation Requirements
To earn a Dental Assistant diploma, a student must complete all course work 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

Graduates may immediately sit for the National Board exam to become a Certified Dental Assistant.

Total credits required to complete this program 47

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 of 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, SPC101 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 Intro 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 Anatomy Anatomical Sciences 4
DHY 161 Dental Radiography 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
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 84)

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 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 course work 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
DSL 145 Basic Electricity 5
DSL 733 Air Conditioning 3
DSL 830 Operation and Maintenance 5

Select 1 Course from Each Option
COM 703 Communication Skills Opt 1 3
ENG 105 Composition I Opt 1 3
MAT 772 Applied Math Opt 2 3
MAT 141 Finite Math Opt 2 4
MAT 130 Trigonometry 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
SOC 110 Introduction to Sociology Opt 3 3
PHY 106 Survey of Physics Opt 4 3
PHY 710 Technical Physics Opt 4 3

Total credits required to complete the diploma 42

Required Courses—AAS
DSL 356 Diesel Engines I 6
DSL 366 Diesel Engines II 6
DSL 546 Power Trains I 6
DSL 605 Hydraulics and Brakes 5
DSL 145 Basic Electricity 5
DSL 733 Air Conditioning 3
DSL 830 Operation and Maintenance 5
DSL 555 Power Trains II 5
DSL 409 Diesel Electronics 5
DSL 407 Diesel Fuel Systems 6
DSL 155 Advanced Electricity 4
DSL 845 Heavy Equipment Repair 5
DSL 855 Truck Repair 5
AUT 140 Welding for Automotive Mechanics 2

Select 1 Course from Each Option
COM 703 Communication Skills Opt 1 3
ENG 105 Composition I Opt 1 3
MAT 772 Applied Math Opt 2 3
MAT 141 Finite Math Opt 2 4
MAT 130 Trigonometry 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
SOC 110 Introduction to Sociology Opt 3 3
PHY 106 Survey of Physics Opt 4 3
PHY 710 Technical Physics Opt 4 3

Total credits required to complete the AAS degree 80

Dietary Manager (see Certificate Section, page 90)

Digital Publishing & Prepress (see Certificate Section, page 90)

E-Commerce Design (see Certificate Section, page 90)

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.

Course work 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 course work 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 fall term.
Graduation Requirements
To earn an Early Childhood Education diploma, a student must complete all course work 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.

Required Courses 1st Semester
- ECE 173 Early Childhood Development 3
- ECE 101 Intro to Early Childhood Education 1
- ECE 242 Early Childhood Guidance 2
- ECE 147 Assessment Planning–Young Children 1
- ECE 148 Group Exp. for Early Childhood Programs 2
- ECE 149 Curriculum–Preschool Children 3
- ECE 130 Emergency Care 1
- ECE 265 Student Participation I 3

Total 16

Required Courses 2nd Semester
- ECE 133 Child Health, Safety & Nutrition 3
- ECE 220 Infant/Toddler Care & Education 3
- ECE 121 Professional Relationships 2
- ECE 266 Student Participation II 3
- ECE 281 Practicum 2

Total 19

Option Courses—Select 1 Course from Each Option
- ENG 105 Composition I Opt 1 3
- COM 703 Communication Skills Opt 1 3
- ADM 157 Business English Opt 1 3
- SOC 110 Introduction to Sociology Opt 2 3
- PSY 111 Intro to Psychology Opt 2 3
- PSY 102 Human and Work Relations Opt 2 3
- MGT 145 Human Relations in Business Opt 2 3

Total 28

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 course work 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. 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.
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 course work as prescribed and maintain a 2.0 grade point average.

Term 1
- MAT 772 Applied Math 3
- CON 337 Construction Blueprint Reading 1
- ELT 303 Principles of Electricity 3
- ELT 158 NEC® Residential 3
- ELT 159 NEC® Residential Lab 3

Term 2
- ELT 172 NEC® Commercial/Industrial 3
- ELT 173 NEC® Commercial/Industrial Lab 4
- ELT 134 Motor Controls 3
- COM 703 Communication Skills 3
- CSC 110 Introduction to Computers 3

Electronics, Robotics & Automation

The Electronics, Robotics and 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.

Graduation Requirements
To earn an Electronics, Robotics and Automation AAS degree, a student must complete all course work as prescribed and maintain a 2.0 grade point average.

Term 1–Select 1 Course from Option 1
- ELT 385 Electric Circuit Analysis I 4
- ELT 386 Electric Circuit Analysis I Lab 2
- ELT 389 Fabrication Techniques 3
- ELT 108 Math for Electronics & Computers 4
- ENG 105 Composition I Opt 1 3
- COM 703 Communication Skills Opt 1 3

Term 2–Select 1 Course from Option 2
- ELT 325 Digital Electronics 3
- ELT 326 Digital Electronics Lab 3
- ELT 387 Electronic Circuit Analysis II 3
- ELT 388 Elec. Circuit Analysis II Lab 3
- ELT 181 Adv. Math for Electronics Technicians 1
- MGT 145 Human Relations in Business Opt 2 3
- PSY 111 Intro to Psychology Opt 2 3
- PSY 102 Human & Work Relations Opt 2 3
- SOC 110 Introduction to Sociology Opt 2 3

Term 3
- CIS 130 Computer Programming 3
- ELT 134 Motor Controls 3
- ELT 126 Industrial Electronics 2
- ELT 143 Mechanisms 3

Term 4
- ELT 611 Microprocessors 2
- ELT 612 Microprocessors Lab 3
- NET 213 CISCO Networking 4
- ELT 119 Programmable Logic Controllers 3
- ELT 721 Robotics 2
- ECN 120 Principles of Macroeconomics 3

Term 5
- ELT 791 Hydraulics and Pneumatics 3
- ELT 792 Hydraulics and Pneumatics Lab 2
- ELT 643 Process Control Instrument 3
- ELT 644 Process Control Instrument Lab 2
- ELT 725 Introduction to FMS Cell 2
- ELT 125 Advanced PLC 3
- ELT 870 Electronic Capstone Project 3

Total credits required to complete this program 78
**Programs Available**

**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.

**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 course work as prescribed and maintain a 2.0 grade point average.

**Term 3**

- ELT 781 Electro-Mechanical Systems 2
- ELT 782 Electro-Mechanical Systems Lab 2
- ELT 478 Basic Imaging Devices 3
- ELT 479 Basic Imaging Devices Lab 3
- ECN 120 Principles of Macroeconomics 3

**Term 4**

- ELT 474 Communications Systems 3
- ELT 475 Communications Systems Lab 3
- ELT 652 Computer Repair & Networking 4
- ELT 482 Security Systems 3
- ELT 483 Security Systems Lab 4

**Term 5**

- ELT 484 Medical Electronics Systems 3
- ELT 485 Medical Electronics Systems Lab 3
- ELT 816 System Troubleshooting 2
- ELT 817 System Troubleshooting Lab 3
- ELT 932 Internship 5

Total credits required to complete the AAS degree 78

**Entrepreneurship Certificates**

(see Certificate Section, page 90)

**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, 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 course work as prescribed and maintain a 2.0 grade point average.

**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.

**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, 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 course work as prescribed and maintain a 2.0 grade point average.
Required Courses

ACC 311 Computer Accounting 3
BUS 112 Business Math 3
BUS 220 Intro to International Business 3
BUS 131 Small Business Management Strategies 3
BUS 138 Small Business Marketing 3
BUS 141 Small Business Start-Up 3
BUS 148 Small Business Management 3
BUS 150 E-Commerce on the Web 3
BUS 181 Basic Law for Entrepreneurs 2

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
MGT 145 Human Relations in Business Opt 3 3
PSY 111 Introduction to Psychology Opt 3 3
BUS 240 Virtual Business Firm Opt 4 3
CSC 110 Intro to Computers Opt 4 3
MKT 110 Principles of Marketing Opt 1 3
MKT 140 Selling Opt 3 3
MKT 150 Principles of Advertising Opt 3 3
MKT 147 Leadership Development Opt 3 3
MGT 800 Business Internship I Opt 6 6
MGT 802 Business Internship Seminar I Opt 2 3
MGT 805 Business Internship II Opt 4 4
MGT 807 Business Internship Seminar II Opt 1 1
MGT 194 Relationship Strategies in Business Opt 2 2
SDV 153 Pre-Employment Strategies Opt 2 2

Total credits required to complete this program 38

Fashion

(see Certificate Section, page 91)

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 course work 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.

Degrees and Diplomas

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 course work as prescribed and maintain a 2.0 grade point average.

Required Courses–Fashion/Design AAS Degree

APP 260 Fashion Analysis & Design 3
INT 124 Interior Design Analysis 3
APP 111 Visual Merchandising & Design 3
APP 230 Fashion Coordination/Promotion 3
APP 211 Textiles 3
MKT 110 Principles of Marketing 3
MKT 140 Selling 3
MKT 150 Principles of Advertising 3
MKT 147 Leadership Development 3
MGT 800 Business Internship I 6
MGT 802 Business Internship Seminar I 2
MGT 805 Business Internship II 4
MGT 807 Business Internship Seminar II 1
MGT 194 Relationship Strategies in Business 2
SDV 153 Pre-Employment Strategies 2

Option Courses–Select 1 Course from Each Option

APP 250 Design Concepts Opt 1 3
INT 125 Interior Design Planning Opt 1 3
BUS 102 Introduction to Business Opt 2 3
MKT 160 Principles of Retailing Opt 2 3
MKT 148 Small Business Management Opt 3 3
APP 270 Fashion Buying Opt 3 3
MKT 165 Retail Management II Opt 3 3
MGT 130 Principles of Supervision Opt 3 3
CIS 110 Intro to Computers Opt 4 3
GRD 301 Intro to Desktop Publishing Opt 4 3
BAC 212 Intro Computer Business Appl Opt 4 3
ENG 105 Composition I Opt 5 3
COM 703 Communication Skills Opt 5 3
MGT 145 Human Relations in Business Opt 6 3
PSY 111 Introduction to Psychology Opt 6 3
BUS 112 Business Math Opt 7 3
MAT 141 Finite Math Opt 7 4
SPC 101 Fundamentals of Oral Communication Opt 8 3
SPC 126 Interpersonal & Small Group Comm Opt 8 3

Total credits required to complete the AAS degree 68

Required Courses–Fashion/Design Diploma

APP 260 Fashion Analysis & Design 3
INT 124 Interior Design Analysis 3
APP 111 Visual Merchandising & Design 3
APP 230 Fashion Coordination/Promotion 3
APP 211 Textiles 3
MKT 110 Principles of Marketing 3
MKT 140 Selling 3
MKT 147 Leadership Development 3
SDV 153 Pre-Employment Strategies 2

Total credits required to complete the AAS degree 68
PROGRAMS AVAILABLE

Option Courses–Select 1 Course from Each Option

MKT 160 Principles of Retailing Opt 1 3
BUS 102 Introduction to Business Opt 1 3
MGT 145 Human Relations in Business Opt 2 3
PSY 111 Introduction to Psychology Opt 2 3
BUS 112 Business Math Opt 3 3
MAT 141 Finite Math Opt 3 4
ENG 105 Composition I Opt 4 3
COM 703 Communication Skills Opt 4 3

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

CHM 122 Intro to General Chemistry 4
ENG 105 Composition I 3
ENG 106 Composition II 3
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 Prevention 3
FIR 212 Emergency Scene Management 3
FIR 200 Occupational Safety/Health in Emergency Services 3
FIR 138 Principles of Fire Prevention 3
MGT 101 Principles of Management 3
PHI 105 Introduction to Ethics 3
PHY 106 Survey of Physics 4
POL 112 American State & Local Government 3
PSY 111 Introduction to Psychology 3
AS Degree Core MAT 3
AS Degree Core SPC 3
Electives 5–6

Total minimum credits required to complete this program 64

Degrees and Diplomas

Fire Specialist (see Certificate Section, page 91)

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 A.S. 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, YMCA/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 course work as prescribed and maintain a 2.0 grade point average.

Required Courses–All Students

BIO 168 Anatomy & Physiology I 4
BIO 173 Anatomy & Physiology II 4
CSC 110 Intro to Computers 3
ECN 130 Principles of Microeconomics 3
ENG 105 Composition I 3
ENG 106 Composition II 3
PEH 920 Field Experience 2
PEA 144 Physical Fitness & Conditioning 2
HCM 236 Human Nutrition 3
PEH 162 Intro to Physical Education 3
PEH 102 Health 3
SPC 101 Fund of Oral Communication 3

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.

Fitness Management Emphasis

Required Courses

PEH 141 First Aid 2
PEH 265 Leadership Techniques for Fitness Program 2
MGT 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

EMS 210 Emergency Med Tech Basic is recommended
Option Courses–Select 1 Course from Each Option

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<td>MAT 157</td>
<td>Statistics</td>
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<td>PHY 106</td>
<td>Survey of Physics</td>
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<td>PHY 162</td>
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**Health Emphasis**

**Required Courses**

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<td>PEH 141</td>
<td>First Aid</td>
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<td>MAT 157</td>
<td>Statistics</td>
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<td>PSY 261</td>
<td>Human Sexuality</td>
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<td>Any AS degree Core Humanities</td>
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<td>Any AS degree Core Social Sciences</td>
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**Elective**

2 credits

**Sports Management Emphasis**

**Required Courses**

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<td>PEH 255</td>
<td>Principles–Sports Management</td>
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<td>MAT 141</td>
<td>Finite Math</td>
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<td>MGT 101</td>
<td>Principles of Management</td>
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<td>MKT 110</td>
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<tr>
<td>SOC 110</td>
<td>Introduction to Sociology</td>
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<td>Any AS degree Core Humanities</td>
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| Elective

2 credits

**Option Courses–Select 1 Course From Option 3**

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<td>PSY 121</td>
<td>Developmental Psychology</td>
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Recommended Electives

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<td>AGH 241</td>
<td>Sports Turf</td>
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<tr>
<td>JOU 165</td>
<td>Principles of Advertising</td>
<td>3</td>
</tr>
<tr>
<td>MKT 199</td>
<td>Sports/Entertainment Marketing</td>
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<tr>
<td>PEC 110</td>
<td>Coaching, Ethics, Tech &amp; Theory</td>
<td>1</td>
</tr>
<tr>
<td>PEH 110</td>
<td>Personal Wellness</td>
<td>2</td>
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<tr>
<td>PEC 161</td>
<td>Sports Officiating</td>
<td>3</td>
</tr>
<tr>
<td>PEH 262</td>
<td>Wellness Programming/Planning/Organization</td>
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</tr>
<tr>
<td>PEH 264</td>
<td>Fitness Testing/Programming</td>
<td>3</td>
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</tbody>
</table>

Total credits required to complete this program with a Fitness Management, Health or Sports Management emphasis: 65

**Gerontology Specialist**

(see Certificate section, page 91)

**Graphic Design**

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. The development of “portfolio quality” work is stressed throughout the training program.

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, 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 art studios, advertising agencies, in-house art departments, printing companies, publishing firms and other establishments 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.

**Graduation Requirements**

To earn a Graphic Design AAS degree, a student must complete all course work as prescribed and maintain a 2.0 grade point average.

**Required Courses**

<table>
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<td>Graphic Design Orientation</td>
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<td>GRD 403</td>
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<td>Typography II</td>
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<td>GRD 410</td>
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<td>GRD 415</td>
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<td>GRD 421</td>
<td>Internship Preparation</td>
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<td>GRD 424</td>
<td>Graphic Design Internship I</td>
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<td>GRD 426</td>
<td>Communication Design III</td>
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<td>GRD 436</td>
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<td>GRD 437</td>
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<td>GRD 440</td>
<td>Production Art IV</td>
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<td>GRD 444</td>
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<td>GRD 459</td>
<td>Computer Graphics</td>
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<td>GRD 463</td>
<td>Electronic Photo Editing</td>
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<td>GRD 301</td>
<td>Intro to Desktop Publishing</td>
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**Option Courses–Select 2 Courses from Option 1**

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<td>Intro to Printing Methods</td>
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<td>Intro to Graphic Communication</td>
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<td>Desktop Publishing II</td>
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<td>Electronic Image Control</td>
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<td>ART 185</td>
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<td>ART 292</td>
<td>Studio Photography</td>
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<tr>
<td>MKT 150</td>
<td>Principles of Advertising</td>
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**Option Courses–Select 1 Course from Each Option**

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<th>Course Code</th>
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<th>Credits</th>
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<tr>
<td>GRD 414</td>
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</tr>
<tr>
<td>GRT 416</td>
<td>Desktop Publishing II</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>GRT 425</td>
<td>Electronic Image Control</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>ART 185</td>
<td>Advanced Photography</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>ART 292</td>
<td>Studio Photography</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>MKT 150</td>
<td>Principles of Advertising</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

**Degrees and Diplomas**
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.

Graduation Requirements
To earn a Graphic Technologies diploma or AAS degree, a student must complete all course work as prescribed and maintain a 2.0 grade point average.

Term 1–Select 1 Course from Option 1

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</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 Communication</td>
<td>3</td>
</tr>
<tr>
<td>GRT 406</td>
<td>Digital Publishing</td>
<td>3</td>
</tr>
<tr>
<td>BCA 212</td>
<td>Intro to Computer Business Appl</td>
<td>3</td>
</tr>
<tr>
<td>AAS Core Communications</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Term 2

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GRT 410</td>
<td>Printing Methods</td>
<td>4</td>
</tr>
<tr>
<td>GRT 409</td>
<td>Project Planning &amp; Management</td>
<td>3</td>
</tr>
<tr>
<td>GRT 421</td>
<td>Electronic Prepress</td>
<td>4</td>
</tr>
</tbody>
</table>

GRT 421 Electronic Prepress I 4

GRT 409 Project Planning & Management 3

GRT 421 Electronic Prepress I 4

AAS Core Communications 3

GRT 416 Desktop Publishing II 3

GRT 405 Typography I 3

GRT 410 Printing Methods I 4

GRT 401 Intro to Graphic Communication 3

GRT 406 Digital Publishing I 3

BCA 212 Intro to Computer Business Appl 3

Total minimum credits required to complete this program 73

Graphic Sales and Customer Service
(see Certificate section, page 91)

Total credits required to complete the diploma 47

Term 4

• 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.

Option 4 Course List:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART 186</td>
<td>Principles of Digital Photography</td>
<td>4</td>
</tr>
<tr>
<td>MKT 110</td>
<td>Principles of Marketing</td>
<td>3</td>
</tr>
<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>MGT 130</td>
<td>Principles of Supervision</td>
<td>3</td>
</tr>
<tr>
<td>JOU 125</td>
<td>Newspaper Production</td>
<td>3</td>
</tr>
<tr>
<td>GRD 403</td>
<td>Communication Design I</td>
<td>3</td>
</tr>
<tr>
<td>GRD 405</td>
<td>Typography I</td>
<td>3</td>
</tr>
<tr>
<td>GRD 462</td>
<td>Computer Graphics II</td>
<td>3</td>
</tr>
<tr>
<td>ADM 259</td>
<td>Professional Development</td>
<td>3</td>
</tr>
<tr>
<td>CIS 207</td>
<td>Fund of Web Programming</td>
<td>3</td>
</tr>
<tr>
<td>BCA 213</td>
<td>Inter Computer Business Appl</td>
<td>3</td>
</tr>
<tr>
<td>CIS 204</td>
<td>Intro to Website Development</td>
<td>3</td>
</tr>
</tbody>
</table>

Greenhouse Production
(see Certificate Section, page 91)
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 course work 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>HCR 307</td>
<td>5</td>
</tr>
<tr>
<td>HCR 260</td>
<td>3</td>
</tr>
<tr>
<td>HCR 404</td>
<td>5</td>
</tr>
<tr>
<td>MAT 772</td>
<td>3</td>
</tr>
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</table>

TERM 2—SELECT 1 COURSE FROM OPTION 1

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>HCR 253</td>
<td>5</td>
</tr>
<tr>
<td>HCR 440</td>
<td>5</td>
</tr>
<tr>
<td>HCR 515</td>
<td>3</td>
</tr>
<tr>
<td>ENG 105</td>
<td>Opt 1</td>
</tr>
<tr>
<td>COM 703</td>
<td>Opt 1</td>
</tr>
</tbody>
</table>

TERM 3

<table>
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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>HCR 256</td>
<td>5</td>
</tr>
<tr>
<td>HCR 932</td>
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TOTAL CREDITS REQUIRED TO COMPLETE THE DIPLOMA 41

TERM 4

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>HCR 270</td>
<td>5</td>
</tr>
<tr>
<td>HCR 506</td>
<td>3</td>
</tr>
<tr>
<td>HCR 717</td>
<td>3</td>
</tr>
<tr>
<td>PHY 710</td>
<td>3</td>
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</table>

TERM 5—SELECT 1 COURSE FROM OPTION 2

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>HCR 290</td>
<td>5</td>
</tr>
<tr>
<td>HCR 840</td>
<td>2</td>
</tr>
<tr>
<td>HCR 803</td>
<td>5</td>
</tr>
<tr>
<td>MGT 145</td>
<td>Opt 2</td>
</tr>
<tr>
<td>PSY 111</td>
<td>Opt 2</td>
</tr>
<tr>
<td>SOC 110</td>
<td>Opt 2</td>
</tr>
<tr>
<td>SOC 115</td>
<td>Opt 2</td>
</tr>
</tbody>
</table>

TOTAL CREDITS REQUIRED TO COMPLETE THE AAS DEGREE 70

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 course work as prescribed and maintain a 2.0 grade point average.

TERM 1

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>COM 703</td>
<td>3</td>
</tr>
<tr>
<td>HCM 100</td>
<td>2</td>
</tr>
<tr>
<td>HCM 200</td>
<td>2</td>
</tr>
<tr>
<td>HCM 320</td>
<td>2</td>
</tr>
<tr>
<td>MGT 145</td>
<td>3</td>
</tr>
<tr>
<td>ADM 131</td>
<td>1</td>
</tr>
<tr>
<td>ADM 105</td>
<td>1</td>
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</table>

TERM 2

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 112</td>
<td>3</td>
</tr>
<tr>
<td>HCM 143</td>
<td>3</td>
</tr>
<tr>
<td>HCM 104</td>
<td>1</td>
</tr>
<tr>
<td>HCM 144</td>
<td>3</td>
</tr>
<tr>
<td>MKT 140</td>
<td>3</td>
</tr>
<tr>
<td>BCA 212</td>
<td>3</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDV 153</td>
<td>2</td>
</tr>
<tr>
<td>HCM 510</td>
<td>3</td>
</tr>
<tr>
<td>HCM 152</td>
<td>Opt 1</td>
</tr>
<tr>
<td>HCM 153</td>
<td>Opt 1</td>
</tr>
<tr>
<td>MKT 110</td>
<td>Opt 2</td>
</tr>
</tbody>
</table>

TOTAL MINIMUM CREDITS REQUIRED TO COMPLETE THIS PROGRAM 38

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, 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.
PROGRAMS AVAILABLE

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 course work as prescribed and maintain a 2.0 grade point average.

Required Courses

**Term 1—Select 1 Course from Option 1**

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM 100</td>
<td>Sanitation and Safety</td>
<td>2</td>
</tr>
<tr>
<td>HCM 200</td>
<td>Dining Room Service</td>
<td>2</td>
</tr>
<tr>
<td>HCM 320</td>
<td>Intro to Hospitality Industry</td>
<td>2</td>
</tr>
<tr>
<td>MGT 145</td>
<td>Human Relations in Business</td>
<td>3</td>
</tr>
<tr>
<td>ADM 131</td>
<td>Office Calculators</td>
<td>1</td>
</tr>
<tr>
<td>ADM 105</td>
<td>Intro to Keyboarding</td>
<td>1</td>
</tr>
<tr>
<td>COM 703</td>
<td>Communication Skills Opt 1</td>
<td>3</td>
</tr>
</tbody>
</table>

Any ENG course designated as Core Opt 1 3

**Term 2—Select 1 Course from Option 2**

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM 143</td>
<td>Food Preparation I</td>
<td>3</td>
</tr>
<tr>
<td>HCM 104</td>
<td>Sanitation and Equipment Lab</td>
<td>1</td>
</tr>
<tr>
<td>HCM 144</td>
<td>Food Preparation I Lab</td>
<td>3</td>
</tr>
<tr>
<td>MKT 140</td>
<td>Selling</td>
<td>3</td>
</tr>
<tr>
<td>BCA 212</td>
<td>Intro Computer Business Appl</td>
<td>3</td>
</tr>
<tr>
<td>BUS 112</td>
<td>Business Math</td>
<td>2</td>
</tr>
</tbody>
</table>

Any MAT course designated as Core Opt 2 3

**Term 3**

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDV 153</td>
<td>Pre-Employment Strategies</td>
<td>2</td>
</tr>
<tr>
<td>HCM 510</td>
<td>Work Experience</td>
<td>3</td>
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</tbody>
</table>

• Students seeking a restaurant management emphasis should select the option 3 courses.

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM 152</td>
<td>Food Preparation II</td>
<td>2</td>
</tr>
<tr>
<td>HCM 153</td>
<td>Food Preparation II Lab</td>
<td>2</td>
</tr>
</tbody>
</table>

• Students seeking a hotel management emphasis should select the option 4 course.

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MKT 110</td>
<td>Principles of Marketing</td>
<td>3</td>
</tr>
</tbody>
</table>

**Term 4**

Terms 1, 2, 3 must be completed before enrolling in terms 4 & 5.

All students must take the following three courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<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>HCM 250</td>
<td>Purchasing (Lec)</td>
<td>2</td>
</tr>
</tbody>
</table>

• Students seeking a restaurant management emphasis should select the option 5 courses.

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM 210</td>
<td>Dining Management (Lec)</td>
<td>5</td>
</tr>
<tr>
<td>HCM 167</td>
<td>Culinary Skill Development</td>
<td>3</td>
</tr>
</tbody>
</table>

*AStudents seeking a hotel management emphasis should select option 6 courses.

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM 604</td>
<td>Hotel Services Internship</td>
<td>6</td>
</tr>
<tr>
<td>HCM 600</td>
<td>Intro to Lodging Operations</td>
<td>2</td>
</tr>
</tbody>
</table>

Total minimum credits required to complete this program 64

**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.

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSV 109</td>
<td>Introduction to Human Services</td>
<td>3</td>
</tr>
<tr>
<td>HSV 230</td>
<td>Community Organization</td>
<td>3</td>
</tr>
<tr>
<td>HSV 220</td>
<td>Survey Mental Health Treatment</td>
<td>3</td>
</tr>
<tr>
<td>HSV 130</td>
<td>Interviewing/Interpersonal Relations</td>
<td>3</td>
</tr>
<tr>
<td>HSV 286</td>
<td>Intervention Theories/Practice I</td>
<td>3</td>
</tr>
<tr>
<td>HSV 287</td>
<td>Intervention Theories/Practice II</td>
<td>3</td>
</tr>
<tr>
<td>HSV 802</td>
<td>Field Experience</td>
<td>3</td>
</tr>
<tr>
<td>HSV 185</td>
<td>Discrimination and Diversity</td>
<td>3</td>
</tr>
<tr>
<td>PSY 121</td>
<td>Developmental Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSY 241</td>
<td>Abnormal Psychology</td>
<td>3</td>
</tr>
</tbody>
</table>

Total minimum credits required to complete this program 64

Degrees and Diplomas
Programs Available

Option Courses—Select 2 Courses from Option 1 and 1 Course from Option 2

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Option</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ANT 100</td>
<td>Introduction to Anthropology</td>
<td>Opt 1</td>
<td>3</td>
</tr>
<tr>
<td>PHI 105</td>
<td>Introduction to Ethics</td>
<td>Opt 1</td>
<td>3</td>
</tr>
<tr>
<td>POL 112</td>
<td>American State &amp; Local Government</td>
<td>Opt 1</td>
<td>3</td>
</tr>
<tr>
<td>HSV 135</td>
<td>Counseling with Women</td>
<td>Opt 1</td>
<td>3</td>
</tr>
<tr>
<td>HSV 813</td>
<td>Pract: Chemical Depend Counseling I</td>
<td>Opt 1</td>
<td>3</td>
</tr>
<tr>
<td>HSV 814</td>
<td>Pract: Chemical Depend Counseling II</td>
<td>Opt 1</td>
<td>3</td>
</tr>
<tr>
<td>HSV 255</td>
<td>Addictive Disease Concepts</td>
<td>Opt 1</td>
<td>3</td>
</tr>
<tr>
<td>SOC 120</td>
<td>Marriage and Family</td>
<td>Opt 1</td>
<td>3</td>
</tr>
<tr>
<td>SOC 200</td>
<td>Minority Group Relations</td>
<td>Opt 1</td>
<td>3</td>
</tr>
<tr>
<td>SOC 230</td>
<td>Juvenile Delinquency</td>
<td>Opt 1</td>
<td>3</td>
</tr>
<tr>
<td>SOC 240</td>
<td>Criminology</td>
<td>Opt 1</td>
<td>3</td>
</tr>
<tr>
<td>SOC 225</td>
<td>Social Gerontology/Applications</td>
<td>Opt 1</td>
<td>4</td>
</tr>
<tr>
<td>PSY 111</td>
<td>Introduction to Psychology</td>
<td>Opt 1</td>
<td>3</td>
</tr>
<tr>
<td>PSY 251</td>
<td>Social Psychology</td>
<td>Opt 1</td>
<td>3</td>
</tr>
<tr>
<td>PSY 102</td>
<td>Human and Work Relations</td>
<td>Opt 1</td>
<td>3</td>
</tr>
<tr>
<td>PSY 291</td>
<td>Principles of Behavior Modification</td>
<td>Opt 1</td>
<td>3</td>
</tr>
<tr>
<td>PSY 261</td>
<td>Human Sexuality</td>
<td>Opt 1</td>
<td>3</td>
</tr>
<tr>
<td>PSY 281</td>
<td>Educational Psychology</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>SOC 115</td>
<td>Social Issues</td>
<td>Opt 2</td>
<td>3</td>
</tr>
</tbody>
</table>

Complete Remaining AS degree Core Requirements 28

Total minimum credits required to complete this program 64

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 motors to controls in 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 course work 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>MAT 772</td>
<td>Applied Math</td>
<td>3</td>
</tr>
<tr>
<td>MFG 121</td>
<td>Machine Trade Printreading I</td>
<td>2</td>
</tr>
<tr>
<td>CSC 110</td>
<td>Introduction to Computers</td>
<td>3</td>
</tr>
<tr>
<td>MFG 276</td>
<td>Hand &amp; Bench Machine Tools</td>
<td>1</td>
</tr>
<tr>
<td>CON 336</td>
<td>Care/Use of Hand/Power Tools</td>
<td>1</td>
</tr>
<tr>
<td>ELT 303</td>
<td>Principles of Electricity</td>
<td>3</td>
</tr>
</tbody>
</table>

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>MAT 773</td>
<td>Applied Math II</td>
<td>3</td>
</tr>
<tr>
<td>COM 703</td>
<td>Communication Skills</td>
<td>3</td>
</tr>
<tr>
<td>MGT 164</td>
<td>Total Quality Management</td>
<td>3</td>
</tr>
<tr>
<td>IND 146</td>
<td>Mechanical Power Transmission I</td>
<td>3</td>
</tr>
<tr>
<td>ELT 134</td>
<td>Motor Controls</td>
<td>3</td>
</tr>
</tbody>
</table>

Term 3

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IND 147</td>
<td>Mechanical Power Transmission II</td>
<td>4</td>
</tr>
<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>Mill Operations Lab</td>
<td>2</td>
</tr>
</tbody>
</table>

Term 4

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELE 141</td>
<td>Advanced Motor Controls</td>
<td>3</td>
</tr>
<tr>
<td>BMA 177</td>
<td>Industrial Plumbing &amp; Pipefitting</td>
<td>3</td>
</tr>
<tr>
<td>ELT 119</td>
<td>Programmable Logic Controllers</td>
<td>3</td>
</tr>
<tr>
<td>ELT 791</td>
<td>Hydraulics &amp; Pneumatics</td>
<td>3</td>
</tr>
<tr>
<td>ELT 792</td>
<td>Hydraulics &amp; Pneumatics Lab</td>
<td>2</td>
</tr>
</tbody>
</table>

Term 5

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IND 144</td>
<td>Pump Overhaul and Repair</td>
<td>4</td>
</tr>
<tr>
<td>MFG 172</td>
<td>Related Welding-Industrial Maintenance</td>
<td>3</td>
</tr>
<tr>
<td>MFG 528</td>
<td>PM &amp; Diagnosing Mech/Elec Systems</td>
<td>3</td>
</tr>
<tr>
<td>MGT 145</td>
<td>Human Relations in Business</td>
<td>3</td>
</tr>
<tr>
<td>CAD 119</td>
<td>Intro to Computer Aided Drafting</td>
<td>3</td>
</tr>
</tbody>
</table>

Total minimum credits required to complete this program 68

Information Processing Support

(see Certificate Section, page 91)

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 earn 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 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 Information Technology Network Administration AAS degree, a student must complete all course work 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</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELT 108</td>
<td>Math for Electronics &amp; Computers</td>
<td>4</td>
</tr>
<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>Opt 1</td>
</tr>
<tr>
<td>PSY 102</td>
<td>Human &amp; Work Relations</td>
<td>Opt 1</td>
</tr>
</tbody>
</table>
PROGRAMS AVAILABLE

ENG 105  Composition I                      Opt 2   3
COM 703  Communication Skills               Opt 2   3

Term 2
NET 123  Computer Hardware Basics            4
NET 223  CISCO Routers                       4
NET 402  Linux Network Administration      3
CIS 130  Computer Programming                3
ECN 120  Principles of Macroeconomics        3

Term 3
NET 623  Network Applications                4
NET 628  Network Applications Lab            2
NET 139  MCSE Desktop Operating System       4

After Term 3, students must declare a Microsoft or Linux emphasis and take the respective Microsoft or Linux courses. To fulfill the program requirements of 68 credits, 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 certification.

For MCSE Specialization students must complete the following:

Term 4—Required Courses
NET 333  Implementing Network Windows Infrastructure 3
NET 664  MS Windows Professional/Server          5
NET 343  Windows Directory Services             3

Courses from the Option Course List Minimum 2

Term 5

Courses from the Option List Minimum 12

For Linux Specialization, students must complete the following:

Term 4—Required Courses
NET 412  Linux Network Administration          3
NET 512  Linux System Administration I         3
CIS 210  Web Development I                      3

Courses from the Option Course List Minimum 3

Term 5 Required Courses
NET 432  Linux System Security                 3
NET 422  Linux System Programming              3
CIS 211  Web Development II                    3

Courses from the Option Course List Minimum 3

Option Courses—Typically Offered Term 4
NET 233  CISCO Switches                        4
NET 333  Imp Windows Network Infrastructure     3
NET 664  MS Windows Professional/Server        5
NET 343  Windows Directory Service             3
NET 412  Linux System Administration           3
NET 435  Linux Programming for Administration  3
NET 512  Linux Enterprise Admin I              3
CIS 210  Web Development I                     3
CIS 178  Java Programming I                    2

Option Courses—Typically Offered Term 5
NET 243  CISCO Wide Area Networks (WAN)        4
NET 362  Windows Directory Services Design     2
NET 352  Windows Security                       2
NET 324  Windows Network Management             4
NET 372  Designing Windows Net Infrastructure   2
NET 653  Microsoft Exchange Server              4
NET 711  Internetworking MS TCP/IP             3

Minimum number of credits required to complete this degree—MCSE or Linux specialization 68

Interior Design Consultant
(see Certificate Section, page 92)

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 Certificate in General Interpretation and Translation, plus one or both of the following: Certificate in Judicial Interpretation and Translation or Certificate in Healthcare Interpretation and Translation.

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.
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
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 course work.

Required Courses

Complete AS degree Core Requirements 28

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITR 101</td>
<td>Introduction to Interpretation and Translation</td>
<td>3</td>
</tr>
<tr>
<td>ITR 102</td>
<td>Tools for the Interpreter and 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 910</td>
<td>Emphasis Seminar</td>
<td>3</td>
</tr>
<tr>
<td>ITR 120</td>
<td>Ethics for the Interpreter/Translator</td>
<td>1</td>
</tr>
</tbody>
</table>

In addition to the required courses, students are required to select one of the following Emphasis Options:

Judicial Interpretation/Translation Emphasis

(17 credits)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRL 103</td>
<td>Introduction to Law</td>
<td>3</td>
</tr>
<tr>
<td>ITR 128</td>
<td>Legal Terminology &amp; Sight Translation</td>
<td>3</td>
</tr>
<tr>
<td>ITR 130</td>
<td>Judiciary Interpreting I</td>
<td>3</td>
</tr>
<tr>
<td>ITR 132</td>
<td>Judiciary Interpreting II</td>
<td>3</td>
</tr>
<tr>
<td>ITR 137</td>
<td>Judiciary Translation</td>
<td>3</td>
</tr>
<tr>
<td>ITR 800</td>
<td>Judiciary Interpreting/Translation Internship</td>
<td>2</td>
</tr>
<tr>
<td>Electives</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

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.

Healthcare Interpreting/Translation Emphasis

(17 credits)

<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</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 155</td>
<td>Healthcare Terminology &amp; Sight Translation</td>
<td>3</td>
</tr>
</tbody>
</table>

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

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 course work. 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 course work 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>Material 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 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>
</tbody>
</table>
PROGRAMS AVAILABLE

SRV 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  Introduction to Psychology  3

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>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>COM 703</td>
<td>Communication Skills</td>
</tr>
<tr>
<td>ENG 105</td>
<td>Composition I</td>
</tr>
<tr>
<td>ENG 105</td>
<td>Composition I</td>
</tr>
<tr>
<td>ENG 108</td>
<td>Comp II: Technical Writing</td>
</tr>
<tr>
<td>PSY 111</td>
<td>Introduction to Psychology</td>
</tr>
<tr>
<td>MGT 145</td>
<td>Human Relations in Business</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>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPC 101</td>
<td>Fund of Oral Communication</td>
</tr>
<tr>
<td>MAT 130</td>
<td>Trigonometry</td>
</tr>
<tr>
<td>MGT 145</td>
<td>Human Relations in Business</td>
</tr>
<tr>
<td>ACC 111</td>
<td>Intro to Accounting</td>
</tr>
<tr>
<td>BUS 148</td>
<td>Small Business Management</td>
</tr>
<tr>
<td>BUS 186</td>
<td>Business Law II</td>
</tr>
<tr>
<td>HIS 201</td>
<td>Iowa History</td>
</tr>
</tbody>
</table>

Landscape Design  (see Certificate Section, page 94)

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.

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 to Computer Business Applications is highly recommended as a developmental course.

Graduation Requirements

To earn a Legal Assistant AS degree, a student must complete the standard core requirements for the degree, plus the Legal Assistant required courses and options, maintain a 2.0 grade point average and receive a grade of “C” or above in all PRL course work.

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRL 103</td>
<td>Introduction to Law</td>
</tr>
<tr>
<td>PRL 131</td>
<td>Torts &amp; Litigation I</td>
</tr>
<tr>
<td>PRL 141</td>
<td>Business &amp; Corporate Law I</td>
</tr>
<tr>
<td>PRL 280</td>
<td>Legal Internship &amp; Ethics</td>
</tr>
<tr>
<td>PRL 112</td>
<td>Legal Research and Writing I</td>
</tr>
<tr>
<td>PRL 113</td>
<td>Legal Research and Writing II</td>
</tr>
</tbody>
</table>

Option Courses—Select 15 Credits From Option 1

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRL 132</td>
<td>Torts &amp; Litigation II</td>
</tr>
<tr>
<td>PRL 161</td>
<td>Family Law</td>
</tr>
<tr>
<td>PRL 142</td>
<td>Business &amp; Corporate Law II</td>
</tr>
<tr>
<td>PRL 151</td>
<td>Real Estate Law</td>
</tr>
<tr>
<td>PRL 167</td>
<td>Probate Procedure</td>
</tr>
<tr>
<td>PRL 169</td>
<td>Wills, Estate Planning &amp; Taxation</td>
</tr>
<tr>
<td>PRL 171</td>
<td>Administrative Practice</td>
</tr>
<tr>
<td>PRL 125</td>
<td>Evidence: Theory and Practice</td>
</tr>
<tr>
<td>PRL 137</td>
<td>Debtor/Creditor Law</td>
</tr>
<tr>
<td>PRL 118</td>
<td>Computerized Legal Research</td>
</tr>
<tr>
<td>PRL 114</td>
<td>Adv Legal Research and Writing</td>
</tr>
<tr>
<td>PRL 182</td>
<td>Mediation</td>
</tr>
<tr>
<td>ACC 261</td>
<td>Income Tax Accounting</td>
</tr>
<tr>
<td>CSC 110</td>
<td>Intro to Computers</td>
</tr>
<tr>
<td>CRJ 130</td>
<td>Criminal Law</td>
</tr>
<tr>
<td>CRJ 132</td>
<td>Constitutional Law</td>
</tr>
<tr>
<td>HSV 130</td>
<td>Interviewing/Interpersonal Relations</td>
</tr>
</tbody>
</table>

Elective Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
</tr>
</thead>
</table>

Total credits required to complete this program  64

Legal Assistant Certificate  

(see Certificate Section, page 94)
Programs Available

Long-Term Care Administrator
(see Certificate Section, page 94)

Machinist Technology (see Tool & Diemaking, page 85)

Management

The Management program will prepare you with people skills and organizational systems 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.

Course work 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 course work as prescribed and maintain a 2.0 grade point average.

Required Courses

MGT 130 Principles of Supervision 3
MGT 101 Introduction to Management 3
MKT 145 Sales Management 3
MKT 128 Organizational Behavior 3
MKT 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
MKT 110 Principles of Marketing 3
MKT 140 Selling 3
SDV 153 Pre-Employment Strategies 2

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

Total minimum credits required to complete this program 66

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.

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 course work 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

Degrees and Diplomas

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 Group Comm 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 3
BUS 150 E-Commerce on the Web 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

Any AA/AS Degree Core BIO, CHM, ENV or PHY course 4
### PROGRAMS AVAILABLE

#### 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 Data Base 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 388** Computer Organization Opt 2 3
- **CIS 612** Advanced Visual Basic Opt 2 3
- **CIS 332** Data Base 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.

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 course work as prescribed and maintain a 2.0 grade point average.

#### Term 1
- **MFG 523** Controlling Mfg. Business Costs 2
- **COM 703** Communication Skills 3
- **MAT 772** Applied Math 3
- **MFG 171** Manufacturing Welding I 2
- **MFG 121** Machine Trade Printreading I 2
- **MFG 105** Machine Shop Measuring 3

**Term 2
- **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 132** Machine Trade Printreading II 3
- **MFG 350** CNC Lathe Operations Theory 1
- **MFG 351** CNC Lathe Operations Lab 2
- **MFG 330** CNC Mill Operations Theory 1
- **MFG 331** CNC Mill Operations Lab 2

#### Term 3
- **MGT 164** Total Quality Management 3
- **CAD 119** Intro Computer-Aided Drafting/CADD 3
- **ELT 721** Robotics 2
- **ELT 303** Principles of Electricity 3
- **MGT 145** Human Relations in Business Opt 1 3
- **PSY 102** Human and Work Relations Opt 1 3

#### Term 5
- **MFG 521** Measuring Devices–SPC 1
- **CAD 125** Intermediate CADD–Mechanical 3
- **CAD 139** Introduction to CAD/CAM 3
- **IND 124** Control Systems Overview 2
- **MAT 773** Applied Math II 3
- **MFG 200** Intro to Safety Science 3

**Total minimum credits required to complete the AAS degree**: 67

### Marketing

Looking for a growth-oriented career? Something fast-paced, ever-changing and challenging, with opportunities for advancement and pay to match? Today, a career in Marketing offers all of this and more. You could be working for some of the fastest-growing companies and brightest leaders in business. By using your skills and creativity, you will become part of the future in American business.

Course work is designed with the help of successful marketers who know what it takes to succeed. Classroom instruction is based on lectures, labs, speakers, internships and study tours. Major areas of study include marketing, sales, advertising, promotion and understanding buyer behavior in small business, retail and business-to-business marketing environments. The Marketing Program also offers many opportunities to develop and demonstrate leadership skills.

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.

**Degrees and Diplomas**

**Term 2
- 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 132 Machine Trade Printreading II 3
- MFG 350 CNC Lathe Operations Theory 1
- MFG 351 CNC Lathe Operations Lab 2
- MFG 330 CNC Mill Operations Theory 1
- MFG 331 CNC Mill Operations Lab 2

**Term 3
- MFG 818** IMT Internship 5
- MFG 152 Related Welding Blueprint–Mfg. Tech 1
- WEL 181 Gas Metal Arc Welding 2

**Term 4—Select 1 Course from Option 1
- MGT 164** Total Quality Management 3
- CAD 119 Intro Computer-Aided Drafting/CADD 3
- ELT 721 Robotics 2
- ELT 303 Principles of Electricity 3
- MGT 145 Human Relations in Business Opt 1 3
- PSY 102 Human and Work Relations Opt 1 3

**Term 5
- MFG 521** Measuring Devices–SPC 1
- CAD 125 Intermediate CADD–Mechanical 3
- CAD 139 Introduction to CAD/CAM 3
- IND 124 Control Systems Overview 2
- MAT 773 Applied Math II 3
- MFG 200 Intro to Safety Science 3

**Total minimum credits required to complete the AAS degree**: 67
PROGRAMS AVAILABLE

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.

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 Marketing AAS degree, a student must complete all course work as prescribed and maintain a 2.0 grade point average.

Required Courses
MKT 110 Principles of Marketing 3
MKT 140 Selling 3
MKT 150 Principles of Advertising 3
MKT 115 Business-to-Business Marketing 3
MKT 141 Advanced Selling Strategies 3
MKT 160 Principles of Retailing 3
APP 111 Visual Merchandising & Design 3
MGT 130 Principles of Supervision 3
MGT 147 Leadership Development 3
MGT 800 Business Internship I 6
MGT 802 Business Internship Seminar I 2
MGT 805 Business Internship II 4
MGT 807 Business Internship Seminar II 1
MGT 194 Relationship Strategies in Business 2
SPC 101 Fund of Oral Communications 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 Business Computer Appl Opt 1 3
BUS 112 Business Math Opt 2 3
MAT 141 Finite Mathematics Opt 2 4
ENG 105 Composition I Opt 3 3
COM 703 Communication Skills Opt 3 3
ACC 131 Principles of Accounting I Opt 4 4
ACC 111 Intro to Accounting Opt 4 3
MKT 165 Retail Management II Opt 5 3
ECN 120 Principles of Macroeconomics Opt 5 3
MGT 101 Principles of Management Opt 5 3
BUS 148 Small Business Management Opt 5 3
MGT 145 Human Relations in Business Opt 6 3
PSY 111 Intro to Psychology Opt 6 3
MKT 199 Sports/Entertainment Marketing Opt 7 3
BUS 150 E-Commerce on the Web Opt 7 3
MKT 120 E-Marketing Opt 7 3
MKT 182 Customer Relationship Mgmt Opt 7 3

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 multiskilled 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) 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 AAMC 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 course work 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
MAP 544 Human Body–Health and Disease I 4
MAP 129 Medical Terminology 1
MAP 225 Medical Laboratory Procedures I 4
MAP 347 Medical Office Procedures I 3
MAP 110 Medical Office Management I 2
MAP 423 Professional Development 3
ENG 105 Composition I Opt 1 3
COM 703 Communication Skills Opt 1 3
## PROGRAMS AVAILABLE

### Term 2
- **MAP 554** Human Body–Health and Disease II 4
- **MAP 250** Diagnostic Radiography I 2
- **MAP 118** Medical Office Management II 4
- **MAP 228** Medical Laboratory Procedures II 3
- **MAP 348** Medical Office Procedures II 3
- **PSY 111** General Psychology 3

### Term 3
- **MAP 606** Professional Development III 1
- **MAP 252** Diagnostic Radiography II 2
- **MAP 130** Transcription 1
- **MAP 624** Practicum 5

**Total credits required to complete this program** 48

### Medical Insurance and Coding
(see Certificate Section, page 95)

### 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.

**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, Algebra and Chemistry or equivalent (DMACC Academic Achievement Center Biology I & II or BIO 156; Academic Achievement Center Algebra I & II or MAT 063 and Academic Achievement Center Chemistry I & II).
- The following criteria is recommended: minimum of a high school diploma (GPA of 2.5) or equivalent (GED of 55), grade of “C” or better in high school-level Algebra II, ACT score of 19 or above, COMPASS scores (writing 70, reading 81, algebra 49). Students start fall term.

**Graduation Requirements**
- To earn a Medical Laboratory Technology AAS degree, a student must complete all course work as prescribed and maintain a 2.0 grade point average. A grade of “C” or better is required in all MLT courses.

### Term 1
- **BIO 164** Essential Anatomy/Physiology 5
- **CHM 122** Intro to General Chemistry 4
- **MIT 121** Lab Fundamentals & Urinalysis 2
- **MIT 132** Beginning Hematology 2
- **MIT 112** Principles of Phlebotomy 2
- **PSY 111** Intro to Psychology 3

### Term 2
- **BIO 732** Health Science Microbiology 4
- **CHM 132** Intro to Organic/Biochemistry 4
- **ENG 105** Composition I 3
- **MIT 232** Advanced Hematology & Coagulation 5

### Term 3
- **MIT 261** Immunohematology 5
- **MIT 270** Immunology & Serology 2
- **SPC 101** Fund of Oral Communication 3

### Term 4
- **MIT 242** Clinical Chemistry 8
- **MIT 251** Clinical Microbiology 6

### Term 5
- **MIT 282** Clinical Laboratory Practicum 12
- **MIT 290** Clinical Seminar and Review 2

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

### 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, physician offices, health insurance companies and other health-related businesses.

In addition to detailed office duties, the medical office specialist acts as a liaison between the physician and the patient and is an important person in building and maintaining good relations with those people who are seeking medical assistance.

The medical office specialist has a variety of responsibilities such as receptionist, transcriptionist, insurance claims specialist and/or bookkeeper. Upon successful completion of Terms 1, 2 and 3 of the Medical Office Specialist curriculum, a student may receive a diploma. Upon completion of the diploma program and Term 4, a student may receive an AAS 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. 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 course work as prescribed and maintain a 2.0 grade point average.

### Term 1
- **MGT 145** Human Relations in Business 3
- **ADM 157** Business English 3
- **HSC 120** Medical Terminology I 3
- **MAP 133** Word Processing Skill Development I 4
- **BCA 212** Intro Computer Business Applications 3
- **MTR 120** Medical Transcription I 3

### Term 2
- **BIO 732** Health Science Microbiology 4
- **CHM 132** Intro to Organic/Biochemistry 4
- **ENG 105** Composition I 3
- **MIT 232** Advanced Hematology & Coagulation 5

### Term 3
- **MIT 261** Immunohematology 5
- **MIT 270** Immunology & Serology 2
- **SPC 101** Fund of Oral Communication 3

### Term 4
- **MIT 242** Clinical Chemistry 8
- **MIT 251** Clinical Microbiology 6

### Term 5
- **MIT 282** Clinical Laboratory Practicum 12
- **MIT 290** Clinical Seminar and Review 2

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

### Degrees and Diplomas
PROGRAMS AVAILABLE

Term 2
SDV 153 Pre-Employment Strategies 2
HSC 121 Medical Terminology II 3
BCA 137 Word Processing Skill Dev II 3
ADM 131 Office Calculators 1
MAP 141 Medical Insurance 3
ADM 259 Professional Development 3
MTR 121 Medical Transcription II 3

Term 3–Select 1 Course from Option 1
BUS 112 Business Math 3
MAP 532 Human Body–Health & Disease 3
ADM 215 Medical Office Procedures 3
MAP 150 Adv Medical Billing/Coding Opt 1 3
MTR 122 Medical Transcription III Opt 1 3

Term 4–Select 1 Course from Option 2
ACC 111 Intro to Accounting 3
ADM 154 Business Communication 3
MAP 803 Internship–Medical Secretaries 3
BCA 213 Intermediate Computer Business Appl 3
SPC 101 Fund of Oral Communication Opt 2 3
SPC 126 Interpersonal & Small Group Comm Opt 2 3

Total minimum credits required to complete AAS degree 64
Total credits required to complete the diploma 48

Medical Transcriptionist
(see Certificate Section, page 95)

Medicine
Students planning to major in pre-med or go to medical school 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.

Microcomputers (see Certificate Section, page 95)

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.


Degrees and Diplomas

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.
2. To educate students in every phase of funeral service, and to help enable them to develop the proficiency and skills necessary of the profession.
3. To educate students concerning the responsibilities of the funeral service profession to the community at large.
4. To emphasize high standards of ethical conduct.
5. To provide a curriculum at the postsecondary level of instruction.
6. To encourage research in the field of funeral service.
7. 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.
8. 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. Submit evidence of a high school diploma or equivalent.
4. 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.
5. Submit evidence that a minimum of 15 of the credits earned are 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 course work 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 biology course (BIO 733 or BIO 185) 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

| ACC 131 | Principles of Accounting | Opt 1 4 |
| ACC 111 | Intro to Accounting | Opt 1 3 |
| BIO 733 | Health Science Anatomy | Opt 2 3 |
| BIO 164 | Essential Anatomy & Physiology | Opt 2 5 |
| BUS 185 | Business Law I | 3 |
| MOR 305 | History of Funeral Service | 2 |
| MOR 310 | Pathology for Mortuary Science | 3 |
| MOR 315 | Funeral Law | 3 |
| MOR 320 | Thanatology | 3 |
| MOR 325 | Funeral Directing | 3 |
| MOR 330 | Funeral Merchandising | 3 |
PROGRAMS AVAILABLE

MOR 335 Embalming I 3
MOR 336 Embalming I Clinical 1
MOR 340 Embalming II 3
MOR 341 Embalming II Clinical 1
MOR 345 Restorative Art 3
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 96)

Nurse Aide (see Certificate Section, page 96)

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–33rd Floor, New York City, NY 10006, 212-363-5555.

Locations: Ankeny, Boone
Part-time option may be available on select campuses. Selected liberal arts courses in this program are offered at other campuses.

Changes to the program entry requirements for the nursing programs at Des Moines Area Community College were approved for the 2007–2008 Catalog. The College will allow a grace period to accommodate students on the waiting list who meet the requirements in the 2006–2007 Catalog. The new requirements as listed below will be enforced for all students effective summer term, 2008.

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.
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.

Graduation Requirements
To earn an Associate Degree (AAS) in Nursing, a student must complete all course work 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

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<th>Credits</th>
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<tr>
<td>BIO 733</td>
<td>Health Science Anatomy</td>
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<td>BIO 734</td>
<td>Health Science Physiology</td>
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</tr>
<tr>
<td>ENG 105</td>
<td>Composition I</td>
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<td>PSY 111</td>
<td>Introduction to Psychology</td>
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<td>PSY 121</td>
<td>Developmental Psychology</td>
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Term 3–Select 1 Course from Option 1

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<tr>
<td>SPC 126</td>
<td>Interpersonal &amp; Small Group Comm</td>
<td>3</td>
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<tr>
<td>BIO 732</td>
<td>Health Science Microbiology</td>
<td>Opt 1</td>
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<tr>
<td>BIO 187</td>
<td>Microbiology w/lab</td>
<td>Opt 1</td>
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Term 4

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<td>ADN 416</td>
<td>Family Health Nursing</td>
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<td>ADN 474</td>
<td>Mental Health Nursing</td>
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Term 5–Select 1 Course from Option 2

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<td>ADN 551</td>
<td>Adult Health Nursing</td>
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<tr>
<td>ADN 821</td>
<td>Nursing Seminar</td>
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<td>HUM 116</td>
<td>Encounters in Humanities</td>
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<tr>
<td>LIT 101</td>
<td>Introduction to Literature</td>
<td>Opt 2</td>
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<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>

Total additional credits required to complete this program 52

Degrees and Diplomas
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.

Changes to the program entry requirements for the nursing programs at Des Moines Area Community College were approved for the 2007–2008 Catalog. The College will allow a grace period to accommodate students on the waiting list who met the requirements in the 2006–2007 Catalog. The new requirements as listed below will be enforced for all students effective fall term, 2008.

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.
9. Complete an application.
10. Attend required Nursing information session, registration meetings and a program orientation.
11. Complete DMACC’s Assessment Requirement.
12. Complete required nursing program admissions testing with satisfactory minimum scores in reading, writing and mathematics.
13. 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.
14. Submit proof of successful completion of Nurse Aide written (NRAO 858) and skills (NRAO 859) tests for placement on the Direct Care Worker Registry.
15. 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
16. Proof of high school graduation or GED completion.

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.

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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.

Prerequisite:

- BIO 733 Health Science Anatomy 3
- PSY 111 Introduction to Psychology 3

Term 1

- BIO 734 Health Science Physiology 3
- PNN 151 Fundamentals of Nursing 4
- PNN 152 Nursing Practice I 4
- PNN 153 Success in Nursing 2
- PSY 121 Developmental Psychology 3

Term 2

- ENG 105 Composition I 3
- PNN 605 Nursing Practice II 5
- PNN 606 Nursing Practice III 5
- PNN 351 Practical Nursing Roles 1

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 who successfully complete the Practical Nursing program at Newton Campus may apply for the Advanced Standing program.

Graduation Requirements

To earn a Practical Nursing diploma, a student must complete all course work 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 course work 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.

Graduation Requirements

To earn a Practical Nursing diploma, a student must complete all course work 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 course work 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 Nursingstarts:
Ankeny, Boone—Fall and Spring Terms; Carroll, Newton—Fall Term Only; Urban—Part-time, Fall Term Only in even-numbered years

Associate Degree Nursingstarts:
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 for the Advanced Standing program.

Graduation Requirements

To earn a Practical Nursing diploma, a student must complete all course work 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 course work as prescribed in Terms 1–5 and have a grade of “C” or above in all PNN, ADN and support courses in the curriculum.
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**
- SPC 126 Interpersonal and 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 551 Adult 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 Ethical Problems Opt 2 3
- REL 101 Survey of World Religions Opt 2 3

**Total credits required to complete the AAS degree**: 71

**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 course work 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 Computer Business Appl 3

**Term 2**
- SDV 153 Pre-Employment Strategies 2
- ADM 162 Office Procedures 3
- ADM 154 Business Communication 3
- ADM 259 Professional Development 3

In addition to the required courses in Term 2, students are required to select one of the following Emphasis Options:

**Professional Emphasis Option**
- BCA 137 Word Processing Skill Dev II 3
- ADM 265 Supervised Practical Experience 2
- ADM 917 Prof Office Careers Seminar 1

**Information Processing Emphasis Option**
- BCA 137 Word Processing Skill Development II 3
- BCA 213 Intermediate Computer Business Appl 3

**Office Management Emphasis Option**
- BCA 113 Computer Network Literacy 3
- MGT 115 Administrative Management 3

**Bookkeeping Emphasis Option**
- ACC 111 Intro to Accounting 3
- BCA 213 Intermediate Computer Business Appl 3

**Legal Emphasis Option**
- BUS 185 Business Law I 3
- ADM 208 Legal Terminology 3

**Data Entry Emphasis Option**
- ADM 138 Data Entry 3
- BCA 213 Intermed Computer Business Appl 3

**Total credits required to complete the diploma**: 34
PROGRAMS AVAILABLE

• 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 Algebra II or the equivalent (Academic Achievement Center Algebra III & IV or MAT073 Elementary Algebra II).
• 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 course work 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
RCP 100 Intro to Respiratory Care 3
RCP 240 Respiratory Therapeutics 4
RCP 250 Cardio/Pulmonary Therapeutics 4
CHM 122 Introduction to General Chemistry 4

Term 2–Select 1 Course from Option 1
RCP 360 Cardio/Pulmonary Renal Pathophysiology 5
RCP 400 Respiratory Therapy Pharmacology 3
RCP 700 Respiratory Therapy Practicum I 4
BIO 734 Health Science Physiology Opt 1 3
BIO 164 Essentials Anatomy & Physiology Opt 1 5

Term 3–Select 1 Course from Option 2
RCP 600 Neonatal/Pediatric Respiratory Therapy 3
RCP 705 Respiratory Therapy Practicum II 5
ENG 105 Composition I Opt 2 3
COM 703 Communication Skills Opt 2 3

Term 4–Select 1 Course from Option 3
RCP 500 Advanced Respiratory Therapy 5
RCP 710 Respiratory Therapy Practicum III 6
BIO 732 Health Science Microbiology Opt 3 4
BIO 187 Microbiology w/Lab Opt 3 4

Term 5–Select 1 Course from Option 4
RCP 410 Cardio/Pulmonary Diagnostics 3
RCP 715 Respiratory Therapy Practicum IV 7
PSY 111 Intro to Psychology Opt 4 3
PSY 102 Human and Work Relations Opt 4 3
SOC 110 Introduction to Sociology Opt 4 3
MGT 145 Human Relations in Business Opt 4 3

Term 6
RCP 800 Respiratory Therapy Mgmt & Ethics 3
RCP 720 Respiratory Therapy Practicum V 5

Total credits required to complete this program 78

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 almost an 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 an 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 course work as prescribed and maintain a 2.0 grade point average.

Required Courses
MKT 140 Selling 3
MKT 150 Principles of Advertising 3
MKT 160 Principles of Retailing 3
MKT 165 Retail Management II 3
APP 111 Visual Merchandising & Design 3
MGT 800 Business Internship I 6
MGT 802 Business Internship Seminar I 2
MGT 194 Relationship Strategies in Business 2
MGT 147 Leadership Development 3
SDV 153 Pre-Employment Strategies 2

Option Courses–Select 1 Course from Each Option
ENG 105 Composition I Opt 1 3
COM 703 Communication Skills Opt 1 3
MKT 110 Principles of Marketing Opt 2 3
MKT 120 E-Marketing Opt 2 3
BUS 102 Intro to Business Opt 2 3
BUS 148 Small Business Management Opt 2 3
MGT145 Human Relations in Business Opt 3 3
PSY111 Introduction to Psychology Opt 3 3
BUS112 Business Math Opt 4 3
MAT141 Finite Math Opt 4 4

Total credits required to complete this program 42

Retailing Certificate
(see Certificate Section, page 97)

Sales
(see Certificate Section, page 97)
PROGRAMS AVAILABLE

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 at local, state and national levels 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 course work as prescribed and maintain a 2.0 grade point average.

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
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<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>MGT 147</td>
<td>Leadership Development</td>
<td>3</td>
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<tr>
<td>MGT 800</td>
<td>Business Internship I</td>
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<td>MGT 802</td>
<td>Business Internship Seminar I</td>
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<tr>
<td>MGT 194</td>
<td>Relationship Strategies in Business</td>
<td>2</td>
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<tr>
<td>MKT 140</td>
<td>Selling</td>
<td>3</td>
</tr>
<tr>
<td>MKT 141</td>
<td>Advanced Selling Strategies</td>
<td>3</td>
</tr>
<tr>
<td>SDV 153</td>
<td>Pre-Employment Strategies</td>
<td>2</td>
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Option Courses—Select 1 Course from Each Option

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<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>Opt 1 3</td>
</tr>
<tr>
<td>GRD 301</td>
<td>Intro To Desktop Publishing</td>
<td>Opt 1 3</td>
</tr>
<tr>
<td>BCA 212</td>
<td>Intro to Computer Business Appl</td>
<td>Opt 1 3</td>
</tr>
<tr>
<td>MGT 130</td>
<td>Principles of Supervision</td>
<td>Opt 2 3</td>
</tr>
<tr>
<td>MGT 101</td>
<td>Principles of Management</td>
<td>Opt 2 3</td>
</tr>
<tr>
<td>MKT 145</td>
<td>Sales Management</td>
<td>Opt 2 3</td>
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<tr>
<td>ENG 105</td>
<td>Composition I</td>
<td>Opt 3 3</td>
</tr>
<tr>
<td>COM 703</td>
<td>Communication Skills</td>
<td>Opt 3 3</td>
</tr>
<tr>
<td>BUS 102</td>
<td>Intro to Business</td>
<td>Opt 4 3</td>
</tr>
<tr>
<td>MGT 110</td>
<td>Principles of Marketing</td>
<td>Opt 4 3</td>
</tr>
<tr>
<td>BUS 150</td>
<td>E-Commerce on the Web</td>
<td>Opt 4 3</td>
</tr>
<tr>
<td>BUS 112</td>
<td>Business Math</td>
<td>Opt 5 3</td>
</tr>
<tr>
<td>MAT 141</td>
<td>Finite Math</td>
<td>Opt 5 4</td>
</tr>
<tr>
<td>MGT 145</td>
<td>Human Relations in Business</td>
<td>Opt 6 3</td>
</tr>
<tr>
<td>PSY 111</td>
<td>Introduction to Psychology</td>
<td>Opt 6 3</td>
</tr>
</tbody>
</table>

Total credits required to complete this program: 39

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.

Prior criminal records may prevent applicants from being eligible for the National Exam. Most employers perform criminal history and dependent adult/child abuse background checks.

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

Program Entry Requirements
Complete an application, satisfy the assessment requirement and attend required information session.

1. 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).
2. One year of high school Chemistry or equivalent (DMACC Academic Achievement Center Chemistry I & II or CHM 122 Intro to General Chemistry) is recommended.
3. 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 course work as prescribed and maintain a 2.0 grade point average.

1. Students must earn a grade point of 2.0 (C) or better in all Surgical Technology courses.
2. Students must earn a grade point of 2.0 (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: SUR 140 Fundamentals of Surgical Technology I and SUR 142 Fundamentals of Surgical Technology II, SUR805 Clinical Practicum I and SUR 810 Clinical Practicum II.

• There are several corequisite courses in the program that are identified as such.

Term 1

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUR 130</td>
<td>Intro to Surgical Technology</td>
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</tr>
<tr>
<td>BIO 733</td>
<td>Health Science Anatomy</td>
<td>3</td>
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<tr>
<td>SUR 140</td>
<td>Fundamentals of Surgical Technology I</td>
<td>5</td>
</tr>
<tr>
<td>MAP 129</td>
<td>Medical Terminology</td>
<td>1</td>
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Select 1 Course from Each Option

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<thead>
<tr>
<th>Course</th>
<th>Title</th>
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<tbody>
<tr>
<td>MAT 772</td>
<td>Applied Math</td>
<td>Opt 1 3</td>
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<tr>
<td>BUS 112</td>
<td>Business Math</td>
<td>Opt 1 3</td>
</tr>
<tr>
<td>ENG 105</td>
<td>Composition I</td>
<td>Opt 2 3</td>
</tr>
<tr>
<td>COM 703</td>
<td>Communication Skills</td>
<td>Opt 2 3</td>
</tr>
</tbody>
</table>

VISIT US ONLINE: www.DMACC.edu
**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 including a Telecom program orientation.
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 course work as prescribed and maintain a 2.0 grade point average.

**Term 1**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>ELT 106</td>
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</tr>
<tr>
<td>ELT 368</td>
<td>3</td>
</tr>
<tr>
<td>ELT 369</td>
<td>3</td>
</tr>
<tr>
<td>TEL 210</td>
<td>3</td>
</tr>
<tr>
<td>TEL 213</td>
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**Term 2**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>CSC 110</td>
<td>3</td>
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<td>ADM 105</td>
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<tr>
<td>TEL 220</td>
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<td>TEL 223</td>
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<td>TEL 232</td>
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**Term 3**

<table>
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<tr>
<th>Course</th>
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<td>SDV 212</td>
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<tr>
<td>SDV 227</td>
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</tbody>
</table>

**Total credits required to complete this program**

45

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**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: Machinist Technology or Diemaking. Machinist Technology graduates should have the skills required to work in a general machine shop. 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 is available at Ankeny and Newton.

**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 course work as prescribed and maintain a 2.0 grade point average.
### PROGRAMS AVAILABLE

All Students Must Complete the Following AAS Degree Requirements:

**Required Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>MAT 772</td>
<td>Applied Math</td>
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<tr>
<td>MAT 773</td>
<td>Applied Math II</td>
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**Select 1 Course from Each Option**

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<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 3</td>
</tr>
<tr>
<td>ENG 105</td>
<td>Composition I</td>
<td>Opt 1 3</td>
</tr>
<tr>
<td>MGT 145</td>
<td>Human Relations in Business</td>
<td>Opt 2 3</td>
</tr>
<tr>
<td>PSY 111</td>
<td>Introduction to Psychology</td>
<td>Opt 2 3</td>
</tr>
<tr>
<td>PSY 102</td>
<td>Human and Work Relations</td>
<td>Opt 2 3</td>
</tr>
<tr>
<td>SOC 110</td>
<td>Introduction to Sociology</td>
<td>Opt 2 3</td>
</tr>
</tbody>
</table>

**Machinist Technology Diploma**

Students Who Choose the Machinist Technology Diploma Option Must Complete the Following Courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MFG 276</td>
<td>Hand &amp; Bench Machine Tools</td>
<td>1</td>
</tr>
<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 252</td>
<td>Engine Lathe Theory II</td>
<td>2</td>
</tr>
<tr>
<td>MFG 253</td>
<td>Engine Lathe Operations Lab II</td>
<td>3</td>
</tr>
<tr>
<td>MFG 273</td>
<td>Mill Operations II</td>
<td>2</td>
</tr>
<tr>
<td>MFG 274</td>
<td>Mill Operations Lab II</td>
<td>3</td>
</tr>
<tr>
<td>MFG 121</td>
<td>Machine Trade Printreading I</td>
<td>2</td>
</tr>
<tr>
<td>MFG 132</td>
<td>Machine Trade Printreading II</td>
<td>3</td>
</tr>
<tr>
<td>MFG 105</td>
<td>Machine Shop Measuring</td>
<td>3</td>
</tr>
<tr>
<td>MFG 290</td>
<td>Heat Treatments</td>
<td>1</td>
</tr>
<tr>
<td>MFG 270</td>
<td>Grinders Theory</td>
<td>1</td>
</tr>
<tr>
<td>MFG 271</td>
<td>Grinders Lab</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>
</tr>
</tbody>
</table>

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:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAD 119</td>
<td>Intro to Computer-Aided Drafting</td>
<td>3</td>
</tr>
<tr>
<td>CAD 139</td>
<td>Intro to CAD/CAM</td>
<td>3</td>
</tr>
<tr>
<td>MFG 402</td>
<td>Basic Diemaking Theory</td>
<td>4</td>
</tr>
<tr>
<td>MFG 403</td>
<td>Basic Diemaking Lab</td>
<td>6</td>
</tr>
<tr>
<td>MFG 411</td>
<td>Progressive Die Design</td>
<td>3</td>
</tr>
<tr>
<td>MFG 412</td>
<td>Advanced Diemaking Theory</td>
<td>4</td>
</tr>
<tr>
<td>MFG 413</td>
<td>Advanced Diemaking Lab</td>
<td>6</td>
</tr>
<tr>
<td>MFG 452</td>
<td>Moldmaking</td>
<td>3</td>
</tr>
<tr>
<td>MFG 381</td>
<td>EDM Fundamentals</td>
<td>3</td>
</tr>
<tr>
<td>MFG 140</td>
<td>Geometric Dimensioning/Tolerance</td>
<td>1</td>
</tr>
</tbody>
</table>

Plus AAS Degree Core Requirements 12

Total credits required to complete Diemaking diploma 48

**Degrees and Diplomas**

**Tool and Diemaking AAS Degree**

To Earn the Tool and Diemaking AAS Degree, Students Must Complete the AAS Degree Core Requirements 12

Total credits required to complete the Tool and Diemaking AAS degree 84

**Turf Maintenance** (see Certificate Section page 98)

**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.

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 (RVIT) and the state qualifying exam.

**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 (RVIT) 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.

   ACT scores or transferred composition course work from another institution may be submitted in lieu of the COMPASS placement exam. If you choose this route, make sure an original transcript is sent from your previous institution to the Admissions Office at Des Moines Area Community College.

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 30 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.

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 course work as prescribed and maintain a 2.0 grade point average.

Term 1
AGV 120 Veterinary Medical Terminology 1
AGV 124 Intro to Veterinary Technology 1
AGV 133 Veterinary Clinic Pathology I 3
AGS 245 Intro to Animal Diseases 1
AGV 139 Intro Veterinary Pharmacology 1

Option Courses—Select 1 Course from Each Option
Any AAS degree Core MAT course Opt 1 3–5
MAT 772 Applied Math Opt 1 3
BIO 156 Human Biology w/Lab Opt 2 3
BIO 112 General Biology I Opt 2 4

Term 2
AGS 319 Animal Nutrition 3
AGV 141 Advanced Veterinary Pharmacology 2
AGV 134 Veterinary Clinical Pathology II 3
SPC 101 Fundamentals of Oral Communication 3

Option Courses—Select 1 Course from Option 3
CHM 105 Survey of Chemistry Opt 3 3
CHM 122 Intro to General Chemistry Opt 3 4

Term 3
AGV 932 Veterinary Technology Internship 4

Option Courses—Select 1 Course from Option 4
BIO 732 Health Science Microbiology Opt 4 4
BIO 187 Microbiology w/Lab Opt 4 4

Term 4
AGV 129 Veterinary Physiology 3
BIO 733 Health Sciences Anatomy 3
AGV 164 Clinical Mgmt of Domestic Species 2
AGV 172 Large Animal Medicine and Surgery 3
AGV 180 Veterinary Radiology 2
ECN 120 Principles of Macroeconomics 3

Term 5
AGV 160 Anesthesia & Surgical Assistance 4
AGV 165 Clinical Mgmt of Lab & Exotic Species 2
AGV 166 Veterinary Nursing Care 3
ADM 168 Veterinary Office Procedures 2
AGV 138 Clinical Pathology Lab 1

Option Courses—Select 1 Course from Option 5
ENG 105 Composition I Opt 3 3
COM 703 Communication Skills Opt 3 3

Total credits required to complete this program 66

Welding
Welding is the term used to describe numerous methods of joining metals. Students are provided with entry-level welding skills and knowledge essential for employment in the industrial manufacturing, job shop and pipe welding industries.

Ferrous and nonferrous metals are joined using the oxy-acetylene, shielded metal arc, gas tungsten arc and gas metal arc welding processes. Freehand 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 course work as prescribed and maintain a 2.0 grade point average.

Required Courses
COM 703 Communication Skills 3
MAT 772 Applied Math 3
WEL 120 Oxy-Fuel Welding/Cutting 2
WEL 150 Arc Welding I (SMAW) 3
WEL 165 Arc Welding II (SMAW) 3
WEL 166 Arc Welding III (SMAW) 2
WEL 111 Welding Blueprint Reading 3
WEL 167 Arc Welding IV (SMAW) 3
WEL 168 Arc Welding V (SMAW) 3
WEL 169 Arc Welding VI (SMAW) 2
WEL 181 Gas Metal Arc Welding 2
WEL 190 Gas Tungsten Arc Welding 2

Total credits required to complete this program 30

Welding Certificates are available: Blueprint Reading, Oxy-acetylene, Shielded Metal Arc, Gas Metal Arc, Gas Tungsten Arc, Structural Welding, and Pipe Welding. (see Certificate Section, page 98.)

Woodworking
(For more information, see Architectural Millwork, page 49)
PROGRAMS AVAILABLE

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**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</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 111</td>
<td>Intro to Accounting</td>
<td>3</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>ADM 157</td>
<td>Business English</td>
<td>3</td>
</tr>
<tr>
<td>MGT 145</td>
<td>Human Relations in Business</td>
<td>3</td>
</tr>
<tr>
<td>SPC 101</td>
<td>Fundamentals of Oral Communication</td>
<td>3</td>
</tr>
<tr>
<td>SPC 126</td>
<td>Interpersonal &amp; Small Group Comm</td>
<td>3</td>
</tr>
<tr>
<td>SDV 153</td>
<td>Pre-Employment Strategies</td>
<td>2</td>
</tr>
<tr>
<td>ACC 124</td>
<td>Accounting Professionalism</td>
<td>3</td>
</tr>
</tbody>
</table>

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. Technical courses in intermediate accounting, computers and cost accounting allow students to seek advanced-level placement in some cases. Employment opportunities are currently found in commercial businesses, government offices and public accounting firms.

**Required Courses**

- ACC 261 Income Tax Accounting 3
- ACC 161 Payroll Accounting 3

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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 131</td>
<td>Principles of Accounting II</td>
<td>4</td>
</tr>
<tr>
<td>ACC 132</td>
<td>Principles of Accounting II</td>
<td>4</td>
</tr>
<tr>
<td>BCS 164</td>
<td>Basic Databases</td>
<td>1</td>
</tr>
<tr>
<td>BCA 212</td>
<td>Intro Computer Business Appl</td>
<td>3</td>
</tr>
<tr>
<td>ACC 191</td>
<td>Financial Analysis</td>
<td>3</td>
</tr>
<tr>
<td>ACC 251</td>
<td>Gov’t &amp; Nonprofit Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ACC 192</td>
<td>Accounting Procedures/Mgt.</td>
<td>4</td>
</tr>
<tr>
<td>BCA 213</td>
<td>Intermediate Computer Business Appl</td>
<td>3</td>
</tr>
</tbody>
</table>

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 Specialist 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.

**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 Capstone 2
- ASM 256 Agency Experience 2
- ASM 239 Information Systems in Health Care 2
- ASM 274 Law and Ethics in Health Care 2

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

<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>ACC 131</td>
<td>Principles of Accounting I</td>
<td>4</td>
</tr>
</tbody>
</table>

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 course work 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
- AGB 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**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGA 284</td>
<td>Pesticide Application Certification</td>
<td>3</td>
</tr>
<tr>
<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>
</tbody>
</table>

Total credits required to complete this certificate 21

These credits are applicable to the AAS degree in Agribusiness.
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
AGB 235 Intro to Agricultural Markets 3

Recommended Courses
AGB 331 Agribusiness Management 3
AGB 102 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 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.

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.

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 305 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 2

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. Schedule a departmental interview with the program chair of the Human Services program.
PROGRAMS AVAILABLE

Students must participate in a chemical dependency practicum. Students can contact the program chair of the Human Services program for possible practicum site options. Practicums may have additional costs to the student. One possibility of a practicum site is Powell Chemical Dependency Center in Des Moines.

Students must be accepted into a chemical dependency practicum before being admitted into the Chemical Dependency Certificate program at DMACC.

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 AAS 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, data base, 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

Certificates of Specialization

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 Data Base Opt 1 3
- CIS 332 Data Base and SQL Opt 1 3
- CIS 338 SQL/Oracle Opt 1 3
- CIS 346 Data Base Design Opt 1 3

Total credits required to complete this certificate 27

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 Data Base 3
- CIS 332 Data Base and SQL 3
- CIS 338 SQL/Oracle 3
- CIS 346 Data Base Design 3

Total credits required to complete this certificate 21

VISIT US ONLINE: www.DMACC.edu
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 and healthcare facilities. All students must attend a Dietary Manager Specialist orientation.

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.

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 course work 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

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
- BUS 131 Small Business Management Strategies Opt 2 3
- BUS 181 Basic Law for Entrepreneurs Opt 2 2
- ACC 311 Computer Accounting Opt 3 3
- BUS 240 Virtual Business Firm Opt 3 3
- BUS 150 E-Commerce on the Web Opt 3 3

Total credits required to complete this certificate 20

These credits are applicable to the Diploma in Entrepreneurship.
PROGRAMS AVAILABLE

Fashion
The purpose of the Fashion certificate is to provide an individual either currently employed in or wanting to enter the apparel and accessories field with specialized skills to enhance his/her knowledge of retailing and selling, as well as to develop fashion awareness.

Required Courses
APP 260 Fashion Analysis & Design 3
APP 111 Visual Merchandising & Design 3
APP 211 Textiles 3
MKT 160 Principles of Retailing 3
MKT 140 Selling 3

Total credits required to complete this certificate 15
These credits are applicable to the AAS degree in Fashion/Design.

Fire Specialist
The Fire Specialist certificate provides basic technical knowledge for people working in the fire protection field.
Course work 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 over a two-semester period to a cohort group.

Required Courses
ASM 155 Impact of Demographics 1
ASM 160 Aspects of Aging 1
ASM 150 Communication with the Elderly 1
ASM 800 Seminar I 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
These credits are applicable to the AAS degree in Commercial Horticulture.

Graphic 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.

Required Courses
GRT 400 Intro to Printing Methods 4
GRT 401 Intro to Graphic Communications 3
GRT 409 Project Planning & Management 3
MKT 110 Principles of Marketing 3
MKT 140 Selling 3
MKT 150 Principles of Advertising 3

Total credits required to complete this certificate 19
These credits are applicable to the AAS degree in Graphic Technologies.

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
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

VISIT US ONLINE: www.DMACC.edu 91
**PROGRAMS AVAILABLE**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCA212</td>
<td>Intro to Computer Business Appl</td>
<td>3</td>
</tr>
<tr>
<td>BCA213</td>
<td>Intermediate Computer Business Appl</td>
<td>3</td>
</tr>
</tbody>
</table>

**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**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>MKT 140</td>
<td>Selling</td>
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<tr>
<td>MKT 110</td>
<td>Principles of Marketing</td>
<td>3</td>
</tr>
<tr>
<td>INT 124</td>
<td>Interior Design Analysis</td>
<td>3</td>
</tr>
<tr>
<td>INT 125</td>
<td>Interior Design Planning</td>
<td>3</td>
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<tr>
<td>APP 111</td>
<td>Visual Merchandising &amp; Design</td>
<td>3</td>
</tr>
<tr>
<td>APP 211</td>
<td>Textiles</td>
<td>3</td>
</tr>
</tbody>
</table>

**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 languages(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.

**Required Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course 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.

**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 language is spoken
   b. Two years of college study with a minimum GPA of 2.0 (or equivalent) at an institution where the 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.

**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.

**Location:** Urban
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 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
5. Show proficiency in a second language with one of the following:
   a. Evidence of completion of high school in a country where the language spoken
   b. Two years of college study with a minimum GPA of 2.0 or equivalent at an institution in a country where the 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

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<tr>
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<td>ITR111</td>
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<tr>
<td>ITR115</td>
<td>Fundamentals of Translation</td>
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</tr>
<tr>
<td>ITR120</td>
<td>Ethics for the Interpreter/Translator</td>
<td>1</td>
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<tr>
<td>ITR910</td>
<td>Emphasis Seminar</td>
<td>3</td>
</tr>
<tr>
<td>BIO156</td>
<td>Human Biology w/Lab</td>
<td>3</td>
</tr>
<tr>
<td>ITR148</td>
<td>Healthcare Terminology &amp; Sight Translation</td>
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<tr>
<td>ITR150</td>
<td>Healthcare Interpreting I</td>
<td>3</td>
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<tr>
<td>ITR152</td>
<td>Healthcare Interpreting II</td>
<td>3</td>
</tr>
<tr>
<td>ITR158</td>
<td>Healthcare Translation</td>
<td>3</td>
</tr>
<tr>
<td>ITR810</td>
<td>Healthcare I/T Internship</td>
<td>2</td>
</tr>
</tbody>
</table>

Total credits required to complete this certificate 33

These credits are applicable to the AS degree in Interpretation & Translation.

Certificates of Specialization

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. 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:
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   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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<td>Healthcare I/T Internship</td>
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</table>

Total credits required to complete this certificate 33

These credits are applicable to the AS degree in Interpretation & Translation.
PROGRAMS AVAILABLE

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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<td>ITR 120</td>
<td>Ethics for the Interpreter/Translator</td>
<td>1</td>
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<tr>
<td>ITR 910</td>
<td>Emphasis Seminar</td>
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<tr>
<td>PRL 103</td>
<td>Introduction to Law</td>
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<tr>
<td>ITR 128</td>
<td>Legal Terminology &amp; Sight Translation</td>
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<tr>
<td>ITR 130</td>
<td>Legal Interpreting I</td>
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</tr>
<tr>
<td>ITR 132</td>
<td>Judiciary Interpreting II</td>
<td>3</td>
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<tr>
<td>ITR 137</td>
<td>Judiciary Translation</td>
<td>3</td>
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<tr>
<td>ITR 800</td>
<td>Judiciary I/T Internship</td>
<td>2</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>AGA 157</td>
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<tr>
<td>AGA 154</td>
<td>Fundamentals of Soil Science</td>
<td>3</td>
</tr>
<tr>
<td>AGH 154</td>
<td>Residential Landscape Design</td>
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<td>AGH 159</td>
<td>Landscape Drafting</td>
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</tr>
<tr>
<td>AGH 221</td>
<td>Principles of Horticulture</td>
<td>3</td>
</tr>
<tr>
<td>AGH 155</td>
<td>Landscape Design II</td>
<td>2</td>
</tr>
<tr>
<td>AGH 142</td>
<td>Construction, Safety &amp; Maintenance</td>
<td>3</td>
</tr>
<tr>
<td>AGH 123</td>
<td>Woody Plant Materials</td>
<td>3</td>
</tr>
<tr>
<td>AGH 120</td>
<td>Herbaceous Plant Materials</td>
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</tbody>
</table>

Total credits required to complete this certificate: 23

The majority of these credits are applicable to the AAS degree in Commercial Horticulture.

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 course work.

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>PRL 103</td>
<td>Introduction to Law</td>
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<tr>
<td>PRL 131</td>
<td>Torts &amp; Litigation I</td>
<td>3</td>
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<td>PRL 141</td>
<td>Business &amp; Corporate Law I</td>
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<td>PRL 280</td>
<td>Legal Internship &amp; Ethics</td>
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<tr>
<td>PRL 112</td>
<td>Legal Research &amp; Writing I</td>
<td>3</td>
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<tr>
<td>PRL 113</td>
<td>Legal Research &amp; Writing II</td>
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Option Courses–Select 15 Credits from Option 1

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>PRL 132</td>
<td>Torts &amp; Litigation II</td>
<td>Opt 1</td>
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<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>
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<tr>
<td>PRL 151</td>
<td>Real Estate Law</td>
<td>Opt 1</td>
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<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>
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<tr>
<td>PRL 137</td>
<td>Debtor/Creditor Law</td>
<td>Opt 1</td>
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<tr>
<td>PRL 118</td>
<td>Comp. Legal Research</td>
<td>Opt 1</td>
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<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>
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<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>
<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>ITC Practicum: Psychosocial Needs</td>
<td>2</td>
</tr>
<tr>
<td>ASM 254</td>
<td>ITC Practicum: Physical Needs</td>
<td>2</td>
</tr>
<tr>
<td>ASM 255</td>
<td>ITC 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

Certificates of Specialization

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.
PROGRAMS AVAILABLE

ACC 111 Intro to Accounting Opt 1 3
ACC 131 Principles of Accounting I Opt 1 4
ASM 238 Financial Management in AS Opt 1 3
ASM 239 Information Systems in Health Care Opt 1 2
ASM 274 Law and Ethics in Health Care Opt 1 3

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
MGT 130 Principles of Supervision 3
MGT 101 Principles of Management 3
BUS 102 Intro to Business 3
BUS 185 Business Law I 3
CSC 110 Intro to Computers 3

Option Courses—Select 1 Course from Each Option
BUS 150 E-Commerce on the Web Opt 1 3
MKT 145 Sales Management Opt 1 3
MGT 115 Administrative Management Opt 1 3
MKT 115 Business-to-Business Marketing Opt 1 3
MKT 160 Principles of Retailing Opt 1 3
BUS 148 Small Business Management Opt 1 3
ACC 131 Principles of Accounting I Opt 2 4
ACC 111 Intro to Accounting Opt 2 3
ENG 105 Composition I Opt 3 3
COM 703 Communication Skills Opt 3 3
MGT 145 Human Relations in Business Opt 4 3
PSY 111 Intro to Psychology Opt 4 3
BUS 112 Business Math Opt 5 3
MAT 141 Finite Math Opt 5 4

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.

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 record keeping. 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.

Prerequisite: Keyboarding speed of 40 nwpm or above as demonstrated by a five-minute test.

Medical Transcriptionist
The purpose of the Medical Transcriptionist certificate is to provide a course of study for medical administrative assistant students to specialize in the area of medical transcription. Employment opportunities are numerous in a variety of settings: hospitals and medical centers, clinic and group practices, radiology and pathology offices, government facilities, private and temporary agencies and in home offices. In addition to a choice of work settings, the medical transcriptionist can usually choose part-time or full-time employment and frequently, flexible scheduling. Students should start fall term.

Prerequisite: Keyboarding speed of 40 nwpm or above as demonstrated by a five-minute test.

Term 1
ADM 157 Business English 3
*HSC 120 Medical Terminology I 3
MAP 141 Medical Insurance 3
BCA 133 Word Processing Skill Dev. I 4

Term 2
*HSC 121 Medical Terminology II 3
MAP 532 Human Body–Health and Disease 3
MAP 150 Adv. Medical Billing and Coding 3
ADM 215 Medical Office Procedures 3

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.

Majority of credits listed above are 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.

Certificates of Specialization

Term 1
ADM 157 Business English 3
BCA 133 Word Processing Skill Development I 4
HSC 120 Medical Terminology I 3
MTR 120 Medical Transcription I 3

Term 2
HSC 121 Medical Terminology II 3
MTR 121 Medical Transcription II 3

Term 3
MAP 532 Human Body–Health and Disease 3
MTR 122 Medical Transcription III 3

Total credits required to complete this certificate 25
The majority of these credits are also applicable to the AAS degree in Medical Administrative Assistant.

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.

VISIT US ONLINE: www.DMACC.edu 95
PROGRAMS AVAILABLE

Certificates of Specialization

You will be drug-free and have no criminal or felony record. You will need to be flexible and be able to take direction and be a team member. A uniform is required.

**Required Courses**
- HSC 102 Emergency Care
- HSC 172 Nurse Aide 75 Hours
- HSC 182 Advanced Nurse Aide

**Option Courses—Select 1 Course from Option 1**
- HSC 183 CCDI Dementia Illness Training
- MAP 129 Medical Terminology

**Total credits required to complete this certificate**

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

**Total credits required to complete this certificate**

**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.

**Required Courses**
- MIL 112 Principles of Phlebotomy
- PHB 280 Phlebotomy Clinical

**Total credits required to complete this certificate**

**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.

<table>
<thead>
<tr>
<th>Option Courses–Select a Minimum of 6 Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 131 Principles of Accounting I</td>
</tr>
<tr>
<td>ACC 132 Principles of Accounting II</td>
</tr>
<tr>
<td>ACC 311 Computer Accounting</td>
</tr>
<tr>
<td>ACC 361 Accounting Spreadsheets</td>
</tr>
<tr>
<td>CIS 413 COBOL II</td>
</tr>
<tr>
<td>CIS 604 Visual BASIC</td>
</tr>
<tr>
<td>CIS 612 Advanced Visual BASIC</td>
</tr>
<tr>
<td>CIS 164 Advanced C++</td>
</tr>
<tr>
<td>CIS 303 Introduction to Data Base</td>
</tr>
<tr>
<td>CIS 332 Data Base and SQL</td>
</tr>
<tr>
<td>CIS 338 SQL/Oracle</td>
</tr>
<tr>
<td>CIS 346 Data Base Design</td>
</tr>
</tbody>
</table>

**Total credits required to complete this certificate**

**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 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**
- BCA 113 Computer Network Literacy
- CIS 303 Introduction to Data Base
- CIS 505 Structured Systems Analysis
- NET 612 Fundamentals of Network Security
- NET 715 Database Security & Auditing
- NET 730 Computer Forensics & Investigation

**Total credits required to complete this certificate**

**Nurse Aide**

The Nursing Assistant Specialist certificate is designed for individuals seeking employment in any healthcare setting. The skills and knowledge learned will meet the requirements of many job titles from Psychology Tech to Emergency Department Tech. You will earn from $7.00 to $12.00 per hour.

**Required Courses**
- BUS 102 Introduction to Business
- CIS 125 Intro to Programming Logic w/lang
- CIS 402 COBOL
- CSC 110 Intro to Computers
- BCA 113 Computer Network Literacy

**Option Courses—Select a Minimum of 6 Credits**
- ACC 131 Principles of Accounting I
- ACC 132 Principles of Accounting II
- ACC 311 Computer Accounting
- ACC 361 Accounting Spreadsheets
- CIS 413 COBOL II
- CIS 604 Visual BASIC
- CIS 612 Advanced Visual BASIC
- CIS 164 Advanced C++
- CIS 303 Introduction to Data Base
- CIS 332 Data Base and SQL
- CIS 338 SQL/Oracle
- CIS 346 Data Base Design

**Total credits required to complete this certificate**

The majority of these credits are applicable to the AS degree in Accounting Information Systems and the AAS in Business Information Systems.
PROGRAMS AVAILABLE

Required Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GRT400</td>
<td>Intro to Printing Methods</td>
<td>4</td>
</tr>
<tr>
<td>GRT401</td>
<td>Intro to Graphic Communications</td>
<td>3</td>
</tr>
<tr>
<td>GRT409</td>
<td>Project Planning &amp; Management</td>
<td>3</td>
</tr>
<tr>
<td>GRT410</td>
<td>Printing Methods I</td>
<td>4</td>
</tr>
<tr>
<td>GRT420</td>
<td>Printing Methods II</td>
<td>4</td>
</tr>
<tr>
<td>GRT427</td>
<td>Specialty Printing Methods</td>
<td>4</td>
</tr>
</tbody>
</table>

Total credits required to complete this certificate 22

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>
</tr>
</tbody>
</table>

Total credits required to complete this certificate 6

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>
</tbody>
</table>

Total credits required to complete this certificate 12

These credits are also applicable to the AAS degree in Marketing and the AAS degree in Fashion/Design.

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

<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 110</td>
<td>Principles of Marketing</td>
<td>3</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>
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</table>

Total credits required to complete this certificate 11

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 145</td>
<td>Human Relations in Business</td>
<td>Opt 2</td>
</tr>
<tr>
<td>PSY 111</td>
<td>Introduction to Psychology</td>
<td>Opt 2</td>
</tr>
</tbody>
</table>

Total credits required to complete this certificate 17

These credits are also applicable to the diploma in Sales & Management, the AAS degree in Fashion/Design, the AAS degree in Management, 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

<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 101</td>
<td>Introduction to Management</td>
<td>3</td>
</tr>
</tbody>
</table>

Option Courses—Select 6 Credits From Option 1, And 1 Course From Option 2, And 1 Course From Option 3

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 102</td>
<td>Introduction to Business</td>
<td>Opt 1</td>
</tr>
<tr>
<td>BUS 148</td>
<td>Small Business Management</td>
<td>Opt 1</td>
</tr>
<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>MKT 115</td>
<td>Administrative Management</td>
<td>Opt 1</td>
</tr>
<tr>
<td>MGT 800</td>
<td>Business Internship I</td>
<td>Opt 1</td>
</tr>
<tr>
<td>MKT 140</td>
<td>Selling</td>
<td>Opt 1</td>
</tr>
<tr>
<td>MGT 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>ENG 105</td>
<td>Composition I</td>
<td>Opt 2</td>
</tr>
<tr>
<td>COM 703</td>
<td>Communication Skills</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>
</tbody>
</table>

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.

Telecommunications

This certificate program prepares the student for working in the telecommunications outside plant field. The course work 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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELT 368</td>
<td>DC &amp; AC Fundamentals</td>
<td>3</td>
</tr>
<tr>
<td>ELT 369</td>
<td>DC &amp; AC Fundamentals Lab</td>
<td>3</td>
</tr>
<tr>
<td>TEL 210</td>
<td>Telecommunications I</td>
<td>3</td>
</tr>
<tr>
<td>TEL 213</td>
<td>Introduction to Telephony Lab</td>
<td>3</td>
</tr>
<tr>
<td>CSC 110</td>
<td>Intro to Computers</td>
<td>3</td>
</tr>
<tr>
<td>ADM 105</td>
<td>Intro to Keyboarding I</td>
<td>1</td>
</tr>
<tr>
<td>TEL 220</td>
<td>Telecommunications II</td>
<td>4</td>
</tr>
<tr>
<td>TEL 222</td>
<td>Telecommunications Outside Plant</td>
<td>4</td>
</tr>
<tr>
<td>TEL 223</td>
<td>Telecom Transport Lab</td>
<td>3</td>
</tr>
</tbody>
</table>

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

**Total credits required to complete this certificate 21**

The majority of these credits are applicable to the AAS degree in Commercial Horticulture.

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 165 Arc Welding II (SMAW) 3
- WEL 166 Arc Welding III (SMAW) 2
- WEL 167 Arc Welding IV (SMAW) 3
- WEL 168 Arc Welding V (SMAW) 3
- WEL 169 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

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Contact Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>WEL 176</td>
<td>Advanced Arc Welding I (SMAW)</td>
<td>2</td>
</tr>
<tr>
<td>WEL 177</td>
<td>Advanced Arc Welding II (SMAW)</td>
<td>3</td>
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</table>

### Pipe Welding

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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<tbody>
<tr>
<td>WEL 303</td>
<td>Pipe Welding (SMAW)</td>
<td>3</td>
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</table>

### Certificates of Completion

**Transportation Institute Commercial Vehicle**

**Commercial Vehicle Operator Program**

The Transportation Institute commercial vehicle operator program is one of approximately 50 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 and Saturdays 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 24-hour 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</th>
<th>Title</th>
<th>Contact Hours</th>
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<tr>
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<td>Basic Operations</td>
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<tr>
<td></td>
<td>Safe Operational Practices</td>
<td>44.50</td>
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<tr>
<td></td>
<td>Advanced Operating Procedures</td>
<td>38.00</td>
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<tr>
<td></td>
<td>Vehicle Maintenance</td>
<td>16.75</td>
</tr>
<tr>
<td></td>
<td>Non-Vehicle Activities</td>
<td>59.00</td>
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</table>

**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 RV program is a total of 16 hours, eight hours in the classroom and eight hours 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. For students who do not own their own equipment, most varieties are available.

We also have RV (Recreation 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.
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.

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:

<table>
<thead>
<tr>
<th>Course Name</th>
<th>Credits</th>
<th>Lecture Hours</th>
<th>Lab Hours</th>
<th>Practicum Hours</th>
<th>Course Type</th>
<th>Corequisites</th>
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</thead>
<tbody>
<tr>
<td>ACC 222 – ADJUNCT COST ACCOUNTING</td>
<td>4</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>OPEN</td>
<td>ACC 132, Acct 131</td>
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</table>

ACC 222 – ADJUNCT COST ACCOUNTING
An introduction to accounting concepts of product costing systems. Topics include classification of costs, process costing, job order costing, joint and by-product costs and standard cost systems, with variable analysis. Prerequisite: ACC 132.

ACC 191 FINANCIAL ANALYSIS
An analytical study of accounting information and financial statements. The course focuses on financial ratio analysis that is used to interpret data and reports for financial decision-making. Prerequisite: ACC 131.

ACC 192 ACCOUNTING PROCEDURES/MGT.
A project approach to accounting systems and records management. Includes topics in receivables, payables, banking records, planning and organizing leadership, human relations and communications. Prerequisite: ACC 131, BUS 112, ADM 131.

ACC 222 COST ACCOUNTING
An introduction to accounting concepts of product costing systems. Topics include classification of costs, process costing, job order costing, joint and by-product costs and standard cost systems with variable analysis. Prerequisite: ACC 152.

ACC 251 GOVT & NONPROFIT ACCOUNTING
An introduction to the accounting and reporting principles, standards and procedures applicable to federal, state and local government. Also includes nonprofit institutions such as hospitals and universities. Prerequisite: ACC 131.

ACC 261 INCOME TAX ACCOUNTING
An introduction to personal income tax. Emphasizes computation of federal and state income taxes and preparation of tax forms. Prerequisite: ACC 131 or ACC 111.

ACC 272 ACCOUNTING INFORMATION SYSTEMS
An introduction to auditing concepts, internal control procedures, preparation of audit programs and working papers, application of methods and procedures for conducting an audit. The legal and ethical responsibilities of auditors. Preparation of audit reports. Prerequisite: ACC 271.

ACC 273 COMPUTER ACCOUNTING
Emphasizes application of computerized financial software used in business. Topics include setting up a company, receivables, payables, inventory control, payroll, time tracking and job estimating. Prerequisite: ACC 131 or ACC 111.

ACC 368 ACCOUNTING SPREADSHEETS
Microcomputer operations with an emphasis on financial and management uses. Includes topics in spreadsheet modeling, spreadsheet commands. Prerequisite: ACC 131, CSC 110.

ACC 371 ACCOUNTING SPREADSHEETS
Microcomputer operations with an emphasis on financial and management uses. Includes topics in spreadsheet modeling, spreadsheet commands. Prerequisite: ACC 131, CSC 110.

ACC 396 ACCOUNTING CAREER SEMINAR
Designed to provide in-depth discussion of Accounting/Bookkeeping/Auditing Specialist work experiences. Prerequisite: Successful completion of 11 hours of ACC courses. Corequisite: ACC 546.

ACC 496 ACCOUNTING CAREER SEMINAR
Designed to provide in-depth discussion of Accounting/Bookkeeping/Auditing Specialist work experiences. Prerequisite: Successful completion of 11 hours of ACC credit courses; permission of the department and demonstrable job readiness with computer literacy. Corequisite: ACC 532.

ADM 105 INTO KEYBOARDING
Basic instruction on a personal computer to learn the touch system for the alphabetic keyboard, number keyboard and ten-key numeric pad.
ADM 121
OFFICE CALCULATORS VOC/TECH
Electronic calculator operations. Emphasis on speed and accuracy. Includes topics in addition, subtraction, multiplication and division; also the use of constants, chain computations and proportions.

ADM 128
DATA ENTRY VOC/TECH
Competency-based course to give students an introduction to current practices, equipment and various job-related applications in data entry. The main focus is on speed and accuracy in entering data in a terminal. Recommended keyboarding skills of at least 30 NWP/PM.

ADM 154
BUSINESS COMMUNICATION VOC/TECH
Principles and procedures of effective business communication. The student is required to be computer-literate as computer software programs are used to develop communication skills for office correspondence and presentations. Recommended keyboarding skills of at least 25 NWP/PM. Prerequisite: ADM 153, BCA 121

ADM 157
BUSINESS ENGLISH VOC/TECH
The fundamentals of proofreading, grammar, spelling, punctuation, word usage, capitalization, abbreviations and number usage.

ADM 162
OFFICE PROCEDURES VOC/TECH
Office Procedures is the integration of knowledge and skills needed to function in an office environment. Topics include telecommunication techniques, components of customer relations and various responsibilities of the administrative assistant. Prerequisite: ADM 157, BCA 133

ADM 164
ADMINISTRATIVE OFFICE APPL VOC/TECH
This course incorporates simulated office activities into realistic workplace integration. Students use integration software to complete specialized tasks. Worksite basic skills including interpersonal skills, communication, teamwork, creative thinking and problem-solving will be developed. Prerequisite: ADM 162, BCA 133

ADM 168
VETERINARY OFFICE PROCEDURES VOC/TECH
Integration of knowledge and skills needed to function in a veterinarian office environment. Topics include ethics, customer relations, telecommunications techniques, scheduling and management software and compliance.

ADM 208
LEGAL TERMINOLOGY VOC/TECH
Provides training in spelling, defining and pronouncing terms common in the legal field.

ADM 215
MEDICAL OFFICE PROCEDURES VOC/TECH
A study of medical science, ethics and medical law. Various management duties and responsibilities, such as filing, insurance processing, mail schedules, computerized accounting and telephone procedures. Prerequisite: HSC 126, BCA 137

ADM 259
PROFESSIONAL DEVELOPMENT VOC/TECH
Designed to make students aware of their personal strengths and identify areas for improvement. Concentrates on helping students develop marketable personal and professional skills. Presents strategies to assist students in maintaining employment and in demonstrating a professional image and work behavior.

ADM 265
SUPERVISED PRACTICAL EXP. VOC/TECH
Practical experience through on-the-job training in an approved business setting. Tasks will be consistent with students’ career objectives, skills and knowledge. (P/F) Prerequisite: ADM 157, BCA 153, 212 Corequisite: ADM 597

ADM 300
CPA REVIEW SEC. I ECON & LAW VOC/TECH
Section I assists students to pass Part 1 of the Certified Professional Secretary Examination by reviewing economic, accounting and business law fundamental. In addition to one hour of credit, students will be awarded 1.5 CEUs.

ADM 305
CPA REVIEW SEC. II OFFICE SYS VOC/TECH
Section II assists students to pass Part 2 of the Certified Professional Secretary Examination by reviewing office technology, administration and communication. In addition to one hour of credit, students will be awarded 1.5 CEUs.

ADM 310
CPA REVIEW SEC. III MANAGEMENT VOC/TECH
Section III assists students to pass Part 3 of the Certified Professional Secretary Examination by reviewing behavioral science in business and human resource management. In addition to 1 hour of credit, students will be awarded 1.5 CEUs.

ADM 597
PROF OFFICE CAREERS SEMINAR VOC/TECH
An examination of topics relevant to the office internship experience, sharing workplace problems encountered and the solutions found to those problems. Prerequisite: ADM 157, BCA 133, 212. Corequisite: ADM 265

ADM 126
PASSPORT TO ADN NURSING VOC/TECH
Prepares for a successful transition to the ADN program. Focuses on curriculum design, knowledge components, student expectations, study/life management skills. PM to RN role changes, application of nursing process with emphasis on health assessment and nursing skills across the life span. Prerequisite: Acceptance into the Advanced Standing Nursing Program

AGA 114
PRINCIPLES OF AGRONOMY VOC/TECH
An introductory course in the general principles of crop production and management. Major areas of study are food production, crop classification, plant growth factors, seed production and variety selection.

AGA 154
FUNDAMENTALS OF SOIL SCIENCE VOC/TECH
An extended course in soils and fertilizers. A study of the physical, chemical and biological properties of soils. Also includes the study of fertilizers, their composition, manufacture and use. Corequisite: AGA 157

AGA 157
SOIL FERTILITY VOC/TECH
An introductory course in soils and nutrients. A study of the physical, chemical and biological properties of soils. Also includes the study of nutrients, land measurement and environmental concerns and soil management. Corequisite: AGA 154

AGA 211
GRAIN AND FORAGE CROPS VOC/TECH
An advanced course using the problem-solving approach to crop management. Principles and practices of agronomic science are used in the discussion of management problems related to corn, soybeans, forage, small grain, sorghum and alternative crops. Prerequisite: Permission of Instructor or AGA 381, 114, 154

AGA 222
GRAIN MANAGEMENT VOC/TECH
Designed to acquaint the student with the complete cycle of grain from the farm to the country elevator. Major areas of study are the management of facilities, equipment, personnel and finances, warehouse requirements, grain grading, grain conditioning and grain inventory management.

AGA 284
PESTICIDE APPLICATION CERTIFIC VOC/TECH
Common features of pests, methods of control, how pesticides work, pesticide labels, application equipment, calibration, laws and regulations governing pesticide use.

AGA 391
CROP SCOUTING VOC/TECH
The course develops an understanding of the factors that affect plant growth. Plant nutrients are considered as students gain experience in identifying major and micro nutrient deficiency symptoms in plants by means of soil tests, plant tests and observations.
COURSE DESCRIPTIONS

AGV 164 21 000 CLINICAL MGMT DOMESTIC SPECIES VOC/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 21 000 CLIN MGMT LAB/EXOTIC SPECIES VOC/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 laboratory and exotic pet settings. Prerequisite: AGV 120

AGV 166 3 14 000 VETERINARY NURSING CARE VOC/TECH
Introduces the fundamentals of animal nursing, including handling, restraint, patient history and admissions. Emergency handling. Prerequisite: AGV 125, BR 133

AGV 172 3 2 2 000 LARGE ANIMAL MEDICINE/SURGERY VOC/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 190 21 000 VETERINARY RADIOLOGY VOC/TECH
This course is designed to introduce the student to radiologic imaging. Topics include safety, patient positioning, processing of film, proper machine use and quality control. Prerequisite: AGV 120, 124

AGV 952 4 0 0 0 2 0 VET TECHNOLOGY INTERNSHIP VOC/TECH
Internship experience within a veterinarian related business with an emphasis on animal care procedures. Prerequisite: AGV 134, 141

ANT 100 3 3 0 0 0 INTRODUCTION TO ANTHROPOLOGY VOC/TECH
This course is an introduction to the comparative study of humankind from biological and cultural perspectives. It surveys 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 3 3 0 0 0 CULTURAL ANTHROPOLOGY VOC/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 – ADJUNCT 3 3 0 0 0 FACES OF CULTURE VOC/TECH
A television course in cultural anthropology 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 3 3 0 0 0 APPLICATIONS OF ANTHROPOLOGY VOC/TECH
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 trends. 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 3 3 0 0 0 GLOBAL ISSUES-LOCAL PERSP VOC/TECH
Examines a variety of ways in that 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 theorising 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 globalizations affects local processes in Iowa. Prerequisite or corequisite: ANT 100 or 105 or instructor approval

APP 111 3 3 0 0 0 FASHION ANALYSIS AND DESIGN VOC/TECH
Focus will be on 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 127 3 3 0 0 0 FASHION COORDINATION & PROMOTI VOC/TECH
Focus is on researching, analyzing and forecasting fashion trends. Information on emerging fashion trends is communicated through a PowerPoint computer presentation. Use of this information results in creation of a promotional plan to establish fashion leadership. Prerequisite: APP 260

APP 129 3 3 0 0 0 DESIGN CONCEPTS VOC/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 270 3 3 0 0 0 FASHION BUYING VOC/TECH
Fashion moves quickly and the buyer must be in tune 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 3 3 0 0 0 FASHION STUDY TOUR VOC/TECH
The student will participate in a supervised study tour, location to be announced, and in that 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 114 5 2 6 0 0 ARCHITECTURAL DRAWING I VOC/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-involved plans, elevations, sections and details.

ARC 116 2 2 0 0 0 CONSTRUCTION ESTIMATING VOC/TECH
An orderly process of accounting for the items involved in the construction project.

ARC 127 5 2 6 0 0 ARCHITECTURAL DRAWING II VOC/TECH
This course will apply practical application of the basic skills of drafting involving the mechanics and the necessary thought process. Prerequisite: ARC 114 & CAD 401

ARC 128 5 2 6 0 0 ARCHITECTURAL DRAWING III VOC/TECH
Drawings will be developed of a small commercial building using Building Information Modeling software. Prerequisite: ARC 127

ARC 165 3 3 0 0 0 MATERIALS & ASSEMBLIES I VOC/TECH
An introduction to building materials and assemblies through the Construction Specifications Institute’s MasterFormat accounting and management system.

ARC 166 3 3 0 0 0 MATERIALS & ASSEMBLIES II VOC/TECH
An introduction to building materials and assemblies through the Construction Specifications Institute’s MasterFormat accounting and management system. Prerequisite: ARC 165

ARC 169 3 3 0 0 0 MATERIALS & ASSEMBLIES III VOC/TECH
An introduction to building materials and assemblies through the Construction Specifications Institute’s MasterFormat accounting and management system. Prerequisite: ARC 167

ARC 180 2 2 0 0 0 BUILDING CODES VOC/TECH
A look into building codes and their interpretation.

ARC 181 2 2 0 0 0 CONSTRUCTION DOCUMENTS TECH VOC/TECH
An investigation into the Construction Specifications Institute’s Construction Documents Technologist certification and examination.

ARC 190 3 1 4 0 0 PRESENTATION GRAPHICS VOC/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

ART 101 3 3 0 0 0 ART APPRECIATION VOC/TECH
A general survey course that explores in chronological sequence the 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.

ART 102 3 2 0 0 0 ARTS FOR ELEMENTARY EDUCATION VOC/TECH
Designed for students in education and recreation to assist them with design, construction and planning for multi-art forms and materials for instructional situations.

ART 133 3 0 6 0 0 DRAWING VOC/TECH
Lab study of tools and techniques necessary for entry level visual arts in drawing. Emphasis on still life using gesture, contour, shape, plane, volume and value/tonal techniques. Basic drawing skills with pencil, charcoal and eraser are explored.

ART 136 3 0 6 0 0 LIFE DRAWING VOC/TECH
Drawing and painting in a live model. Emphasis on structure, movement and expression.

ART 145 3 0 6 0 0 PAINTING VOC/TECH
Acrylic painting with emphasis on still life, landscape and individual composition.

ART 148 – ADJUNCT 3 0 6 0 0 LANDSCAPE PAINTING VOC/TECH
Landcape 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 – ADJUNCT 3 0 6 0 0 CERAMICS VOC/TECH
Comprehensive ‘hands-on’ introductory experience working clay. The discovery “process” of finding one’s unique sense of touch is stressed. Fundamental techniques demonstrated in hands building and wheel-throwing. Concepts in ceramic art discussed, connecting cultures, artists and contemporary objects.

ART 174 – ADJUNCT 3 0 6 0 0 CERAMICS II VOC/TECH
Series of forms, individual help from a professional artist. Topics in ceramics; the “figure,” large-scale works, architectural terra-cotta restoration, outdoor claybodies, building slide portfolio, photographing work, shows and galleries. Kiln firing. Prerequisite: Instructor permission
COURSE DESCRIPTIONS

ART 176 – ADJUNCT TILEMAKING
306000 GENERAL
Design and fabricate tiles 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
322000 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 185 ADVANCED PHOTOGRAPHY OPEN
322000 For students who have mastered the basic photographic principles and processes. Topics will include photographic lighting and filtration, photogrammetry, documentary photography, advanced darkroom techniques, print finishing and display. Prerequisite: ART 184.

ART 186 PRINCIPLES DIGITAL PHOTOGRAPHY OPEN
322000 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 a DSL digital camera, minimum 5.0 megapixel, capable of interchangeable lenses.

ART 195 DESIGN: EXPLORING ART MEDIA GENERAL
330000 An introduction to basic techniques in media such as paper-making, clay, fibers and soft sculptures. Students will explore a variety of traditional approaches to express a contemporary vision.

ART 225 PHOTOSHOP FOR PHOTOGRAPHY OPEN
322000 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 photographs digitally from Adobe Photoshop, the industry-standard software for the digital darkroom.

ART 291 – ADJUNCT TRAVEL PHOTOGRAPHY OPEN
322000 Travel Photography
Advanced principles of image making, printing and presentation will be explored with spirit and knowledge that is expected to expand an appreciation for photography, travel and the state of Iowa. Prerequisite: ART 184.

ART 292 STUDIO PHOTOGRAPHY VOC/TECH
322000 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 artistic light for the desired effect. Projects test student imagination, creativity, technical skills and willingness to experiment while improving their photographic expertise. Prerequisite: ART 185.

ASL 101 AMERICAN SIGN LANGUAGE I CORE
542000 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 conversations; asking/answering questions, introductions and exchanging personal information, discussing family, friends and surroundings.

ASL 102 AMERICAN SIGN LANGUAGE II CORE
542000 This course expands the basic principles presented in ASL I. 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 101 or instructor permission.

ASL 251 AMERICAN SIGN LANGUAGE III CORE
542000 This course expands the basic principles presented in ASL II. ASL III focuses on features of time, subject/object, classifiers, non-manual behaviors and fingerspelling (including numbers and loan signs). In addition, ASL semantics and syntax (including conversational regulators) will be introduced. Prerequisite: ASL 101 or instructor permission.

ASL 291 AMERICAN SIGN LANGUAGE IV CORE
542000 This course expands the principles presented 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.

ASM 150 COMMUNICATION WITH THE ELDERLY OPEN
110000 This course will introduce strategies and concepts to improve communication with the elderly population. Prerequisite: Instructor approval.

ASM 155 IMPACT OF DEMOGRAPHICS OPEN
110000 This course will address demographic changes in the elderly population and the impact on society. Prerequisite: Instructor approval.

ASM 160 ASPECTS OF AGING OPEN
110000 This course will examine the physiological, biological and psychological changes as they relate to the aging process. Prerequisite: Instructor approval.

ASM 165 HEALTHY AGING OPEN
110000 This course will examine the research of healthy aging and the results of improving the quality of life in advancing years. Prerequisite: Instructor approval.

ASM 180 CULTURAL DIVERSITY OPEN
110000 This course will explore cultural diversity as it relates to race, national origin, gender and culture in the aging population. Prerequisite: Instructor approval.

ASM 200 DEPRESSION, DEATH & GRIEVING OPEN
110000 This course will cover depression, death, loss and the grieving process for both the family and the professional caregiver. Prerequisite: Instructor approval.

ASM 230 FINANCIAL MANAGEMENT IN AS OPEN
330000 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 ACL 111 or ACL 113 prior to this course.

ASM 239 INFO SYSTEMS IN HEALTH CARE OPEN
220000 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/SNF OPEN
220000 Emphasis 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
220000 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 LIC PRACT: PSYCHOSOCIAL NEEDS OPEN
200009 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 LIC PRACT: PHYSICAL NEEDS OPEN
200009 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 LIC PRACT: ADMINISTRATION OPEN
200009 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 265 DEATH AND DYING OPEN
330000 This course will examine the role and dynamics of the dying process, its foundational components, its varied characteristics and its impact upon the bereaved, with special emphasis upon appropriate resolution and adjustment.

ASM 274 LAW & ETHICS IN HEALTH CARE OPEN
330000 An introduction to law and its relationship to senior health care services. The course is designed to provide a basic background in law and ethics by defining the law, the court structure and its procedures and exploring various legal and ethical issues relating to long-term health care services.

ASM 278 MANAGEMENT IN SENIOR CARE OPEN
330000 relates fundamental management principles in the senior care setting. Focuses on management processes and organizational behavior in senior care organizations, health care facilities and other senior health services agencies.

ASM 299 HEALTH CARE HUMAN RESOURCES OPEN
330000 Study of policies, procedures and the processes in human resource planning. This would include securing, developing and maintaining human resources, labor laws and employee/managers’ rights in health care services settings.

ASM 280 HEALTH CARE DELIVERY SYSTEMS OPEN
220000 Provides a comprehensive overview of the health care delivery systems and services. Includes studies in access and financing health care services and evaluating the delivery of care.

ASM 282 AGING SERVICES OPEN
220000 Aging Services relates physical, psychological and sociological needs of seniors to services provided in the continuum of care setting. Includes the services in a therapeutic milieu creating a home environment that includes nursing, dietary, environmental, activities, and social services.

ASM 283 AGING POLICIES & GOV PROGRAMS OPEN
220000 Class examines aging policies and government programs at the federal and state levels. Various agencies, advocacy groups and funding sources are investigated.

ASM 295 DEATH AND DYING OPEN
330000 An examination of death and the dynamics relating to the grief process. Its foundational components, its varied characteristics and its impact upon the bereaved, with special emphasis upon appropriate resolution and adjustment.
COURSE DESCRIPTIONS

ASM 600  SEMINAR I  11 000  OPEN
The seminar will meet twice to discuss topics, issues and methods for applying the knowledge acquired from the modules as they relate to the elderly population. Prerequisite: Instructor approval

ASM 605  SEMINAR II  11 000  OPEN
The seminar will meet twice to discuss topics, issues and application of the knowledge from the modules as they relate to the elderly population. Prerequisite: Instructor approval

ATC 312  CHRYSLER ELECTRIC/ELECTRONICS  4 24 000  VOC/TECH
A study of the electrical and electronic systems used in Chrysler vehicles. The instruction will include fundamentals of electricity, magnetism, series, parallel, series-parallel circuits, service information, wire repair, diodes, transistors and microprocessors. Prerequisite: Admission to CAP (Chrysler Automotive Program)

ATC 317  SHOP FUND & MINOR SERVICE  43 20 000  VOC/TECH
A study of dealership organizational structure as it relates to the technician. Use of service manuals, electronic troubleshooting manuals and service bulletins are practiced. Also provides entry-level maintenance related to automotive task competencies. Prerequisite: Admission to CAP (Chrysler Automotive Program)

ATC 318  BASIC BRAKES  4 23 000  VOC/TECH
Instruction in the theory of operation and service procedures of Chrysler brakes. Prerequisite: Admission to CAP (Chrysler Automotive Program)

ATC 320  TECHNICAL INTERNSHIP I  3 00 010 00 00
The technician will work in a participating dealership. The work will be full-time approximately 40 hours per week. The tasks will be consistent with the technician’s ability and previous course work. A task list will be issued to each dealer. ATC 326 and ATC 329 are required the same semester.

ATC 328  CHRYSLER ELEC SYSTEMS REPAIR  4 23 000  VOC/TECH
Instruction in the diagnosis, repair and service of electrical and electronic components and accessories used on current Chrysler vehicles. Prerequisite: ATC 312, MAT 772

ATC 329  CHRYSLER STEERING & SUSPENSION  3 14 000  VOC/TECH
Instruction in the theory of operation and service procedures of Chrysler steering and suspension systems. Prerequisite: ATC 317, 318

ATC 330  TECHNICAL INTERNSHIP II  3 00 010 00 00 00
Work experience at a participating dealership. The tasks will be consistent with the technician’s ability and previous course work. Prerequisite: ATC 326, 329

ATC 335  SERVICE/REPAIR CHRYSLER ENGINE  5 34 000  VOC/TECH
Principles and operations of Chrysler engines. Service procedures and engine component repair or replacement will be emphasized. Diagnosis of engine problems will also be covered. Prerequisite: ATC 317

ATC 336  CHRYSLER FUEL SYSTEMS  3 14 000  VOC/TECH
A course designed to acquaint the student with basic fuel system principles. Instruction will be offered in the theory, service, repair and adjustment of automotive fuel systems. Prerequisite: ATC 328

ATC 340  TECHNICAL INTERNSHIP III  3 00 030 00 00 00
Work experience at a sponsoring dealership. The tasks will be consistent with the technician’s ability and previous course work. Prerequisite: ATC 335

ATC 346  CHRYSLER ENGINE PERFORMANCE  5 34 000  VOC/TECH
Diagnosis and service of microprocessor-controlled fuel and injection systems. Oscilloscopes, engine analyzers, digital meters and other high-technology instruments will be used. Prerequisite: ATC 355, 356

ATC 347  CHRYSLER HEATING & AC  3 14 000  VOC/TECH
Theory and operation of Chrysler air conditioning systems leading to the diagnosis, service and repair of current models of Chrysler vehicles. Prerequisite: ATC 312, 317

ATC 350  TECHNICAL INTERNSHIP IV  3 00 010 00 00 00
Work experience at a participating dealership. The tasks will be consistent with the technician’s ability and previous course work. Prerequisite: ATC 340

ATC 354  CHRYSLER MANUAL DRIVE TRAINS  4 24 000  VOC/TECH
Provides an understanding of the principles of operation in manual drive trains including manual transmissions, axles, front and rear differential, drive shafts and transfer cases. Proper diagnosis, service and repair procedures of these systems are studied and practiced. Prerequisite: ATC 340

ATC 355  CHRYSLER AUTOMATIC DRIVE TRAINS  4 24 000  VOC/TECH
Provides an understanding of the principles of operation in automatic transmission and transaxes including electronic controls. Proper diagnosis, service and repair procedures of these systems are studied and practiced. Prerequisite: ATC 340

ATC 356  ADVANCED CHRYSLER SYSTEMS  5 34 000  VOC/TECH
Instruction in techniques and procedures required to diagnose and service current vehicles. New systems developed by Chrysler will be included. Prerequisite: ATC 346

ATC 360  TECHNICAL INTERNSHIP V  2 00 012 00 00 00
Work experience at a participating dealership. The tasks will be consistent with the technician’s ability and previous course work. Prerequisite: ATC 350

ATC 280  FORD STEERING/SUSP/BRAKES  4 16 000  VOC/TECH
Instruction in the theory of operational service procedures used in the maintenance and repair of Ford Motor Company’s basic steering, suspension and brakes systems. Prerequisite: Admission to ASSET program

ATC 290  ADV. FORD STEERING/SUSP/BRAKE  2 12 000  VOC/TECH
Instruction in the theory and operation service procedures used in the maintenance and repair of Ford Motor Company’s base steering, suspension and brake systems. Prerequisite: Admission to Automotive Student Service Ed Training and ATF 328, ATF 280

ATC 312  FORD AUTOMOTIVE ELECTRONICS  5 34 000  VOC/TECH
A study of the electrical and electronic systems used in Ford Motor Company vehicles. The instruction will include fundamentals of electricity, series and parallel circuits, schematics, wire repair, diodes, transistors, microprocessors and digital displays. Prerequisite: Admission to Automotive Student Service Ed Training (ASSET)

ATC 317  FORD SHOP FUND & MINOR SVC  3 22 000  VOC/TECH
A study of dealership organizational structure as it relates to the technician. Use of service manuals, electronic troubleshooting manuals and service bulletins are practiced. Also provides entry-level automotive task competencies. Prerequisite: Admission to Automotive Student Service Ed Training (ASSET)

ATC 320  TECHNICAL INTERNSHIP I  3 00 010 00 00 00
Work experience at a sponsoring dealership. The tasks will be consistent with the technician’s ability and previous course work. Prerequisite: Admission to Automotive Student Service Ed Training (ASSET)

ATC 326  FORD AUTO AC SYSTEMS  3 22 000  VOC/TECH
Theory and operation of Ford Motor Company air conditioning systems leading to the diagnosis, service, and repair of current models of vehicles. Prerequisite: Admission to Automotive Student Service Ed Training (ASSET) and ATC 326

ATC 328  DIAGNOSIS/REPAIR FORD ELECT SYS  5 34 000  VOC/TECH
Instruction in the diagnosis, repair and service of electrical and electronic components and accessories used on current Ford Motor Company vehicles. Required: Admission to Automotive Student Service Ed Training and ATC 326

ATC 330  TECHNICAL INTERNSHIP II  3 00 010 00 00 00
Work experience at a participating dealership. The tasks will be consistent with the technician’s ability and previous course work. Prerequisite: Admission to Automotive Student Service Ed Training (ASSET) and ATC 330

ATC 333  FORD ENGINE DIAGNOSIS/REPAIR  4 24 000  VOC/TECH
Evaluating, reconditioning and replacing of major components of Ford Motor Company engines. Will include instruction in machining operations performed in Ford Motor Company dealerships. Prerequisite: Admission to Automotive Student Service Ed Training (ASSET) and ATF 317

ATC 335  GM SPECIALIZED ELECTRONICS  5 34 000  VOC/TECH
A study of the electrical and electronic systems used in General Motors vehicles. The instruction includes fundamentals of electricity, series and parallel circuits, schematics, wire repair, diodes, transistors and microprocessors. Prerequisite: Admission to Automotive Educational Program (ASEP)

ATG 312  GM SHOP FUND & MINOR SERVICE  4 24 000  VOC/TECH
A study of dealership organizational structure as it relates to the technician. Students use service manuals, electronic troubleshooting manuals and service bulletins. Also provides entry-level automotive task competencies. Prerequisite: Admission to Automotive Service Educational Program

ATG 317  FORD DRIVELINE & AXLE DIAG/PRR  2 12 000  VOC/TECH
Students will study rear axle and differential design and operation, drivetrain construction, transfer case design and operation. Students will also perform diagnosis and repair operation of each. Prerequisite: Admission to Automotive Student Service Ed Training (ASSET)
COURSE DESCRIPTIONS

ATG 320 4 2 4 0 0
GM BRAKE SYSTEMS VOC/TECH
Instruction in the theory of operation and service procedures used in the maintenance and repair of General Motors brake systems. Prerequisite: Admission to Automotive Service Educational Program.

ATG 322 3 1 4 4 0
GM STEERING & SUSPENSION 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.

ATG 326 3 2 2 0 0
GM AUTO AC SYSTEMS VOC/TECH
Theory of operation of General Motors air conditioning systems leading to the diagnosis, service and repair of current models of GM vehicles. Prerequisite: Admission to Automotive Service Educational Program, ATG 312, 316

ATG 327 3 2 2 0 0
MINOR SVC/REPAIR/GM ENGINES VOC/TECH
Principles of operation of General Motors Motors. Minor service procedures and engine component repair or replacement will be emphasized. Will also include diagnostic procedures. Prerequisite: Admission to Automotive Service Educational Program, ATG 316

ATG 329 3 0 0 0 1 8
TECHNICAL INTERNSHIP I VOC/TECH
The technician will work in a participating dealership. The work will be full-time, approximately 40 hours per week. The tasks will be consistent with the technician's ability and previous course work. A task list will be issued to each dealer. Prerequisite: Admission to Automotive Service Educational Program, MAT 772, ATG 312, ATG 316

ATG 330 3 0 0 0 1 8
TECHNICAL INTERNSHIP II VOC/TECH
Work experience at a participating dealership. The tasks will be consistent with the technician's ability and previous course work. Prerequisite: ATG 329, 328

ATG 333 3 2 2 0 0
MAJOR SERVICE PROC/GM ENGINES VOC/TECH
Evaluating, reconditioning and replacing of major components of GM engines. Instruction will also include diagnostic routines. Prerequisite: ATG 327

ATG 336 3 2 2 0 0
GM CARB & FUEL INJECTION SYS VOC/TECH
Theory of carburetion principles and current model fuel delivery systems to include diesel fuel systems, electromechanical carburetors and gasoline fuel injection. Prerequisite: ATG 328

ATG 337 4 3 2 0 0
GM TUNE-UP PROC & EMSSN CNTRL VOC/TECH
Diagnosis and service of microprocessor-controlled fuel and ignition systems. Oscilloscopes, engine analyzers, digital meters and other high-technology instruments will be used. Prerequisite: ATG 336

ATG 340 3 0 0 0 1 8
TECHNICAL INTERNSHIP III VOC/TECH
Work experience at a sponsoring dealership. Tasks will be consistent with the technician's ability and previous course work. Prerequisite: ATG 330, 344, 345

ATG 344 4 2 4 0 0
GM MANUAL DRIVEBELT TRAINS VOC/TECH
Provides an understanding of the principles of operation in manual powertrains including manual transmissions and transaxles, front and rear differentials, drivechains and transfer cases. Proper diagnosis, service and repair procedures of these systems are studied and practiced. Prerequisite: ATG 331, AUT 109

ATG 345 4 2 4 0 0
GM AUTOMATIC DRIVEBELT TRAINS VOC/TECH
Provides an understanding of the principles of operation in automatic transmissions and transaxes. Proper diagnosis, service and repair procedures of these systems are studied and practiced. Prerequisite: ATG 317

ATG 350 3 0 0 0 1 8
TECHNICAL INTERNSHIP IV VOC/TECH
Work experience at a participating dealership. Tasks will be consistent with the technician's ability and previous course work. Prerequisite: ATG 350

ATG 354 5 3 4 0 0
ADVANCED GM MOTORS SYSTEMS VOC/TECH
Instruction in techniques and procedures required to diagnose and service current vehicles. New systems developed by GM will be included. Prerequisite: ATG 350

AUT 109 3 2 2 0 0
AUTO MEASUREMENT & TOOLS VOC/TECH
This course provides instruction in the correct selection and use of mechanics' tools and precision measuring devices. Shop safety will be emphasized.

AUT 140 2 0 4 0 0
WELDING FOR AUTOMOTIVE MECHANIC VOC/TECH
Skills will be developed in oxy-acetylene fusion and braze welding, shielded metal arc welding, as well as oxy-fuel flame cutting. Safety is emphasized and basic welding theory is discussed. Warnings concerning the danger and liability involved in welding high-strength steels will be stressed (auto body and chassis, etc.). Safety is emphasized.

AUT 163 3 2 2 0 0
AUTOMOTIVE ENGINE REPAIR VOC/TECH
A course to provide instruction in the theory and operation of the four-stroke automotive engine. Emphasis will be placed on cylinder head service and repair. Prerequisite: AUT 109

AUT 173 3 1 4 0 0
ADV AUTOMOTIVE ENGINE REPAIR VOC/TECH
Provides instruction in proper diagnosis of engine malfunctions and repair or replacement of defective components and assemblies. Diagnosis procedures, repair and adjustment will be emphasized. Prerequisite: AUT 163

AUT 242 6 3 6 0 0
BASIC AUTOMOTIVE POWERTRAIN VOC/TECH
Principles of operation and construction of automotive power trains. Includes instruction in the theory of hydraulic and mechanical systems used in automatic transmissions.

AUT 243 6 3 8 0 0
ADV AUTOMOTIVE POWERTRAIN VOC/TECH
The student will study powertrain and drive-line systems. Proper diagnosis procedures, service and repair will be emphasized through hands-on experience. Prerequisite: AUT 242

AUT 404 4 2 4 0 0
BASIC SUSPENSION & STEERING VOC/TECH
Instruction in the theory of operation and service procedures of automotive alignment and suspension systems.

AUT 503 3 2 2 0 0
AUTOMOTIVE BRAKE SYSTEMS VOC/TECH
Instruction in the theory of operation and service procedures of automotive brakes.

AUT 535 5 2 6 0 0
ADVANCED AUTO BRAKES & ALIGNM VOC/TECH
The student will study advanced brakes and alignment theory, practice proper diagnosis, service and repair procedures through hands-on experience. Prerequisite: AUT 503, 404

AUT 603 3 1 4 0 0
BASIC AUTOMOTIVE ELECTRICITY VOC/TECH
Provides instruction in theory and operation of automotive electrical circuits. Safety, meters and service information will be emphasized.

AUT 652 3 1 4 0 0
ADV AUTOMOTIVE ELECTRICITY VOC/TECH
Provides instruction in the repair, diagnosis and service of electrical and electronic components found on current vehicles. Prerequisite: AUT 603

AUT 674 4 2 4 0 0
AUTO HEATING & AC VOC/TECH
Provides instruction in the theory of operation of auto air conditioning and heating systems, as well as diagnosing and servicing automotive air conditioning and heating systems.

AUT 823 4 2 4 0 0
ADVANCED AUTOMOTIVE TUNE-UP VOC/TECH
Provides instruction in testing, diagnosis and repair of the automobile’s ignition, electrical and fuel systems. Modern test equipment, procedures and technology are utilized. Prerequisite: AUT 344

AUT 834 4 2 4 0 0
AUTOMOTIVE FUEL SYSTEMS VOC/TECH
A course designed to acquaint the student with basic fuel system principles. Instruction will be offered in the theory, cleaning, repair and adjustment of automotive fuel systems.

AUT 844 6 3 6 0 0
AUTO ELECTRONIC ENGINE CONTROL VOC/TECH
This course builds upon the knowledge and skills in previous automotive courses to prepare the student to service electronically controlled vehicles. The theory and operation principles of automotive computers, sensors and control devices will be emphasized. Lab instruction on late model cars will be included. Prerequisite: AUT 834

AUT 845 2 1 2 0 0
ELECTRICAL SYSTEMS DIAGNOSIS VOC/TECH
Instruction in techniques and procedures required to diagnose and service microprocessor-controlled body electrical systems. Prerequisite: AUT 603, 652, 844

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COURSE DESCRIPTIONS

AVM 124 – ADJUNCT 31400
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 maneuver, structure alignments, assembly components, rigging, primary flight control surfaces, secondary flight control surfaces and aircraft jacking.

AVM 125 – ADJUNCT 53400
AIRFRAME 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 – ADJUNCT 21200
LANDING GEAR & BRAKE SYSTEMS VOC/TECH
The 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 – ADJUNCT 21200
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 – ADJUNCT 31400
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 – ADJUNCT 10200
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 140 – ADJUNCT 10200
CONTROL SYSTEMS VOC/TECH
The course covers heating, cooling, pressurization, air cycling and oxygen systems.

AVM 142 – ADJUNCT 42400
AIRCRAFT TURBINE ENGINES VOC/TECH
Course covers turbine engine overhaul, repair of turbine engines, installation of turbine engines, troubleshooting of turbine engines.

AVM 145 – ADJUNCT 10200
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 – ADJUNCT 20400
AIRFRAME FUEL SYSTEMS VOC/TECH
This course covers fueling systems throughout the airframe of the aircraft. Topics include inspection, service, troubleshooting, repair and replacement of the system components.

AVM 148 – ADJUNCT 10200
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 – ADJUNCT 21200
ENGINE FUEL/METERING VOC/TECH
A course designed to cover the fuel metering system of aircraft. Topics include inspection, service, troubleshooting, repair, replacement of various types of fuel metering systems.

AVM 154 – ADJUNCT 82120
AIRCRAFT ENGINES/RECOUPPERCING 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 – ADJUNCT 31400
AIRCRAFT PROPELLER 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 – ADJUNCT 10200
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 – ADJUNCT 20400
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 – ADJUNCT 31400
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 162 – ADJUNCT 21200
COMMUNICATION AND NAVIGATION VOC/TECH
Basic units will involve study of autopilots, systems, serves systems, approach coupling systems, navigation systems, electronic communication systems, antenna systems, static pressure systems, flight instrument systems and all positions indicating systems.

AVM 168 – ADJUNCT 11000
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 – ADJUNCT 21200
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.

BCA 111 – EMERGING TECHNOLOGIES 33000
VOC/TECH
Students will explore changing 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.

BCA 112 – COMPUTER NETWORK LITERACY 32200
VOC/TECH
This course is an introduction to basic concepts and terminology in computer networks and data communications. Topics include data communications equipment and media network basics and the internet. Student will develop a personal web page. Prerequisite: CSC 110.

BCA 122 – BASIC WORD PROCESSING 10200
VOC/TECH
Hands-on instruction using WORD in the Windows environment. Special features include working with Windows, spellers, Thesaurus, merge and sort.

BCA 133 – WORD PROCESSING SKILL DEV. I 42400
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 key at 25 NWPM for three minutes.

BCA 135 – WORD PROCESSING SKILL DEV. II 32200
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: BCA 112 or MAP 119.

BCA 146 – BASIC SPREADSHEETS 10200
VOC/TECH
Orientation to Excel. Topics include spreadsheet layout and terminology, charting, enhancing a worksheet and chart. Designed for beginning users of Excel.

BCA 164 – BASIC DATABASES 10200
VOC/TECH
Introduction to Access database management system. Topics include creating, editing, querying, using forms, reports, customizing and managing data and files.

BCA 174 – BASIC PRESENTATION SOFTWARE 10200
VOC/TECH
Introduction to presentation software. Topics include creating, enhancing, embedding and illustrating a presentation with charts, graphs, special effects; converting existing material, printing presentations, speaker’s notes and handouts.

BCA 211 – INTRO COMPUTER BUSINESS APPL 32200
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.

BCA 213 – INTERMEDIATE COMPUTER BUSINESS APPL 32200
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: BCA 122 or CSC 110.

BCA 214 – ADV COMPUTER BUSINESS APPL 32200
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 forms and administering a database and creating complex presentations are emphasized. Prerequisite: BCA 213.

BCA 250 – DESKTOP PUBLISHING 32200
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 11000
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 32200
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 112 – GENERAL BIOLOGY I 43200
CORE
First semester of Biology for majors. Topics covered include Chemistry of life, cells, bioenergetics, genetics, evolution, viruses, prokaryotes and protists. Prerequisite: H.S. Chemistry and H.S. Biology or equivalent.

BIO 113 – GENERAL BIOLOGY II 43200
CORE
Second semester of Biology for majors. Topics covered include fungi, plants, animals and ecology. It is recommended that BIO 112 be taken prior to this course. Prerequisite: H.S. Biology and H.S. Chemistry or equivalent.

BIO 138 – INTRODUCTION TO FORESTRY 32200
FIELD ECOLOGY
Field and laboratory studies of native plants and animals of Iowa. Emphasis is placed on ecological relationships. Special features include working with native plants and animals of Iowa. Emphasis is placed on ecological relationships. Special features include working with native plants and animals of Iowa.
COURSE DESCRIPTIONS

BIO 145 ECOLOGY OF IOWA 3 3 0 0 0 GENERAL
Survey the major landforms of Iowa including the Mississippi River Valley, Northern Prairie Lakes Region, Loess Hills and Southern Hills Area. Landforms are emphasized from the standpoint of climate, soils, ecology, water resources, forestry, wildlife and environmental concerns. One Saturday field trip.

BIO 146 GENETICS 3 3 0 0 0 OPEN
An introductory genetics course for Biology and Biotechnology majors. Topics covered include DNA and chromosome structure and function; Mendelian genetics; molecular genetics in eucarytes, prokaryotes and viruses; recombinant DNA technology; gene expression and the genetic basis of immunology. Prerequisite: BIO 102 or BIO 107.

BIO 156 HUMAN BIOLOGY W/LAB CORE 3 2 2 0 0 CORE
A study of Biology that emphasizes 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 CORE 5 3 4 0 0 CORE
A classic integration of human anatomy and physiology at the cellular level and organ/system level. Includes cell dissection. Prerequisite: H.S. Biology and H.S. Chemistry or equivalent.

BIO 168 ANATOMY & PHYSIOLOGY I CORE 4 3 2 0 0 CORE
Anatomy and Physiology I covers the structure and function of the human body from the cellular level to organ systems. Topics at the cellular level include the fundamental basics of Chemistry, cell structure and cellular metabolism, genetics and histology. The organ systems studied are the skin and integumentary system, the skeletal and muscular systems, the nervous system and the senses. Lecture and lab must be taken concurrently. Prerequisite: A grade of "C" or better in BIO 156 Human Biology or a "C" or better in high school Anatomy within the last five years.

BIO 175 ANATOMY & PHYSIOLOGY II CORE 4 3 2 0 0 CORE
Anatomy and Physiology II is a continuation of Anatomy & Physiology I. The following organ systems are covered: the endocrine system, blood and the cardiovascular system, the lymphatic system and immunity, the respiratory system, the urinary system, the digestive system including nutrition and the reproductive system. Other topics included in the course are: the body's balance of water; electrolytes and acids and bases; and an introduction to human growth and development. Lecture and lab must be taken concurrently. Prerequisite: A grade of "C" or better in BIO 168 Anatomy and Physiology I.

BIO 225 MARINE BIOLOGY I 4 3 2 0 0 GENERAL
Students will study polar, temperate and tropical marine organisms and their environmental and ecological relationships. They will also examine the structure and function of marine flora and fauna using preserved and live specimens. The course includes hands-on laboratory activities, comparative anatomy, field observations, marine aquarium care, snorkeling, kayaking and introductory scuba. Prerequisite: High school or college Biology.

BIO 227 MARINE BIOLOGY II 4 3 2 0 0 GENERAL
This course is the second in a series of two courses. The students will continue the study of polar, temperate and tropical marine organisms and their environmental and ecological relationships. They will also examine the structure and function of marine flora and fauna using preserved and live specimens. The course includes hands-on laboratory activities, comparative anatomy, field observations, marine aquarium care, snorkeling, kayaking and introductory scuba.

BIO 243 TOPICS IN BIOTECHNOLOGY OPEN 1 1 0 0 0 GENERAL
An exploration of recent advancements in biotechnology, as well as current practices in research and development, including quality control/quality assurance and safety. Prerequisite: BIO 125.

BIO 249 BIOTECHNOLOGY INTERNSHIP OPEN 3 0 0 0 0 GENERAL
This internship is the final requirement for the completion of the Biotechnology AS 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 250 CELL & MOLEC BIO-NUCLEIC ACIDS OPEN 5 2 6 0 0 GENERAL
This course is designed to provide training in techniques related to nucleic acids and is a requirement 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 T12. Corequisite: BIO 104.

BIO 251 CELL & MOLECULAR BIO-PROTEINS OPEN 5 2 6 0 0 GENERAL
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 immunopeptides. 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 of proteins, enzyme mechanisms and kinetics, immunosays and two-dimensional gel electrophoresis. Prerequisites: BIO 104, BIO 250, CHE 132, MAT 177 Pr or Corequisite: BIO 112.

BIO 260 BIOLOGY OF AGING OPEN 3 3 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 732 HEALTH SCIENCE MICROBIOLOGY OPEN 4 3 2 0 0 GENERAL
Basic concepts and applications of medical microbiology. Topics include morphology and physiology of microorganisms, pathologies, epidemiology and immunology. 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.

BIO 734 HEALTH SCIENCE ANATOMY OPEN 3 2 2 0 0 GENERAL
This course includes information, examples, forms and activities needed for business start-up and for development of a successful business operation. Topics include market research and assessment; naming your business; finding a location; determining asset needs and forecasting sales; identifying job tasks and determining human resource needs; and writing a business plan.

BIO 141 SMALL BUSINESS START-UP 3 3 0 0 0 VOC/TECH
This course includes information, examples, forms and activities needed for business start-up and for development of a successful business operation. Topics include market research and assessment; naming your business; finding a location; determining asset needs and forecasting sales; identifying job tasks and determining human resource needs; and writing a business plan.

BIO 102 INTRODUCTION TO BUSINESS 3 3 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.

BUS 132 BUSINESS MATH 3 3 0 0 0 VOC/TECH
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 215  INVESTING IN REAL ASSETS  11000  OPEN
This course analyzes procedures in residential real estate purchases. An evaluation of residential home, mobile home and condominium purchasing versus renting is discussed. Additional topics include investments in REITS, commercial property, undeveloped land, limited partnership, collectibles and gold.

BUS 216  ESTATE PLANNING  11000  OPEN
The goal of this course is to establish a desirable and efficient dissolution of one’s assets and liabilities at death. Course includes identifying goals for estate planning, both pre-death and postmortem. Estate tax and gift tax issues are examined.

BUS 218  LONG-RANGE FINANCIAL PLANNING  11000  OPEN
This course is designed to increase awareness of the need for identifying a desired retirement lifestyle within the context of the anticipated financial retirement inflows. Assessment will be made of retirement resources from employee, business and government sources. Individual retirement resource strategies are investigated. Healthcare and housing issues are examined.

BUS 220  INTRO INTERNATIONAL BUSINESS  33000  OPEN
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 221  QUANT METHODS/BUS DECISION MAKI  44000  GENERAL
An introduction to management research methods used in business. Topics include probability, break-even analysis, inventory control, statistics and transportation models. Prerequisite: MAT 075 or intermediate Algebra or 2 years of high school Algebra or department permission.

BUS 240  VIRTUAL BUSINESS B  31400  OPEN
The Virtual Business 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, products and/or services, marketing and sales strategies and financials within a global context. Students engage in daily operations running the virtual business, as 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.
COURSE DESCRIPTIONS

CAT 422
CATERPILLAR LS/PC HYDRAULICS
VOC/TECH
21100
This course will cover the design and theory of LS/PC hydraulic systems. This course will cover the function, operation and diagnostics of LS/PC hydraulic systems. Experienced individuals may contact the instructor to gain admittance to this course. Prerequisites: DSL 605, 145

CAT 435
CATERPILLAR SERV INFO SYSTEM
VOC/TECH
22000
Instruction covers basic computer skills related to Caterpillar computer systems. Students will learn how to operate SIS, Parts Integrator, OBS Parts orders and work orders.

CAT 434
CATERPILLAR INTERNSHIP
VOC/TECH
40000
Work experience at a local Caterpillar dealership. The work experience will be compatible with the student’s ability and previous course work. Prerequisites: DSL 366, 546, 605, 145

CET 102
FUND OF CIVIL ENGINEERING
VOC/TECH
33000
Introduces concepts of the civil engineering technician career. Topics include civil engineering technician disciplines and career structures; construction and civil engineering industry; introduction to basic engineering principles; layout of civil plans; introduction to design methods; standards and equipment used in design and manual drafting.

CET 199
SURVEY I
VOC/TECH
32200
This course will develop working knowledge of surveying fundamentals. Topics will include introduction to surveying instruments and equipment, measurement of distances and angles, determination of elevation, note keeping, traversing, triangulation, mapping and the researching of monuments and benchmarks.

CET 195
MATERIALS I
VOC/TECH
33000
Students will develop a working knowledge of sampling and testing basic materials used in the highway construction industry (aggregate and concrete). Iowa Department of Transportation materials certifications (AGG I. AGG II and PCT I) will be given to students upon successful completion of state certification exams given during the course.

CET 198
CONSTRUCTION I
VOC/TECH
33000
This course will develop a working knowledge of construction inspection fundamentals. Topics will include an introduction to construction reviews, preconstruction planning, permits processes, embankment construction, drainage solutions, stabilization methods, equipment used in construction, placement work, paving procedures and estimating time and materials. Prerequisite: CET 192 or department approval

CET 196
SURVEY II
VOC/TECH
43200
A continuation of Survey I. Topics will include control surveys; topographic survey, construction survey, coordinate systems (i.e., plane, sphere), spheres; fieldwork; aerial photography, photogrammetry; legal descriptions; right of way; electronic data collection and global positioning will be utilized; data downloading and editing; legal principles of land boundaries, public domain survey systems. Prerequisite: CET 199 or department approval

CET 173
HIGHWAY DESIGN I
VOC/TECH
44000
Students will develop a working knowledge of civil design. Topics will include design criteria and standards; typical roadway sections; traffic data; cross sections; earthworks; survey data, historical project information, bid items, design manuals, geometric design, hydrology, staging, records management, vertical profile design and environmental project information. GEOPAK will be utilized. Prerequisite: CET 102 or department approval

CET 178
AUTOMATED DESIGN I
VOC/TECH
44000
This course will introduce the student to MicroStation CAD software. Basic two-dimensional CAD drawings will be taught. Drawings will be created and plotted. Drawing formats, geometric construction and lettering will be taught on computer-aided drafting (CAD) software. Drafting standards will be covered. Sketching and fundamentals of orthographic projection are stressed. Prerequisite: CET 102 or department approval

CET 932
STRUCTURES
VOC/TECH
44000
This course is designed to acquaint the student with basic structural concepts. Emphasis is placed on the use of free body diagrams in understanding the forces acting on a structural member. Prerequisite: MAT 773 or instructor approval

CET 220
SURVEY III
VOC/TECH
43200
This course illustrates the application of survey concepts to a highway survey. Topics will include legal description research; route surveying, horizontal and vertical curve layout, closed and open loop survey, bench level circuits; subdivision surveying and construction surveying. Electronic data collection and global positioning will be utilized. Prerequisite: CET 192 or department approval

CET 222
SOILS AND FOUNDATIONS
VOC/TECH
32200
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
CONSTRUCTION II
VOC/TECH
33000
This course will involve the definition, interpretation and utilization of drawings, specifications, agreements, bidding forms, general considerations, bonds, subcontracts, shop drawings, material approvals and related documents; record keeping and materials measurement as building plans. Required: CET 198 or department permission

CET 244
MATERIALS II
VOC/TECH
32200
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 aggregates such as moisture content, compaction, permeability; soils plan clarification; soil borings; concrete properties, concrete mix; asphalt properties, sampling methods; testing of materials; testing equipment; calibration of equipment. Prerequisite: CET 115 or department approval

CET 278
AUTOMATED DESIGN II
VOC/TECH
44000
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 notes and design standards; hydraulics; generating and analyzing cross sections; determining right of way need; 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 283
HIGHWAY DESIGN II
VOC/TECH
44000
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 notes and design standards; hydraulics; generating and analyzing cross sections; determining right of way need; 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
STRUCTURE DESIGN & CONST
VOC/TECH
33000
This course is an introduction to the understanding of load and resistance factor design (LRFD) method. Topics include material properties, tension, compression, bending, beam columns, simple connections, base plates and bearing plates. Prerequisite: CET 102

CET 295
FIELD COOP
VOC/TECH
50000
Practical experience through on-the-job training in an approved civil engineering technician setting. Tasks will be consistent with students’ career objectives, skills and knowledge. Prerequisite: Successful completion of 32 credit hours of CET credit courses and/or department approval

CET 307
FIELD ORIENTATION
VOC/TECH
22000
This course is required for students who do not take the Field Coop. It will acquaint a student with field operations. The role of the superintendent and project manager will be discussed, as well as the relationship between the contractor and owner. Visits will be made to local projects to observe construction procedures. Prerequisite: Successful completion of 32 credit hours of CET credit courses. Written permission from the CET faculty is required to substitute this course for two credits of the five-credit CET 305 requirement.

CET 305
SURVEY OF CHEMISTRY
VOC/TECH
32200
An introduction to chemical topics with little mathematics. Topics include energy, food Chemistry, air and water pollution, agricultural chemicals, detectors and drugs. The course is for students who need one semester of laboratory science.

CET 122
INTRO TO GENERAL CHEMISTRY
VOC/TECH
43200
A study of the concepts of General Chemistry including atomic structure, bonding, reactions, stoichiometry, gas laws, solutions, acids and bases, equilibrium, nuclear Chemistry and an introduction to organic chemistry. Problem-solving is emphasized. For non-science majors and students in health-related programs. Prerequisite: one year H.S. Algebra or MAT 063

CET 123
INTRO TO ORGANIC/BIOCHEMISTRY
VOC/TECH
43200
A thorough treatment of general Chemistry including atomic structure, stoichiometry, chemical bonding, states of matter, solutions, acids and bases, reaction rates, equilibrium, thermodynamics and electroChemistry. This course is intended for science, engineering, pre-vet, pre-med, pre-dental and pre-optometry majors. Prerequisite: 1 year H.S. Chemistry or CET 122 or 2 years H.S. Algebra or MAT 073

CET 175
GENERAL/INORG CHEMISTRY
VOC/TECH
43300
A continuation of General and Inorganic Chemistry I. Prerequisite: CET 174 or equivalent

CET 263
ORGANIC CHEMISTRY I
VOC/TECH
53400
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: CET 123 or 1/2 or 1 year college-level general Chemistry

CET 273
ORGANIC CHEMISTRY II
VOC/TECH
53400
A continuation of Organic Chemistry I. Prerequisite: CET 263 or equivalent

CIS 125
INTRO TO PROGRAMMING LOGIC W/L OPEN
VOC/TECH
33000
Basic programming techniques such as writing algorithms, drawing of flow charts and developing programs that include loops and subroutines.
CIS 152 33 000
DATA STRUCTURES
An object-oriented language will be used to introduce commonly used data structures. Programs using these data structures will be developed, written, tested and debugged. Prerequisite: CIS 125 or equivalent

CIS 154 33 000
COMPUTATIONAL STRUCTURES
An object-oriented language will be used to acquaint students with application areas in computer science. Prerequisite: CIS 125

CIS 161 33 000
C++
VOC/TECH
Students will examine the structure of typical C++ programs, explore the concepts of object-oriented programming and design eight small to medium-sized programs in C++. Prerequisite: CIS 125 or equivalent

CIS 164 33 000
ADVANCED C++
VOC/TECH
Review and extend the concepts of class hierarchy, encapsulation, inheritance and polymorphism. Explore class libraries, templates, streaming classes and exception handling. Develop a code for both DOS and Windows applications. Prerequisite: CIS 161

CIS 169 33 000
C
VOC/TECH
This course is an introduction to the C4 language. Object-oriented programs will be developed by students. Prerequisite: CIS 125

CIS 171 33 000
JAVA
VOC/TECH
Students will learn the basic features of the Java programming language and explore the concepts of object-oriented programming, event handling, user interface programming and graphic techniques. Gain practical experience creating and modifying Java applications and applications and embedding Java applets in web pages. Prerequisite: CSS 110

CIS 178 22 000
JAVA PROGRAMMING I
VOC/TECH
Learn Java programming techniques related to information technology and network administration. Prerequisite: NET 223, 623, 628

CIS 179 22 000
JAVA PROGRAMMING II
VOC/TECH
Learn advanced Java programming techniques related to information technology and network administration. Prerequisite: CIS 178

CIS 182 33 000
JSP AND SERVLETS
VOC/TECH
Students will learn server-side features of the Java programming language and explore the concepts of enterprise development. Gain practical experience creating and modifying Java servlets. Java Server Pages (JSP) and Enterprise Java Beans (EJB). Database connectivity will also be examined. Prerequisites: CIS 71, CIS 207

CIS 204 33 000
INTRO TO WEBSITE DEVELOPMENT
VOC/TECH
Introduces HTML and XHTML concepts and technologies. Includes HTML, XHTML, CSS, JavaScript and the Document Object Model (DOM). Students will use a variety of current software development tools to build and publish business-oriented website applications. Prerequisite: CSS 110

CIS 207 32 000
FUND OF WEB PROGRAMMING
VOC/TECH
This course introduces the student to basic concepts, languages and tools used in the development of an e-commerce website. Student will identify effective design concepts and characteristics of successful websites. They will use current tools and techniques to design and create e-commerce websites. Prerequisite: CIS 110 or BCA 212

CIS 210 33 000
WEB DEVELOPMENT I
VOC/TECH
This course is designed to teach 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. Prerequisites: NET 223, 623, 628

CIS 211 33 000
WEB DEVELOPMENT II
VOC/TECH
This course is designed to teach students how to create a website where customers can purchase products over the internet (e-commerce). Students will learn to work with the most widely used server-side scripting languages and Common Gateway Interfaces including, ISAPI, ASP, CGI, Perl and PHP. After completing this course, students will be able to install a Web Server, a Relational Database and create dynamic web content for e-commerce. Prerequisites: CIS 210

CIS 225 33 000
SERVER SIDE WEB PROGRAMMING
VOC/TECH
Introduces Dynamic HTML, cascading style sheets and XML, work with advanced features of FrontPage and will introduce another website development tool. Prerequisite: CIS 207

CIS 227 33 000
INTRO TO XML
VOC/TECH
Introduces XML concepts and coding requirements. Students will create, display, transform and transfer data in XML format as part of an Internet-based application. Course includes XML, XHTML, XML and XSLT. Prerequisite: CIS 110

CIS 303 33 000
INTRODUCTION TO DATABASE
VOC/TECH
This course provides a comprehensive foundation that enables students to understand and use commercially available relational DBMS products effectively. Prerequisite: CIS 110, CIS 352, 402

CIS 332 32 200
DATA BASE AND SQL
VOC/TECH
This course is an introduction to SQL as a database programming language to those already familiar with basic relational database concepts. Students will write executable SQL statements to create and maintain database objects. Prerequisite: CIS 303

CIS 338 32 000
SQL/ORACLE
VOC/TECH
Students will use advanced techniques to retrieve data, format reports and create script files to generate SQL. The course also provides the opportunity to students to write OBOL programs that utilize embedded SQL statements. Prerequisite: CIS 352

CIS 346 33 000
DATA BASE DESIGN
VOC/TECH
Students learn a systematic approach to database development using entity-relationship models, normalization and relational database design. Students will use this approach to identify and define business information requirements, create entity-relationship models and transform the requirements into an initial database design. Prerequisite: CIS 315

CIS 401 33 000
COBOL
VOC/TECH
Introduces the programming language COBOL. Topics include move, logical testing, control, page breaks, totals and others. Emphasis is given to business applications.

CIS 413 44 000
COBOL II
OPEN
Introduces advanced COBOL programming techniques. Emphasis is given to the SORTS verb, multiple list tables and ISAM file access techniques. Prerequisite: CIS 402

CIS 421 43 200
COBOL INTERMEDIATE
VOC/TECH
COBOL ISEE structured programming involving sequential disk, table processing and file update processing, using IBM ICF text editor, VSE/ESA JCL on an IBM/IEE/900 Mainframe. Prerequisite: CIS 402

CIS 431 32 200
COBOL/ADVANCED
VOC/TECH
ANCOBOL involving advanced editing programs, table processing, ISAM file process, programs linkage and report writer. Prerequisite: CIS 493, 401

CIS 435 33 000
COBOL ON THE WORLD WIDE WEB
VOC/TECH
Apply COBOL to the WWW using NetExpress from Merant. Topics include CGI Programs, Data access on the Web, GUI development for HTML based applications. Prerequisites: CIS 402

CIS 463 44 000
CICS
VOC/TECH
Provides theory and working knowledge of telecommunication programming. Students will code programs using CICS. Prerequisite: CIS 431

CIS 485 64 400
PROJECTING PROGRAMS-MAINFRAME
VOC/TECH
Individual projects are assigned that require the student to apply the programming knowledge gained in prerequisite courses to the design and implementation of assigned business applications. Prerequisite: CIS 405

CIS 505 44 000
STRUCTURED SYSTEMS ANALYSIS
VOC/TECH
Designed to acquaint the student with the various considerations in the design of a system. The course considers project initialization, fact gathering, procedures, forms, system implementation and evaluation. Prerequisite: CIS 110, CIS 402

CIS 587 43 200
ASSEMBLER
VOC/TECH
An introductory course in the syntax rules of Assembler language programming. Business problems are analyzed and programmed. Prerequisite: CIS 402. Corequisite: CIS 595

CIS 588 33 000
COMPUTER ORGANIZATION
VOC/TECH
This course focuses on the relationship between computing hardware and machine language instruction sets. Computer system and microprocessors will be examined along with supporting hardware and the organization of their instruction sets. Programming in assembly language is studied in detail. Prerequisite: CIS 125 and CIS 154

CIS 593 43 200
MAINFRAME OPERATIONS
VOC/TECH
Provides an introduction to the requirements of a working knowledge of the Mainframe Operations. The course will cover the design and implementation of assigned business applications. Prerequisite: CIS 125 or equivalent

CIS 604 33 000
VISUAL BASIC
VOC/TECH
An elementary course in the use of the Visual BASIC programming language. The various commands will be presented; and students design, code and test several programs including file processing. Prerequisite: CIS 125 or equivalent

CIS 720 33 000
HELP DESK OPERATIONS
VOC/TECH
The purpose of this course is to provide students with a comprehensive understanding of the helpdesk environment and the knowledge, skills and abilities to work in the user support industry. Students will learn problem-solving and communication skills that are valuable when providing user support. Through hands-on exercises and case projects, students will learn how to apply their knowledge and develop their ideas and skills. They will also learn how to work individually and in teams, that will prepare them for a team-oriented environment. Prerequisite: CIS 110

COM 703 33 000
COMMUNICATION SKILLS
VOC/TECH
Reading, writing, speaking and listening are studied as methods of exploring and evaluating technological advances in trades and industry. Adapting communication for different audiences, evaluating industry-related literature and basic business writing are emphasized.

CON 335 55 000
MATERIALS/CONSTRUCTION THEORY
VOC/TECH
An introduction to the materials used in the construction industry and the methods involved in the application of these building materials.

CON 334 7 15 000
CONSTRUCTION TECHNIQUES
VOC/TECH
A practical hands-on introductory experience that covers the construction process including rough and finish carpentry.

CON 356 10 20 000
CAR/EUSE OF HAND/POWER TOOLS
VOC/TECH
Proper care, use and selection of hand and power tools with an emphasis on maintenance and safety.
CON 337  CONSTRUCTION BLUEPRINT READING  10 200  VOC/TECH
Fundamentals of blueprint reading designed to allow the student to translate plans into practical job experience.

CON 338  MATERIALS TAKEOFF  10 200  VOC/TECH
A study of the techniques needed to create a materials list by reading a blueprint. Prerequisite: CON 337 should be taken concurrently or prior to this course.

CON 341  CONSTRUCTION DRAFTING & DESIGN  21 200  VOC/TECH
An introduction to the fundamentals of design and basic drafting methods. Includes the preparation of the blueprint used to construct the student-built project. Prerequisite: CON 337

CON 342  INTERIOR TRIM PRACTICES  30 700  VOC/TECH
Advanced lab experience that emphasizes complex finish skills. The student will be able to demonstrate the skills and work habits necessary to complete tasks in a safe manner and to adapt previously learned skills to complete more complex building tasks. Prerequisite: CON 334

CON 346  CONCRETE SYSTEMS & FORMING  41 600  VOC/TECH
An introduction to concrete as a material and to concrete design, placement and finish. Identification and application to forming systems will be studied in the classroom and applied in the lab. Prerequisite: CON 336

CON 400  CONST PROCEDURE/APPLICATION I  5 0 000  VOC/TECH
This course includes footings, drainage, foundation, basement insulation and decking. (Five-week session) Prerequisite: CON 333, 346, 342

CON 401  CONST PROC & APPLICATIONS II  5 10 000  VOC/TECH
This course includes exterior wall construction, interior wall construction, ceiling joist framing, rafter framing, exterior trim, window installation and roofing. (Five-week session) Prerequisite: CON 480

CON 402  CONST PROC & APPLICATIONS III  5 10 000  VOC/TECH
This course includes concrete flatwork, insulation, drywall application, cabinet work and interior trim. (Five-week session) Prerequisite: CON 481

CRI 100 – ADVANCED ORIENTATION TO PUBLIC SAFETY  33 000  VOC/TECH
An introduction to the three areas of public safety: law enforcement, corrections and firefighting. This course covers the internal organization culture, the changing external culture and public safety work requirements. The course involves observing and riding with police officers, community corrections officers, visiting a correctional facility and touring a firefighter’s work area.

CRI 109  THEOREM OF INTERVIEWING  33 000  OPEN
The process of gathering information from others: the interviewee, the setting, types of questions, nonverbal communication, deception and theories of communication.

CRI 119  COMMUNITY RELATIONS  33 000  GENERAL
Examination of the role of criminal justice personnel in a democratic society; emphasis on ethical uses of discretion, analysis of officer stress and the popular perceptions of the criminal justice system.

CRI 130  CRIMINAL LAW  33 000  GENERAL
An examination of the elements of offenses and the procedural safeguards in the criminal process.

CRI 132  CONSTITUTIONAL LAW  33 000  GENERAL
A study of the application of constitutional principles to social and political questions including the powers of the national government vs. state government through focus on the incorporation issue and examination of the evolution of civil liberties guarantees.

CRI 135  CORRELATIONAL LAW  33 000  GENERAL
Law in the field of corrections: procedural and substantive rights of both convicts and the state, “good time” detainees, multiple sentences and double jeopardy. Emphasis on sentencing and classification; efforts to reduce sentencing disparity.

CRI 137  JUVENILE LAW  33 000  GENERAL
The social and legal aspects plus theories of juvenile delinquency; examination of procedures, legislation, juvenile court and prevention programs.

CRI 141  CRIMINAL INVESTIGATION  33 000  OPEN
Rudiments of criminal investigation: techniques, principles, problems, sources of information and evidentiary processes.

CRI 147  CRIMINAL INVESTIGATION II  33 000  OPEN
An in-depth study of investigative techniques as applied to specific offenses. Courtroom presentation will also be emphasized.

CRI 165  INTRO TO ELECTRONIC CRIME  33 000  OPEN
This course examines the sources of electronic evidence, the process of gathering and documenting electronic evidence and the associated hardware and software. Topics include hands-on assembly and disassembly of basic computer components; computer applications; tools available for data extraction from seized hardware and software; and courtroom presentation of the data.

CRI 195  CRIME SCENE INVESTIGATION  40 000  OPEN
An in-depth study into the nature of physical evidence including descriptions of forensic analysis, techniques for proper collection and preservation of evidence and interpreting the significance of scientifically evaluated evidence. Coerequisite: CRI 141

CRI 204  INTRODUCTION TO SECURITY  33 000  OPEN
Fundamental principles and practices of physical security, internal security, defense systems and fire safety are discussed in detail. Specific problems in hospital, transportation, retail and computer security are analyzed.

CRI 222  CORRECTIONAL TREATMENT METHODS  33 000  OPEN
Institutional options for preventing recidivism. Introduction to therapeutic techniques. Comparison of punishment, Freutian treatments and behavior modification systems. Student presentation required.

CRI 229  PENOLOGY  33 000  OPEN
The social organization and goals of correctional programs. Principles of institutional corrections and the social structure within institutions. Examination of noninstitutional alternatives include probation and parole.

CRI 248  SCIENTIFIC INVESTIGATION  33 000  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.

CRI 952  INTERNSHIP  3 000 12  OPEN
Involves one hundred fifty hours of active internship for students in an agency other than one in that they may be employed. Synthesis paper required. (P/F) Prerequisite: 24 semester hours of CRI courses with Minimum Grade of “C” in each, CRI 107

CRR 101  SHEET METAL WELDING  20 400  VOC/TECH
Basic skills will be developed in oxygen-acetylene fusion welding and flame cutting. Gas metal arc (GMA) welding equipment and basic understanding of procedures related to auto collision area. Safety is emphasized.

CRR 150  BASIC SHOP SAFETY  11 000  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  32 200  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: CRI 841

CRR 235  SHEET METAL FUNDAMENTALS  52 600  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: CRI 100 must be taken concurrently or prior to this course.

CRR 552  FRAME DAMAGE ANALYSIS  21 200  VOC/TECH
Unibody design and construction has created a need for methods of damage analysis, gauging, measuring and sequencing total collision repair. This course emphasizes new technologies.

CRR 655  ADVANCED COLLISION REPAIR  51 800  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 742  ESTIMATING THEORY  21 200  VOC/TECH
Vehicle damage estimating skills are needed to provide a written report. This report can then be used as a repair guide, a legal document, an analysis report and for business evaluation. Ability to use estimating guides and write estimates accurately will be emphasized.

CRR 760  ADVANCED ESTIMATING  22 000  VOC/TECH
Estimating, customer relations and service selling are all important skills of ownership and management. Hand and computer estimates will be written. Labor, parts and material costs and profits will be studied. Customer and employee relations will be studied. Prerequisite: CRR 742

CRR 841  PRINCIPLES OF REFINISHING  53 400  VOC/TECH
This course will give the student an overall understanding of the complexities of today’s auto refinishing. Developing industry standard preparation habits and spray painting skills with various chemicals will be studied.

CRR 876  REFINISHING PRODUCTION  63 600  VOC/TECH
Industry application of colors and clear coats require the latest information on repair and refinishing of today’s vehicles. This course covers the latest manufacturers’ preferred methods for repair using current colors and chemicals. Color matching will be emphasized. Prerequisite: CRI 877, 202

CRR 877  REFINISHING APPLICATIONS  73 800  VOC/TECH
This course covers the application techniques and equipment used in auto collision repair shops for refinishing and will deal 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 841

CSC 110  INTRO TO COMPUTERS  32 200  OPEN
Presents the basic concepts of computers and the effect that 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.

DEA 253  DENTAL SCIENCE I  44 000  VOC/TECH
Introduction to the various sciences necessary for the dental assistant. Microbiology and oral pathology are covered. Prerequisite: DEA 256 must be taken concurrently or prior to this course.

COURSE DESCRIPTIONS

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COURSE DESCRIPTIONS

DENTAL ANATOMY VOC/TECH

DEA 256 2 2 0 0
The study of head, neck and dental anatomy is combined to give the student background information for application in dental assisting courses.

DENTAL SCIENCE II VOC/TECH

DEA 263 2 2 0 0
A continuation of Dental Science I. Emphasis on effects of drugs and emergency procedures. Prerequisite: CPR certification, DEA 253, 256.

ETHICS/JURISPRUDENCE SEMINAR VOC/TECH

DEA 297 1 1 0 0
Continuation of DEA 591. Also includes the study of the ethics and legal responsibilities of the dental profession, as well as the functions and jurisprudence of the auxiliary personnel. Prerequisite: Semester standing in Dental Assisting program. Corequisite: DEA 577.

DENTAL RADIOGRAPHY II VOC/TECH

DEA 272 2 1 2 0
A continuation of Dental Radiography I. Weekly seminars for basic interpretation of radiographic and laboratory experience to develop student competence in making oral radiographic surveys. Prerequisite: DEA 253, 256, 507, DHY 161.

DENTAL MATERIALS LAB VOC/TECH

DEA 242 1 0 2 0
Through laboratory experience the student learns techniques in preparation and utilization of dental materials. Prerequisite: DEA 256.

PRINCIPALS OF DENTAL ASSISTING VOC/TECH

DEA 527 1 1 0 0
Continuation of Preclinical Dental Assisting (DNA 507) with emphasis on operative dentistry, dental specialties and advanced functions. The laboratory phase develops students’ competencies in clinical assisting. Prerequisite: DEA 253, 256, 501, 424, DHY 221, 161.

DENTAL OFFICE PROCEDURES VOC/TECH

DEA 702 2 2 0 0
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 RPM keyboard skills and computer literacy.

DENT HYG ANATOMICAL SCIENCE OPEN

DHY 114 4 4 0 0
Programmed dental anatomy supplemented by lectures, quizzes and discussions on the development, morphology and functions of the teeth. Anatomy and physiology of the head and neck including mastication. Prerequisite: BIO 164.

DENTAL MATERIALS I OPEN

DHY 101 2 2 0 0
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 110, 171. Corequisite: DHY 102.

DENTAL HYGIENE I OPEN

DHY 102 2 2 0 0

DENTAL HYGIENE II OPEN

DHY 116 3 2 2 0 0
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 optimal oral health. Prerequisite: BIO 164, CHM 132.

DENTAL HYGIENE III OPEN

DHY 123 1 0 2 0
Corequisite: See DHY 102. Prerequisite: DHY 221, 291 Corequisite: DHY 292.

DENTAL HYGIENE IV OPEN

DHY 181, 182 2 2 0 0
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.

DENTAL HYGIENE V OPEN

DHY 301 2 2 0 0
Corequisite: See DHY 302.

DENTAL HYGIENE VI OPEN

DHY 302 2 2 0 0
Corequisite: See DHY 302.

DENTAL HYGIENE VII OPEN

DHY 303 2 2 0 0
Corequisite: See DHY 303.

INTRODUCTION TO THEATRE CORE

DRA 101 3 3 0 0
A survey of the elements and techniques of theatre with emphasis on acting, directing and playwriting. Attendance at dramatic production encouraged.

DRA 120 3 3 0 0
Training of the body, voice and mind as acting instruments. Course includes acting exercises, scene analysis and performance.

DRA 147 3 3 0 0
Elements of improvisational acting. Students will learn approaches for participating in, as well as leading creative drama activities.

DRA 945 2 2 0 0 0
Practicum I General
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 0 6 0
Practicum II General
See DRA 945.

DRA 948 4 0 8 0
Practicum III General
See DRA 945.

BASIC ELECTRICITY VOC/TECH

DSL 145 5 1 8 0 0
An introduction to basic electricity and electronic principles that apply to diesel-powered equipment. Systems and components covered include starting, charging, lighting and accessories.
COURSE DESCRIPTIONS

DSL 355  51800  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  61100  DIESEL ENGINES I  VOC/TECH
Instruction provided in the technical and nontechnical aspects of diesel engines. This information will give the student the basic understanding needed to continue in the Diesel Mechanic program.

DSL 366  61100  DIESEL ENGINES II  VOC/TECH
Instruction in diagnosing problems and the nature of repairs needed. Information on preventive measures to eliminate failures. Prerequisite: DSL 356

DSL 407  61100  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  52600  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 service operations.

DSL 546  62800  POWER TRAINS I  VOC/TECH
Classes and lab activities in the design and operation of drive train components including clutches, manual transmissions, drive lines, rear axles and wheel bearings.

DSL 555  51800  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  51800  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 brake systems.

DSL 733  31400  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 830  51800  OPERATION & MAINTENANCE  VOC/TECH
Instruction in the proper methods of maintaining all equipment. Safety will be emphasized.

DSL 845  51800  HEAVY EQUIPMENT REPAIR  VOC/TECH
Instructor 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  51800  TRUCK REPAIR  VOC/TECH
Instructor 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

DTM 350  11000  HEALTH FIELD  VOC/TECH
Roles of dietary personnel in health facilities and state and federal guidelines. Explore managerial aspects within facilities.

DTM 351  10200  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.

DTM 352  22000  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.

DTM 353  11000  NUTRITION LIFE CYCLE  VOC/TECH
An in-depth study (social, physiological and psychological need) of residents from infancy to geriatric. Explore the therapeutic role of food.

DTM 354  11000  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 appealing.

DTM 355  11000  FOOD PRODUCTION MANAGEMENT  VOC/TECH
Total production needs, equipment layout, work methods, food storage, food preparation, service, sanitation and use of computers in food service.

DTM 356  22000  FOOD SERVICE MANAGEMENT  VOC/TECH
The management functions required to organize and maintain an efficient, quality dietary department are developed.

DTM 361  10004  FOOD PREP FIELD EXPERIENCE  VOC/TECH
Application and evaluation of food preparation in a health care facility. Practical experience in a selected health care facility supervised by a registered dietitian. (P/F)

DTM 362  10004  SANITATION/MEAL SERVICE FIELD EXP  VOC/TECH
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. (P/F)

DTM 363  10004  NUTRITION LIFE CYCLE FIELD EXP  VOC/TECH
Application and evaluation of nutritional aspects in health care facilities. Practical experience in a selected health care facility supervised by a registered dietitian. (P/F)

DTM 364  10004  MODIFIED DIET/FIELD EXPERIENCE  VOC/TECH
Application and evaluation of modified diets in health care facilities. Practical experience in a selected health care facility supervised by a registered dietitian. (P/F)

DTM 365  10004  FOOD PRODUCTION FIELD EXP  VOC/TECH
Application and evaluation of food production in health care facilities. Practical experience in a selected health care facility supervised by a registered dietitian. (P/F)

DTM 366  10004  FOOD SERVICE MGMT FIELD EXP  VOC/TECH
Application and evaluation of food service management in health care facilities. Practical experience in a selected health care facility supervised by a registered dietitian. (P/F)

ECE 101  11000  INTRO TO EARLY CHILDHOOD ED  OPEN
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 121  22000  PROFESSIONAL RELATIONSHIPS  VOC/TECH
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 130  11000  EMERGENCY CARE  OPEN
Cardio-pulmonary resuscitation according to Iowa Heart Guidelines. Childcare 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 133  32000  CHILD HEALTH, SAFETY & NUTRITION  OPEN
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  ASSESS PLAN-YOUNG CHILDREN  OPEN
Course presents students with individually and developmentally appropriate assessment and planning skills for the care and early education of children in a variety of inclusive 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  GP EXPS FOR EC PROGRAMS  OPEN
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  CURRICULUM-PRESCCHOOL CHILDREN  OPEN
Planning of developmentally and individually appropriate activities for children three through five 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 153  33000  EARLY CHILDHOOD DEVELOPMENT  OPEN
Course covers typical and atypical development of children from birth through six 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 220  33000  INFANT/TODDLER CARE & EDUC.  OPEN
Course focuses on best practices for care and education of children birth through two years of age in an integrated setting. Health, safety, cultural and communication issues, as well as developmentally appropriate activities are covered.

ECE 242  22000  EARLY CHILDHOOD GUIDANCE  OPEN
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  STUDENT PARTICIPATION I  OPEN
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. Prerequisite or corequisite: ECE 100, 148, 149 & 242 or instructor permission.

ECE 266  30090  STUDENT PARTICIPATION II  OPEN
A continuation of Student Participation I in that 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”). Corequisite: ECE 147 or instructor permission

ECE 267  30012  EARLY CHILDHOOD ED ASSOC PRACT  OPEN
Placement for the associate degree student in a community-based program for typically and atypically developing young children in an inclusive setting. The practicum is designed to further build 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 230 and ECE 201

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**COURSE DESCRIPTIONS**

**ECN 201**
**PRACTICUM**
2008
Placement in a community-based program for typically or atypically developing young children in an inclusive setting. Emphasis is on the development of competencies necessary for employment in a similar setting. Prerequisite: completion of 10 credits in Early Childhood Education with a 2.0 GPA or permission of instructor.

**ECN 290**
**EARLY CHILDHOOD PROGRAM ADMIN**
33000
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.

**ECN 120**
**PRINCIPLES OF MACROECONOMICS**
CORE
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. ECN 201 is not a prerequisite for ECN 130.

**ECN 130**
**PRINCIPLES OF MICROECONOMICS**
CORE
This course covers survey of demand and supply conditions, cost structure, market structure and how these elements affect individual households, business firms, government and global trade. ECN 120 is not a prerequisite for ECN 130.

**EDU 215**
**INTRO TO EDUCATION**
33000
Presents a broad overview of the 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 218**
**INITIAL FIELD EXPERIENCE**
OPEN
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**
**EXCEPTIONAL LEARNER**
OPEN
A survey of exceptional learners in the classroom will be explored. History, philosophy, current issues, trends and mainstreaming will be discussed.

**EGT 100**
**ENGINEERING FORTRAN**
OPEN
The FORTRAN language in batch and interactive modes with an emphasis on solutions to engineering problems. Prerequisite: MAT 130 must be taken concurrently with or prior to this course.

**EGT 185**
**ENGINEERING C/C++**
OPEN
Learn to solve engineering problems by computer using the C/C++ language. Emphasis is placed on program logic, organization and numerical methods. Prerequisite: MAT 130 must be taken concurrently with or prior to this course.

**EGT 190**
**ENGR GRAPHS/CONCEPT DESIGN**
OPEN
An integration of 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 130 must be taken concurrently with or prior to this course.

**ELE 140**
**ADVANCED MOTOR CONTROLS**
32200
VOC/TECH
Additional topics in industrial motor controls. Course includes wiring of AC and DC motors, power distribution, solid state controls, proximity controls and frequency drives. Prerequisite: ELE 303, 134.

**ELE 106**
**BASIC MATH FOR ELECTRONICS**
33000
VOC/TECH
Mathematics related to basic electronics. It includes basic algebra, right triangle trigonometry, scientific notation, with applications to DC and AC circuitry.

**ELE 108**
**MATH - ELECTRONICS & COMPUTERS**
40000
VOC/TECH
Introduction to mathematical skills needed by electronics/computer technicians.

**ELE 119**
**PROGRAMMABLE LOGIC CONTROLLERS**
32200
VOC/TECH
This course covers PLC operation and programming techniques to include relay logic, timers, counters, sequencers, discrete I/O, analog I/O, networking, remote I/O, workstations, advanced programming techniques and interfacing with personal computers. Prerequisite: ELE 114.

**ELE 125**
**ADVANCED PLC**
32200
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.

**ECE 126**
**INDUSTRIAL ELECTRONICS**
22000
VOC/TECH
The devices and circuits used in thyristor control of machines are presented. It includes phase control of DC motors, trac control of AC motors, as well as various speed control circuits. Prerequisite: ELE 114.
ELT 387 ELECTRIC CIRCUIT ANALYSIS II VOC/TECH 3 0 0 0 0 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 385, 386. Corequisite: ELT 388

ELT 388 ELECTRIC CIRCUIT ANALYSIS II LAB VOC/TECH 3 0 0 0 0 An analysis of solid-state circuitry. It includes both transistor and integrated circuit experiments. Linear amplifiers and active filters are evaluated. Students will attend a minimum of three industrial tours, that may take place outside of regular class time. Prerequisite: ELT 385, 386. Corequisite: ELT 387

ELT 389 FABRICATION TECHNIQUES VOC/TECH 3 1 4 0 0 Rendering of isometric and orthographic projection drawings. Soldering techniques, fabrication of sheet metal enclosures and production of printed circuit boards using photographic and etching methods.

ELT 474 COMMUNICATIONS SYSTEMS VOC/TECH 3 0 0 0 0 The analysis of communications systems including transmission and reception of AM and FM radio, television, satellite and microwave including antennas and transmission line theory. Prerequisite: ELT 387, 388. Corequisite: ELT 475

ELT 475 COMMUNICATIONS SYSTEMS LAB VOC/TECH 3 0 0 0 0 Laboratory experiments in radio, television, satellite and microwave systems including the construction and alignment of a broadcast radio receiver. Prerequisite: ELT 387, 388. Corequisite: ELT 474

ELT 478 BASIC IMAGING DEVICES VOC/TECH 3 0 0 0 0 An analysis of various imaging systems including laser printers, copiers, fax machines, scanners and accessories such as document feeders and sorters, monitors, camera, LCD displays. Prerequisite: ELT 387, 388. Corequisite: ELT 479

ELT 479 BASIC IMAGING DEVICES LAB VOC/TECH 3 0 0 0 0 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 478

ELT 482 SECURITY SYSTEMS VOC/TECH 3 0 0 0 0 Analysis of video monitoring systems, fire and intruder alarm systems, climate control systems. Prerequisite: ELT 781, 782. Corequisite: ELT 485

ELT 483 SECURITY SYSTEMS LAB VOC/TECH 4 0 8 0 0 Installation, maintenance and troubleshooting of various security systems. Prerequisite: ELT 781, 782. Corequisite: ELT 482

ELT 484 MEDICAL ELECTRONICS SYSTEMS VOC/TECH 3 0 0 0 0 This course trains the student in electrical safety testing and the repair, calibration and preventive maintenance of patient monitoring equipment such as ECG, blood pressure, defibrillators, ION, 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
COLLEGE PREPARATORY WRITING II  3 3 0 0 0  
Prepares students for college-level writing through a focus on individual career goals. Prerequisite: ENG 105

ENG 104  1 1 0 0 0  
THE WRITING STUDIO  
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  3 3 0 0 0  
COMPOSITION I  
Core  
Designed to help students read and write effectively. Exploration of the relationship of audience to writer and material. Emphasis on developing concrete details to support main ideas. Prerequisite: Satisfactory writing skills

ENG 106  3 3 0 0 0  
COMPOSITION II  
Core  
Expository and persuasive writing development through critical reading. The course explores structure, style, research and documentation. Prerequisite: ENG 105

ENG 108  3 3 0 0 0  
COMP II: TECHNICAL WRITING  
Core  
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 221  3 3 0 0 0  
CREATIVE WRITING  
General  
An introduction to the techniques of writing poetry and fiction. Students will read the works of professional writers and apply the principles of imaginative writing to their own work.

ENG 225 – ADJUNCT  3 3 0 0 0  
CREATIVE WRITING: POETRY  
General  
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 – ADJUNCT  3 3 0 0 0  
CREATIVE WRITING: FICTION  
General  
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  3 3 0 0 0  
PLAYWRITING AND SCREENWRITING  
General  
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 116  1 0 2 0 0  
ENVIRONMENTAL SCIENCE LAB  
Core  
This lab supplements discussion in B110. 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  3 2 2 0 0  
RESTORING PLANT COMMUNITIES  
General  
Introduction to restoration of native plant communities in Iowa. Identification of common native prairie, savanna, forest and wetland communities, common plants and animals. Identification of invasive plants. Field techniques for reestablishment and maintenance of native plant communities. Supervised field work at actual restoration sites. Prerequisites: ENV 116, 119, 158 or instructor permission

FSM 035  3 2 2 0 0  
HIGH INTER ESL LISTENING/CONVERS  
Core  
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. Course preparatory courses cannot be used to fulfill degree requirements.

FSM 034  3 2 2 0 0  
ADV ESL LISTEN/CONVERS SKILLS  
Core  
For advanced students to develop fluency in English and to improve the listening and conversation skills needed for careers and academic study. Classroom activities are supplemented by individualized listening and pronunciation exercises.

FSM 025  3 2 2 0 0  
COMMUNICATIVE GRAMMAR FOR ESL  
Core  
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 tense, passive voice, reported speech, conditions, etc. This course cannot be used to fulfill degree requirements. Prerequisite: Minimum score on the TOEFL or Michigan Test

FSM 096  3 2 2 0 0  
ESL 100  
INTRODUCTION TO INVESTMENTS  
General  
This course 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.

FIR 124  3 3 0 0 0  
BUILDING CONSTRUCTION  
General  
Study of building materials, components and design features with regard to their reactions under fire conditions. Course also includes interpretation of Life Safety Code (I-32316) and its application to proposed and existing structures. Prerequisite: FIR 220

FIR 130  3 3 0 0 0  
PRINCIPLES OF FIRE PREVENTION  
General  
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 fire financial management. Prerequisite: FIR 220, 152, 220

FIR 152  3 3 0 0 0  
FIRE PROTECTION SYSTEMS  
General  
An examination of devices and systems installed and utilized to support the fire service in the detection and suppression of fire. Prerequisite: FIR 230

FIR 182  3 3 0 0 0  
HAZARDOUS MATERIALS  
General  
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. Prerequisite: CMM 112 and FIR 220

FIR 200  3 3 0 0 0  
OCCU S/H IN EMERGENCY SERVICES  
General  
This course surveys the banking functions. It provides a comparison of bank accounts and the methods used to determine point of origin, cause and travel of fire within a structure.

FIR 220  3 3 0 0 0  
EMERGENCY SCENE MANAGEMENT  
General  
This course is designed to help develop strategic plans for fire protection of 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.

FLA 141  4 4 0 0 0  
ELEMENTARY ARABIC I  
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  4 4 0 0 0  
ELEMENTARY ARABIC II  
Core  
Continue to acquire an elementary level of Arabic language skills of reading, writing, grammar and conversational communications. Reading and conversation will be emphasized. Prerequisite: FLA 141 or permission of instructor
COURSE DESCRIPTIONS

FLA 241  
INTERMEDIATE ARABIC I  
CORE  
Continued to acquire a higher level of Arabic language skills of reading, writing, grammatical and conversational communications. Writing, grammar and conversation will be emphasized. Prerequisite: FLA 142 or permission of instructor

FLA 242  
INTERMEDIATE ARABIC II  
CORE  
Continued to acquire a higher level of Arabic language skills of reading, writing, grammatical 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  
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  
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

FLC 241  
INTERMEDIATE CHINESE I  
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  
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

FLS 151  
ELEMENTARY SPANISH I  
CORE  
Development of the basic skills of understanding, speaking, reading and writing Spanish. Grammar analysis, classroom conversational practice and some exploration of the Italian culture.

FLS 152  
ELEMENTARY SPANISH II  
CORE  
Continued practice of the four basic skills and grammar analysis. Introduction of short prose selections with conversational emphasis. Prerequisite: FLS 151 or instructor permission

FLS 241  
INTERMEDIATE SPANISH I  
CORE  
Review of essential grammatical constructions emphasizing major areas of difficulty for English speakers. Use of Spanish cultural and literary materials to develop conversational skills. Prerequisite: FLS 152 or instructor permission

FLS 242  
INTERMEDIATE SPANISH II  
CORE  
Continued review of grammatical constructions using Spanish cultural materials. Reading, writing and conversation will be emphasized in the context of cultural issues and current events. Prerequisite: FLS 241 or instructor permission

FLJ 141  
ELEMENTARY JAPANESE I  
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  
CORE  
Continued practice of the four basic skills and grammar analysis. Introduction of short prose selections with conversational emphasis. Prerequisite: FLJ 141 or instructor permission

FLJ 241  
INTERMEDIATE JAPANESE I  
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: FLJ 142 or instructor permission

FLJ 242  
INTERMEDIATE JAPANESE II  
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: FLJ 241 or instructor permission

FLI 141  
ELEMENTARY ITALIAN I  
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  
CORE  
Continued practice of the four basic skills and grammar analysis. Introduction of short prose selections with conversational emphasis. Prerequisite: FLI 141 or instructor permission

FLI 241  
INTERMEDIATE ITALIAN I  
CORE  
Review of essential grammatical constructions emphasizing major areas of difficulty for English speakers. Use of Italian cultural and literary materials to develop conversational skills. Prerequisite: FLI 142 or instructor permission

FLI 242  
INTERMEDIATE ITALIAN II  
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: FLI 241 or instructor permission

GEO 111  
CULTURAL GEOGRAPHY  
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.

GEO 124  
THE CHANGING TRADITION  
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  
CORE  
This course surveys the civilizations of the Middle East from Muhammad and Islam to the Islamic caliphate and civilization, Ottoman, modern, Western European, Arab-Israeli conflict, contemporary Islamic revival, instability and terrorism, Muslim diaspora and the strategic importance of the Middle East to the United States and world economy.

GEO 210  
LATIN AMERICA  
CORE  
This course examines the varied history, diverse peoples and cultures of Latin America and the Caribbean beginning with the geography, pre-Colombian peoples, the European invasion, colonial societies, independence, modernization, American influence, economic, political, cultural and social developments in the recent past to the present.

GEO 220  
INTRO TO INTERNATIONAL STUDIES  
CORE  
This course introduces the student to the basic concepts and their historical, geographical, political, cultural, economic, health, human rights, gender and ethnic communities around the world.

VISIT US ONLINE: www.DMACC.edu
COURSE DESCRIPTIONS

GRT 404 TYPOGRAPHY II
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: GRT 403

GRT 405 TYPOGRAPHY III
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.

GRT 407 PRODUCTION ART I
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.

GRT 410 ILLUSTRATION
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.

GRT 411 COMMUNICATION DESIGN II
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: GRT 407

GRT 412 COMMUNICATION DESIGN III
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: GRT 411

GRT 413 COMMUNICATION DESIGN IV
Lab and lecture study of advanced design problems with emphasis on a Capstone Project. Prerequisite: GRT 412

GRT 421 PRODUCTION ART II
This will add to student's qualifications from taking Production Art I by emphasizing color and advanced camera-ready art for printing. Prerequisite: GRT 407

GRT 420 ILLUSTRATION II
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: GRT 407

GRT 444 PORTFOLIO PREPARATION II
Students wills study more in-depth principles of electronic prepress including color management and color correction. Students will learn to prepare and output digital files to various media. Prerequisites: GRT 400, 401 and 406

GRT 428 PORTFOLIO PREPARATION I
Students seeking employment must have a well prepared portfolio. A professional portfolio will be prepared by each student and reviewed through an Instructor and student activities.

GRT 437 COMMUNICATION DESIGN III
Lab and lecture study of advanced design problems with emphasis on a Capstone Project. Prerequisite: GRT 412

GRT 440 PRODUCTION ART IV
To complete the study of production art, emphasis will be on the preparation of portfolio projects. Prerequisite: GRT 437

GRT 441 ILLUSTRATION III
Lab and lecture study of color theory and various media. Emphasis on creative solutions to specific communication projects. Prerequisite: GRT 414

GRT 442 COMPUTER GRAPHICS Lib
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.

GRT 446 ELECTRONIC PHOTO EDITING
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. Prerequisite: GRT 301

GRT 400 INTRO TO PRINTING METHODS
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.

GRT 401 INTRO TO GRAPHIC COMMUNICATION
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.

GRT 405 ADVANCED PRINTING METHODS
This course will do advanced work in multi-color printing. This class will also cover all bindery operations including folding, setting. Prerequisite: GRT 406 or GRT 416

GRT 409 PROJECT PLANNING & MANAGEMENT
A planning and management course specifically for print technology students. Course will involve the development of a capstone project utilizing their knowledge and experience in all aspects of print production. Prerequisite: GRT 408

GRT 410 PRINTING METHODS I
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 both printing technologies. Prerequisites: GRT 400, 401, 409, 410

GRT 411 ELECTRONIC PREPRESS I
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: GRT 421

GRT 426 DIGITAL PUBLISHING III
An advanced-digital publishing course 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 develop and produce various projects. Prerequisite: GRT 406, 416, 421

GRT 427 DIGITAL PUBLISHING II
This course is an introduction to the process of preparing digital files for professional print production with the focus on digital imaging. Students will learn to scan various images and procedures of using a digital camera. Additionally, students will learn to use Adobe Photoshop to modify, color correct and work with color profiles. Finally, students will learn to prepare and output digital files to various media. Prerequisites: GRT 400, 401 and 406

GRT 428 DIGITAL PUBLISHING CAPSTONE
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 printing production. Resume and portfolio preparation are also covered. Prerequisite: Completion of terms 1 and 2 of the Graphic Technologies program and GRT 420, 427

GRT 429 ELECTRONIC PREPRESS II
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 GRT 425, 426

GRT 430 ELECTRONIC IMAGE CONTROL
An advanced-level course in digital image enhancement and color control. Students will learn advanced digital image manipulation and colorization skills utilizing Adobe Photoshop. Instruction will focus on image enhancement, restoration and color correction for both print and internet publication. Prerequisite: GRT 301, GRT 416 & 421

GRT 431 ELECTRONIC PREPRESS II
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: GRT 421

GRT 432 PRINTING METHODS CAPSTONE
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 printing production. Resume and portfolio preparation are also covered. Prerequisite: Completion of terms 1 and 2 of the Graphic Technologies program and GRT 420, 427

GRT 932 INTERNSHIP
On-the-job training for Graphic Design students. Included is a weekly seminar for the exchange of information, review and evaluation. Prerequisite: Completion of terms 1, 2, and 3 of the Graphic Technologies program.

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COURSE DESCRIPTIONS

HCM 100 22 00 00 SANITATION & SAFETY VOC/TECH
Principles and methods of sanitation safety and equipment. Equipment selection and facilities planning. Also includes preventive maintenance.

HCM 104 10 20 00 SANITATION & EQUIPMENT LAB VOC/TECH
The lab consists of sanitation practices. The student will carry out the practice of table service for international cuisine dinners and apply sanitation measures. (P/F)

HCM 110 20 40 00 BAKING (LAB)
This course offers instruction in the baking fundamentals and procedures as applied to bread, rolls, cakes, pastries and cake decorating. Practical experience in sanitation, safety and the use of large equipment is also emphasized. Prerequisite: HCM 143, 144 or instructor permission

HCM 124 20 40 00 ADV. BAKING/BUFFET DECORATING VOC/TECH
Advanced principles and procedures of producing baked goods, decorative work and display pieces. Prerequisite: HCM 110, 270

HCM 143 33 00 00 FOOD PREPARATION I VOC/TECH
Introduces the student to the scientific principles used in food preparation. Emphasizes preparation procedures and techniques to be used with fruits, vegetables, starch products, cheese, eggs, meat, poultry and fish. Establishes the criteria needed to produce a standard product. Corequisite: HCM 144

HCM 144 30 60 00 FOOD PREPARATION II LAB VOC/TECH
Preparation of small servings of salads, starch, cheese, egg, meat, poultry and fish products using the techniques studied in lecture. Oral and written evaluation of each product. Corequisite: HCM 145

HCM 152 22 00 00 FOOD PREPARATION II VOC/TECH
The study of the principles and procedures of quantity food production as they apply to salads, soups, vegetables, entrees and desserts. Emphasis is on organization and recipe standardization. Prerequisite: HCM 143, 144

HCM 153 20 40 00 FOOD PREPARATION II LAB VOC/TECH
The production of quick breads, desserts, salads, vegetables, soups and main entrées to be sold to the public. Time is spent on an individual recipe production project. Prerequisite: HCM 143, 144

HCM 167 30 60 00 CULINARY SKILLS DEVELOPMENT VOC/TECH
Students produce and serve meals for the public in an actual restaurant experience. Emphasis is on various management functions required to serve quality foods efficiently and intermediate culinary preparation techniques. Prerequisite: HCM 152, 153

HCM 168 22 00 00 ADVANCED CULINARY VOC/TECH
Discussion of the more intricate and difficult cooking principles and techniques of classical cuisine and planning for advanced culinary cuisine. Prerequisite: HCM 167 Corequisite: HCM 169

HCM 169 40 80 00 CULINARY CUISINE LAB VOC/TECH
Preparation of intricate and difficult classical cuisine dishes. Students will rotate through the cooking stations of the traditional brigade kitchen and then prepare food for the public. A la carte preparation is emphasized. Prerequisite: HCM 167. Corequisite: HCM 168

HCM 172 30 60 00 INTERNATIONAL CUISINE (LAB) VOC/TECH
Application of gourmet cooking through actual quantity preparation of eight-course international dinners. Four evening gourmet dinners will be prepared and served during the semester. Prerequisite: HCM 152, 153. Corequisite: HCM 173

HCM 173 22 00 00 INTERNATIONAL CUISINE VOC/TECH
Students research and plan international dinners. Emphasis is on menu and production planning for four- to five-course gourmet dinners. The lecture will also focus on the pronunciation and definition of French terms. Prerequisite: HCM 152, 153. Corequisite: HCM 172

HCM 175 30 60 00 INTERNATIONAL CUISINE LAB II VOC/TECH
Application of gourmet cooking through actual quantity preparation of eight-course international dinners. Four evening gourmet dinners will be prepared and served during the semester. Prerequisite: HCM 152, 153

HCM 200 20 40 00 DINING ROOM SERVICE VOC/TECH
A dining room service course in an actual restaurant experience with emphasis on using sound management techniques and quality customer service.

HCM 210 22 00 00 DINING MANAGEMENT VOC/TECH
Students will plan menus and meal service in actual restaurant experience. Emphasis is on using sound management techniques for producing high-quality food and service to the public. Prerequisite: HCM 152, 153

HCM 221 22 00 00 NUTRITION VOC/TECH
An overview of nutrition-related topics including the psychology of eating and evaluation of food intake.

HCM 226 33 00 00 HUMAN NUTRITION VOC/TECH
Understanding and implementing present-day knowledge of nutrition; the use of food for health and satisfaction of the individual and family.

HCM 240 22 00 00 MENU PLANNING & DESIGN VOC/TECH
This course applies the principles of menu planning and layout to the development of menus for a variety of types of facilities and service.

HCM 250 22 00 00 PURCHASING VOC/TECH
Principles and methods of food purchasing with emphasis on specifications and grading of various food products. Includes financial procedures and controls used in the food service industry.

HCM 270 20 40 00 GARDE MANGER VOC/TECH
Application of techniques used in preparation of hot and cold hors d’oeuvres, decorative food displays and ice carvings. Emphasis is placed on aspics, galantines and buffet presentations. Prerequisite: HCM 145, 144

HCM 300 22 00 00 BEVERAGE MANAGEMENT VOC/TECH
This course will familiarize the student with all aspects of beverage service including wine and alcohol laws. The basic mechanics of beverage preparation, sales and promotion will be covered.

HCM 320 22 00 00 INTRO TO HOSPITALITY INDUSTRY VOC/TECH
Course introduces students to the broad world of hospitality while preparing them for careers in the field. Discussed will be three primary areas of hospitality—food and beverage, lodging and tourism, along with an introduction to business basics.

HCM 350 3 00 02 WORK EXPERIENCE VOC/TECH
An approved program of experience in one of the many hospitality areas: restaurant, hospital, club, school food service, hotel or motel. (P/F)

HCM 600 5 00 20 HOTEL SERVICE INTERNSHIP VOC/TECH
An approved program of work experience in one of the many hotels/motel properties in the area. Prerequisite: HCM 520. Corequisite: HCM 600

HCM 650 5 20 00 HOTEL ADMINISTRATION VOC/TECH
A management course that introduces the student to advanced studies of property management, catering, sales, service to the public. A la carte preparation is emphasized. Prerequisite: HCM 650

HCM 690 4 00 80 RESIDENTIAL HEATING & AC VOC/TECH
Residential heating and cooling basics. Study of installation and service procedures through class and lab practices. Prerequisite: HCM 307

HCM 695 5 26 00 RESIDENTIAL HEATING & AC LAB VOC/TECH
This course covers installation and troubleshooting techniques dealing with residential heating, cooling and refrigeration systems. Prerequisite: HCM 253

HCM 700 3 14 00 HVAC TRADE SKILLS 1 VOC/TECH
This course covers all types of soldering and brazing used in the heating, air conditioning refrigeration industry.

HCM 701 4 00 16 HVAC TRADE SKILLS 2 VOC/TECH
On-the-job training for Heating, Air Conditioning, Refrigeration program students who have a "C" average or better in the program. Must have valid driver’s license. Prerequisite: HCM 235, 440, 315

HIS 112 4 4 00 WEST CIV: ANCIENT TO EARLY MOD CORE
The student surveys the great civilizations from Greece and Rome through the rise of Christianity, to Europe in the Middle Ages, the Renaissance and Reformation, the modern state, the new science and the secular outlook, parliamentary government in England and political absolutism in France and Eastern Europe.
Course Descriptions

Itp 152

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.

Itp 146

Asl Interpret Voice to 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 voice 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.

Itp 153

Asl Interpret Voice to Ii

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 interpreting 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 signing. Special requirements of voice interpreting will also be included, such as methods and techniques of voice-over, voice for Deaf individuals who use ASL, as well as Deaf individuals who may not use ASL. Prerequisite: Admission to the American Sign Language Interpreter Program or permission from the department chair.

Itp 154

Asl Interpret Sign to 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 interpreting 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 signing. Special requirements of voice interpreting will also be included, such as methods and techniques of voice-over, voice for Deaf individuals who use ASL, as well as Deaf individuals who may not use ASL. Prerequisite: Admission to the American Sign Language Interpreter Program or permission from the department chair.

Itp 190

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 Interpreter Training Program or permission from the department chair.

Itp 192

Asl Interpreting Internship

This course provides real-time experience within the professional field of interpreting. The experience will include 360 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 assigned and experiential learning moments of related interpreting contact. Other requirements specific to 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-space, 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 theDMACC ASL-ITP program or completion of program equivalent of the DMACC ASL-ITP program and authorization by the department chair.

Itp 101

Intro Interpret & Translation

A general introduction to the field of oral language interpreting and translation (OT) 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.

Itp 102

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 TRAOOG translation memory program. Pre-requisite: ITP 190 or permission of instructor.

Itp 111

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, Concurrent 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. Pre-requisite: ITP 110 or instructor permission.

Itp 115

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. Determination of comparative meanings, formal properties of texts, language variety. Glossary development. Prerequisite: ITP 115 or instructor permission and a functional proficiency in English and a second language.

Itp 120

Ethics for the Interpret/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 grade of “C” in all ITP courses and complete minimum of three ITP courses.

Itp 121

Legal Term & Sight Translation


Itp 122

Healthcare Interpretation I

Advanced consecutive interpreting training—listening, analysis, memorization and interpreting—as applied to healthcare situations. Intensive practice in interpreting for the following healthcare proceedings: emergency room (cardiovascular, trauma, childbirth, sexual assault, infectious diseases) and mental health consultations/interventions. Continued development of healthcare terminology. Proper positioning and situational control for simultaneous interpreting. Advanced use of simultaneous interpreting equipment. Prerequisite: ITP 100.

Itp 123

Judiciary Interpreting II

Advanced simultaneous interpreting training—dual tasking, 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, sentencing hearings. Advanced use of simultaneous interpreting equipment. Prerequisite: ITP 131.

Itp 137

Healthcare Term & Sight Trans


Itp 140

Healthcare & Sight Trans

Advanced simultaneous interpreting training focusing on healthcare/medical documents. Lexicographical training in locating, understanding and using frequently used legal terminology in healthcare environments. Intensive practice in interpreting the following types of legal documents: plea agreements, birth certificates, contracts, wills. Prerequisite/Corequisite: ITP 129 Legal Term and Sight Trans.

Itp 150

Healthcare Interpreting

Advanced consecutive interpreting training—listening, analysis, memorization and interpreting—as applied to healthcare situations. Intensive practice in interpreting for the following healthcare proceedings: emergency room (cardiovascular, trauma, childbirth, sexual assault, infectious diseases) and mental health consultations/interventions. Continued development of healthcare terminology. Proper positioning and situational control for simultaneous interpreting. Advanced use of simultaneous interpreting equipment. Prerequisite: ITP 141.

Itp 152

Legal Term & Sight Trans

Advanced simultaneous interpreting training focusing on healthcare/medical documents. Lexicographical training in locating, understanding and using frequently used legal terminology in healthcare environments. Intensive practice in interpreting for the following court proceedings: emergency room (cardiovascular, trauma, childbirth, sexual assault, infectious diseases) and mental health consultations/interventions. Continued development of healthcare terminology. Proper positioning and situational control for simultaneous interpreting. Advanced use of simultaneous interpreting equipment. Prerequisite: ITP 141.

Itp 155

Advanced sight translation training focusing on healthcare/medical documents. Lexicographical training in locating, understanding and using frequently used legal terminology in healthcare environments. Intensive practice in interpreting the following types of legal documents: plea agreements, birth certificates, contracts, wills. Prerequisite/Corequisite: ITP 129 Legal Term and Sight Trans.

Itp 156

Healthcare Interpreting II

Advanced simultaneous interpreting training focusing on healthcare/medical documents. Lexicographical training in locating, understanding and using frequently used legal terminology in healthcare environments. Intensive practice in interpreting the following types of legal documents: plea agreements, birth certificates, contracts, wills. Prerequisite/Corequisite: ITP 129 Legal Term and Sight Trans.

Itp 157

Healthcare & Sight Trans

Advanced simultaneous interpreting training focusing on healthcare/medical documents. Lexicographical training in locating, understanding and using frequently used legal terminology in healthcare environments. Intensive practice in interpreting the following types of legal documents: plea agreements, birth certificates, contracts, wills. Prerequisite/Corequisite: ITP 129 Legal Term and Sight Trans.

Itp 158

Healthcare Interpreting

Advanced written translation training focusing on healthcare/medical documents. Lexicographical training in locating, understanding and using frequently used legal terminology in healthcare environments. Intensive practice in interpreting the following types of legal documents: discharge information, living will, patient educational materials. Prerequisite/Corequisite: ITP 141.
COURSE DESCRIPTIONS

ITR 805  GENERALIST/LT INTERNSHIP  210 30
Application of the knowledge, skills and attitudes gained in the classroom by interning under qualified 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/translating assignments in appropriate monitored situations. (P/F) Prerequisite: Minimum cumulative GPA of 2.5 in all Interpretation and Translation Generalist Certificate coursework. Corequisite: ITR 120

ITR 810  HEALTHCARE/LT INTERNSHIP  210 30
Application of the knowledge, skills and attitudes gained in the classroom by interning under qualified/certified interpreters and translators in a variety of healthcare environments. Interns will begin by shadowing their mentor and then move into actual interpreting/translating assignments in appropriate monitored situations. (P/F) Prerequisite: Minimum grades of “C” in all ITR courses. Corequisites: ITR 110 or ITR 115

JOU 110  INTRO TO MASS MEDIA  3 3 0 0 0
A survey of specialized fields of judiciay interpretation/translation, healthcare interpretation/translation, human services interpretation/translation, educational interpretation/translation and business translation/interpretation. Introduction to typical texts and interpreting situations in each specialty area. Students must take this course before enrolling in a specialty emphasis plan. Corequisite: ITR 110 or ITR 115, bilingual or instructor permission

JOU 121  BASIC REPORTING PRINCIPLES  3 3 0 0 0
Designed to provide students with experiences in gathering, organizing and writing news stories. Prerequisite: Grade of “C” or better in MAP 118

JOU 125  NEWSPAPER PRODUCTION  3 1 4 0 0
Special work in journalism. Students will produce a DMA’S newsletter on one of the campuses and will gain experience in writing, copy-editing, layout and design. May be repeated for three additional semesters.

JOU 163  ADVANCED REPORTING: POLITICS  3 5 0 0 0
Designed to provide experiences in producing news stories on political candidates, campaigns and elections. The role of the news media in American electoral strategy and outcomes and the relationship between reporters and public officials will be examined. Emphasis is placed on the most recent general election and its coverage. Prerequisite: JOU 110. Corequisite: POL 127

JOU 165  PRINCIPLES OF ADVERTISING  3 3 0 0 0
Course explores advertising as a tool and socioeconomic force.

JOU 175  PHOTOJOURNALISM  3 2 2 0 0
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. Students must have a digital camera to use for this course.

LIT 101  INTRO TO LITERATURE  3 3 0 0 0
Introduction to the study and appreciation of poetry, fiction and drama. Basic critical approaches are emphasized and a broad range of authors from a variety of cultural and ethnic groups and a wide span of historical periods is presented.

LIT 105  CHILDREN’S LITERATURE  3 3 0 0 0
Study historical, sociocultural contexts surrounding children’s literature; examine current trends and issues in the field; analyze and evaluate children’s literature; and develop an awareness and appreciation for the variety of literature available.

LIT 110  AMERICAN LITERATURE TO MID 1800S  3 3 0 0 0
In-depth study of works of selected major writers (including Native American) particularly from Puritan times to 1865. Basic critical approaches are emphasized.

LIT 111  AMERICAN LITERATURE SINCE MID 1800  3 3 0 0 0
Examines American literature from early 20th century through contemporary America. Emphasizes major literary works and their social and cultural contexts.

LIT 130  AFRICAN AMERICAN LITERATURE  3 3 0 0 0
Introduction to the study and appreciation of literature written by African-American writers. A broad range of Black American authors will be presented.

LIT 142  MAJOR BRITISH WRITERS  3 3 0 0 0
Introduction to the study and appreciation of major British writers particularly from the post-Renaissance through the contemporary period. Basic critical approaches are emphasized.

LIT 166  SCIENCE FICTION  3 3 0 0 0
A survey of speculative fiction from Frankenstein to literature of the 21st Century. Examines major influential works in their literary, social and cultural contexts. Critical analysis is emphasized.

LIT 180  MYTHOLOGY  3 3 0 0 0

LIT 185  CONTEMPORARY LITERATURE  3 3 0 0 0
Introduction to the study and appreciation of significant contemporary writers and literary movements since 1945. The relationship of current literature to society and basic critical approaches are emphasized.

LIT 188  DETECTIVE FICTION  3 3 0 0 0
Introduction to the study and appreciation of detective fiction. A literary investigation of the components of detective fiction and basic critical approaches are emphasized.

LIT 190  WOMEN WRITERS  3 3 0 0 0
Introduction to the study and appreciation of literature written by women. Examines major influential works from a variety of historical, social and cultural contexts. Critical analysis is emphasized.

LIT 195  HUMOR IN LITERATURE  3 3 0 0 0
Introduction to the study and appreciation of humor as literary genre. An investigation of origins, types, techniques and purposes of humor and basic critical approaches are emphasized.

MAP 110  MEDICAL OFFICE MANAGEMENT I  2 1 2 0 0
Emphasizes administrative responsibilities. Includes bookkeeping, letter writing, mail, grammar and word usage, records management, banking and payroll. Introduction to the computer with word processing.

MAP 112  MEDICAL TERMINOLOGY  1 0 2 0 0
Basic prefixes, suffixes and root words related to all body systems are studied. Spelling, pronunciation and definitions are included.

MAP 120  MEDICAL INSURANCE  4 3 2 0 0
Study of health insurance, HMOs, Workers’ Compensation, Medicare, Tricare and Medicaid. Includes insurance filing, CPT and ICD coding. Proper use of telephone, appointment scheduling and recordkeeping. Through computer applications, students keep medical and financial records and transcribe medical dictation. Prerequisite: Grade of “C” or better in MAP 110

MAP 129  MEDICAL OFFICE MANAGEMENT II  2 1 2 0 0
Emphasizes patient management. Includes keyboarding, filing, communication, medical record keeping, and transcription. Corequisite: Grade of “C” or better in MAP 250. Corequisite: MAP 624

MAP 134  MEDICAL OFFICE PROCEDURES I  3 2 2 0 0
Clinical skills including vital signs, patient examination, charting and patient education. Students perform vision and hearing tests and sterilization procedures. Medical asepsis and emphasis on OSHA regulations. Corequisite: MAP 225

MAP 138  DIAGNOSTIC RADIOGRAPHY I  2 1 2 0 0
A continuation of Diagnostic Radiography I with emphasis on evaluation of films exposed by the student under supervision in a physician’s office. Prerequisite: Grade of “C” of better in MAP 250. Coreerequisite: MAP 624

MAP 141  MEDICAL OFFICE PROCEDURES II  3 2 2 0 0
Student learns how to assist with examinations, tests and treatments. Inventory and use of medical and surgical supplies. Includes principles of pharmacology, injections, theory of IV therapy, sterile procedures, pulmonary functions, bandaging and patient education. Outpatient scheduling and referral with prior authorizations and documentation. Prerequisite: Grade “C” or better in MAP 341. Corequisite: MAP 220

MAP 142  PROFESSIONAL DEVELOPMENT  3 3 0 0 0
Emphasizes professionalism and responsibilities of the certified medical assistant. Medical specialties, first aid procedures, medical ethics and law and HIPAA are studied.

MAP 152  HUMAN BODY-HEALTH & DISEASE  3 3 0 0 0
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 154  HUMAN BODY-HEALTH & DISEASE II  4 4 0 0 0
Basic biological concepts, structure and function of the body. Interrelationship of body systems in the healthy individual is stressed. Symptoms of disease, diagnostic aids used by the physician, possible methods of treatment and prognosis are presented.

MAP 156  HUMAN BODY-HEALTH & DISEASE III  4 4 0 0 0
The study of the body systems is completed. Prerequisite: Grade of “C” or better in MAP 544

MAP 238  MEDICAL LAB PROCEDURES II  3 2 2 0 0
Venipuncture and finger puncture. Experience performing hematology, blood chemistries and BGLs. Emphasis on OSHA regulations and quality control in the medical laboratory. Prerequisite: Grade of “C” or better in MAP 225. Corequisite: MAP 548

MAP 250  DIAGNOSTIC RADIOGRAPHY II  2 1 2 0 0
This course includes radiological principles, film evaluation, processing and techniques, positioning of patients and radiation protection of patients and workers. This course partially meets the requirements for a “Limited Diagnostic Radiographer” set by the Radiologic Division of the Iowa Department of Health. Prerequisite: MAP 225
COURSE DESCRIPTIONS

MAP 606 10 2 0 0 0 0
PROFESSIONAL DEVELOPMENT III
VOC/TECH
Provides an opportunity for the student to discuss situations that arise in the clinical experience. Oral 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. Corequisite: MAP 624

MAP 624 5 0 0 0 2
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 two terms. Corequisite: MAP 252

MAP 605 3 0 0 0 2
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 552, MRT 121, ADM 215

MAT 034 3 0 0 0 0
ARITHMETIC
COLL PREP
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 4 0 0 0 0
PRE-ALGEBRA
COLL PREP
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 in preparation for MAT 063. College preparatory courses cannot be used to fulfill degree requirements.

MAT 063 4 0 0 0 0
ELEMENTARY ALGEBRA
COLL PREP
A beginning Algebra course covering most elementary topics of algebra. This includes the real number system, solving equations and inequalities, polynomials, fractional equations and radical expressions. This is a college prep course designed for students with no Algebra background or for students who need review. College preparatory courses cannot be used to fulfill degree requirements.

MAT 073 4 0 0 0 0
ELEMENTARY ALGEBRA II
COLL PREP
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: One year H.S. Algebra, department permission or MAT 063

MAT 095 11 0 0 0 0
MATH STUDY SKILLS
COLL PREP
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 might block math learning and offers strategies and techniques designed to overcome these feelings. College preparatory courses cannot be used to fulfill degree requirements.

MAT 104 3 2 2 0 0 0
ELEMENTARY EDUCATORS MATH I
CORE
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 department permission or MAT 073

MAT 106 3 2 2 0 0 0
ELEMENTARY EDUCATORS MATH II
CORE
This course is a continuation of MAT 104. Course content includes basic 2-D and 3-D geometry and measurement, elementary probability, data analysis and statistics, operations and algorithms for computing with fractions, decimals, percents and integers. Prerequisite: MAT 104 with a grade of “C” or better

MAT 121 4 0 0 0 0
COLLEGE ALGEBRA
GENERAL
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, exponents, logarithms, systems of equations, matrices, polynomials, conic sections and probability. Prerequisite: Two years of H.S. Algebra or MAT 073

MAT 129 5 5 0 0 0
PRECALCULUS
CORE
Real and complex number systems, inequalities, exponential and logarithmic functions, mathematical induction, limits, sequences, elementary theory of equations, linear systems, matrices, vectors and topics of analytic geometry. Prerequisite: MAT 150 or equivalent or department permission

MAT 130 3 0 0 0 0
TRIGONOMETRY
CORE
Circular functions and their inverses, trigonometric identities, trigonometric equations, solving triangles and graphing. Prerequisite: Two years H.S. Algebra, department permission or MAT 073

MAT 141 4 0 0 0 0
FINITE MATH
CORE
A general education course in practical mathematics for those students not majoring in mathematics or science. This course will include such topics as set operations and applications, methods of counting, 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 0 0 0 0
LINEAR ALGEBRA W/APPLICATIONS
GENERAL
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 makes heavy use of computing technology. Graphing calculators required. Prerequisite: MAT 217 or equivalent

MAT 157 4 4 0 0 0
STATISTICS
CORE
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 217. Prerequisite: Two years H.S. Algebra, department permission or MAT 073

MAT 160 2 2 0 0 0
STATISTICAL BUSINESS APPL
OPEN
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, hypothesis testing and computer analysis. Prerequisite: BUS 211 or MAT 157

MAT 162 4 3 2 0 0
PRIN. OF BUSINESS STATISTICS
CORE
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 and multiple linear regression analysis. 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
CORE
Functions, graphs, differential calculus, integral calculus, introduction to max-min theory for functions of two variables. Emphasis on application of calculus to business problems. Not 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
CORE
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
CORE
Continuation of Calculus I. Topics include applications of integration, integration techniques, L’Hospital’s rule, improper integrals, infinite sequences, series, Taylor and Maclaurin series, the calculus of plane curves, parametric equations and polar equations. Prerequisite: MAT 211

MAT 219 4 4 0 0 0
CALCULUS III
CORE
Continuation of Calculus II. Topics include vectors and vector-valued functions, tangent and normal vectors, arc length and curvature; vector fields, line and surface integrals, Green’s theorem, the divergence theorem and Stokes’ theorem, multivariable functions, partial derivatives, directional derivatives and gradients, optimization of multi-variable functions. Prerequisite: MAT 217 or equivalent

MAT 227 4 4 0 0 0
DIFF EQUATIONS WITH LAPLACE CORE
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 722 3 3 0 0 0
APPLIED MATH
VOC/TECH
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 773 3 3 0 0 0
APPLIED MATH II
VOC/TECH
A course in Algebra and trigonometry for technicians. Topics covered include polynomials, equations, systems of linear equations, factoring, quadratic equations, trigonometry, powers, roots and logarithms. Prerequisite: MAT 772

MFG 105 3 3 0 0 0
MACHINE SHOP MEASURING
VOC/TECH
A study of measurements as used in industry. Limits of instruction include tools, gauges, comparators, gauge blocks and inspection practices.

MFG 121 2 0 4 0 0
MACHINE TRADE PRINTREADING I
VOC/TECH
A beginning and intermediate blueprint reading course covering basic visualization of shapes and sizes and freehand sketching of objects. Includes section lining, print alterations and projections.

MFG 132 3 1 4 0 0
MACHINE TRADE PRINTREADING II
VOC/TECH
An advanced blueprint reading course involving study of industrial metal work drawings as they apply to planning and laying out of jigs and fixtures. Prerequisite: MFG 121

MFG 140 11 0 0 0
GEOMETRIC DIMENSION/TOLERANCE
VOC/TECH
A basic course explaining the G & T system and the symbols used within it.

MFG 152 11 0 0 0
REL WLD BLUEPRINT-MFG TECH
VOC/TECH
Basic skills will be developed in reading welding blueprints with emphasis on welding symbols.

MFG 171 2 0 4 0 0
MANUFACTURING WELDING I
VOC/TECH
Basic skill will be developed in welding beads and buildup surfacing in the flat position, welding with oxy-acetylene equipment along with an introduction to GMA welding.

MFG 172 3 0 6 0 0
RELATED WELDING-INDUST MAINT
VOC/TECH
A related welding course for industrial maintenance technicians to include the following topics: Theory and operation of welding equipment, related safety issues, metallurgy and related properties.

MFG 200 3 3 0 0 0
INTRO TO SAFETY SCIENCE
VOC/TECH
This course will cover the introduction to safety in business and industry. It will familiarize students with terminology and economics, social, environmental, ethical and regulatory pressures of today. Overview of physical safety, protection and chemical, biological and mechanical hazards.

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COURSE DESCRIPTIONS

MFG 350  ENGINE LATHE THEORY  11000  VOC/TECH
An introductory-level course explaining the theory of the basic operation and care of an engine lathe. Corequisite: MFG 251

MFG 351  ENGINE LATHE OPERATIONS LAB II  20400  VOC/TECH
An introductory level course for the metal cutting lathe. During this course, students will become familiar with basic setups, as well as safe operation and care of a lathe environment. Corequisite: MFG 250

MFG 352  ENGINE LATHE THEORY II  22000  VOC/TECH
An advanced level course explaining complex setups and procedures for lathes. Corequisite: MFG 250. Corequisite: MFG 251

MFG 353  ENGINE LATHE OPERATIONS LAB III  30600  VOC/TECH
An advanced course for the metal cutting lathe. During this course students will become familiar with advanced setups, as well as safe operation and care of a lathe. Corequisite: MFG 250. Corequisite: MFG 252

MFG 360  MILL OPERATIONS THEORY  11000  VOC/TECH
An introductory-level course explaining the theory of the basic operation and care of vertical milling machines. Corequisite: MFG 261

MFG 361  MILLING OPERATIONS LAB  20400  VOC/TECH
An introductory level course for the vertical milling machine. During this course, students will become familiar with basic setups, as well as safe operation and care of a milling machine in a lab environment. Corequisite: MFG 260

MFG 370  GRINDERS THEORY  11000  VOC/TECH
Theoretical explanation of procedures in surface grinding. Corequisite: MFG 271

MFG 371  GRINDERS LAB  30600  VOC/TECH
During this course, students will become familiar with basic setups, as well as safe operation and care of a surface grinder in a lab environment. Corequisite: MFG 270

MFG 373  MILLING OPERATIONS II  22000  VOC/TECH
An advanced course for the vertical and horizontal milling machines. During this course, students will become familiar with advanced setups and machining concepts, as well as safe operation and care of milling machines. Corequisite: MFG 260. Corequisite: MFG 274

MFG 374  MILL OPERATIONS LAB II  30600  VOC/TECH
An advanced course for the vertical and horizontal milling machines. During this course students will become familiar with advanced setups and machining concepts, as well as safe operation and care of milling machines. Corequisite: MFG 260. Corequisite: MFG 275

MFG 376  HAND & BENCH MACHINE TOOLS  10200  VOC/TECH

MFG 380  HEAT TREATMENTS  11000  VOC/TECH
An introduction to the physical and mechanical characteristics of metals directly associated with the area of heat treatment. Includes structure and composition of metals, testing, hardening, tempering and annealing.

MFG 381  CNC MILL OPERATIONS THEORY  11000  VOC/TECH
An introductory-level course explaining the theory behind the basic operation and programming of a CNC vertical machining center. Corequisite: MFG 331

MFG 382  CNC MILL OPERATIONS LAB  21200  VOC/TECH
An introductory-level course for programming and operating a CNC milling center in a lab environment. Corequisite: MFG 330

MFG 384  BASIC LATHE OPERATION  10200  VOC/TECH
Course covers setup and operation of the metal lathe, including lathe parts, materials and safety procedures.

MFG 385  VERTICAL MILL OPERATION  10200  VOC/TECH
Vertical milling operation is explained and reinforced with practical experience using vertical milling machines.

MFG 386  EDM FUNDAMENTALS  32200  VOC/TECH
Operation of both conventional and wire EDM machines. Construction of EDM electrodes.

MFG 387  BASIC DIEMAKING THEORY  44000  VOC/TECH
Introduction to diemaking principles covering die sets, die components, cutting and forming applications, and material utilization. Experienced individuals may contact instructor to gain admittance to this course. Corequisite: MFG 270, 271, 350, 351, 350, 351. Corequisite: MFG 405

MFG 388  ADVANCED DIEMAKING LAB  601200  VOC/TECH
Introducing the student to basic diemaking procedures as they construct a blank die, piercing die and a forming die. Required: MFG 270, 271, 350, 351, 350, 351. Corequisite: MFG 402

MFG 389  PROGRESSIVE DIE DESIGN  31400  VOC/TECH
Hands-on drafting experience in the design, drawing and detailing of a progressive die using computer-aided design (CAD). Corequisite: CAD 110. Corequisite: MFG 412

MFG 390  COMPOUND DIEMAKING  44000  VOC/TECH
Complex diemaking procedures, including CAM-actuated dies and exposure to cost estimating and quoting. Corequisite: MFG 402

MFG 405  ADVANCED DIEMAKING LAB  601200  VOC/TECH
Construcing a more complex stamping die, including a progressive die that has been partially designed and detailed by the student. Prerequisite: MFG 403. Corequisite: MFG 412

MFG 406  INTRO STATISTICAL PROCESS CONTROL  33000  VOC/TECH
Introduction to the concepts of variability and statistical process control. The student will develop the ability to utilize the basic SPC tools, monitor and interpret charts and execute statistical methods for continuous improvement.

MFG 407  PRACTICES-CONTINUOUS IMPROVE  33000  VOC/TECH
Provide understanding of the theories, methods and concepts of continuous improvement. Includes detailed, in-depth study of the current theories and practices used in business and provides the student with the knowledge to implement these techniques. Prerequisite: MFG 507

MFG 410  INTRO QUALITY CONTROL MGMT.  33000  VOC/TECH
This course provides the student with an in-depth knowledge of the skills, tools and management techniques unique to supervising and managing a quality function within an organization. Prerequisite: MFG 502, 510

MFG 412  MEDICAL DEVICES-SPC  11000  VOC/TECH
An introduction to quality-control measuring devices, their use and application of data in Statistical Process Control.

MFG 413  APPL OF STATISTICAL METHODS  33000  VOC/TECH
An in-depth study in applying the concepts of MFG 502. Additional areas of concentration include sampling plan theory, ANOVA study, alpha and beta calculations, reliability, values and applying these concepts in case studies. Prerequisite: MFG 502

MFG 414  CONTROLLING MFG BUSINESS COSTS  22000  VOC/TECH
The purpose of this course is to provide an understanding of the principles and concepts of production and work costs, the cost impact of shop floor activities and the various contributions company employees have on costs and profitability. Emphasis is placed on the effect an individual has on costs on a day-to-day basis.

MFG 415  PM & DIAGNOSING MACH/ELEC SYS  33000  VOC/TECH
Provide understanding in the concepts and methods of preventive maintenance. Includes the development of a maintenance and documentation system. Provide fundamental troubleshooting methods and concepts.

MFG 416  IMT INTERNSHIP  50000  VOC/TECH
Supervised work experience with employer based upon individual training plan that enables student to apply skills and knowledge. Prerequisite: Successful completion of courses in terms 1, 2 and 3 of the Integrated Manufacturing Technology program.

MGT 101  PRINCIPLES OF MANAGEMENT  33000  VOC/TECH
General Explore basic management principles, concepts and practices in the areas of planning, organizing, leading and controlling. Paradigm shifts include motivation, leadership, group dynamics, job design, organizational structure, decision-making, social responsibility and global competition.

MGT 115  ADMINISTRATIVE MANAGEMENT  33000  VOC/TECH
Introduces concepts of office management aimed at increasing efficiency and productivity in operation of the office. Areas covered include planning and organizing, leadership and human relations and controlling office operations.

MGT 120  PROJECT MANAGEMENT BASICS  22000  VOC/TECH
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  ORGANIZATIONAL BEHAVIOR  33000  VOC/TECH
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  PRINCIPLES OF SUPERVISION  33000  VOC/TECH
Open A unique view of organizational structure, the managerial function and the role of the supervisor as it relates to the human relationship between supervisors, peers and subordinates and the practice of sound personnel techniques.

MGT 145  HUMAN RELATIONS IN BUSINESS  33000  VOC/TECH
Open Emphasizes the importance of the development of proper attitudes toward self, others and organizational settings. Stresses the development of a good self-image and the relationship this has to energy levels, emotions, defensiveness, verbal and nonverbal communication.

MGT 147  LEADERSHIP DEVELOPMENT  33000  VOC/TECH
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  TOTAL QUALITY MANAGEMENT  33000  VOC/TECH
Open The basis of this course is to provide an understanding of the principles and concepts of production and work costs, the cost impact of shop floor activities and the various contributions company employees have on costs and profitability. Emphasis is placed on the effect an individual has on costs on a day-to-day basis.

MGT 170  HUMAN RESOURCE MANAGEMENT  33000  VOC/TECH
Open 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.
COURSE DESCRIPTIONS

MG 194  22000  RELATIONSHIP STRATEGIES IN BUS VOC/TECH
Includes the awareness of communication styles and how to manage successful interpersonal and organizational relationships.

MG 248  33000  SYSTEMS & INFORMATION MGMT. VOC/TECH
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.

MG 800  6000 24  BUSINESS INTERNSHIP I VOC/TECH
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: MG 802

MG 802  21200  BUSINESS INTERNSHIP SEMINAR I VOC/TECH
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: MG 800

MG 805  4000 6%  BUSINESS INTERNSHIP II VOC/TECH
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: MG 807

MG 807  11000  BUS. INTERNSHIP SEMINAR II VOC/TECH
Students are exposed to areas of sales promotion through guest speakers, visual aids and discussion of business. Corequisite: MG 805

MG 810  4000 6%  BUSINESS INTERNSHIP III VOC/TECH
Consists of one term of part-time, on-the-job training of the level prescribed in the individual training plan. Exposure given to merchandising control and supervision. Supervision of the training plan will be made by an instructor/coordinator. (P/F) Corequisite: MG 812

MG 812  11000  INTERNSHIP SEMINAR III VOC/TECH
Students are exposed to areas of marketing through guest speakers, visual aids and discussion of business internship experiences. Corequisite: MG 810

MG 905  21200  FIELD EXPERIENCE I SEMINAR VOC/TECH
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: MG 920

MG 920  6000 24  FIELD EXPERIENCE I VOC/TECH
Consists of one term 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: MG 905

MG 100  33000  PRINCIPLES OF MARKETING VOC/TECH
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.

MG 115  33000  BUSINESS TO BUSINESS MARKETING VOC/TECH
Presents functional methods of business-to-business marketing. Examines all forms of wholesaler service and manufacturer-type marketing activities.

MG 120  33000  E-MARKETING VOC/TECH
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.

MG 140  33000  SELLING VOC/TECH
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.

MG 141  33000  ADVANCED SELLING TECHNIQUES VOC/TECH
Explores strategies related to working effectively with high-level decisionmakers. Focuses on the individual adding value to the transaction to become the supplier of choice. Examines sales automation in depth. Prerequisite: MG 140

MG 146  33000  SALES MANAGEMENT VOC/TECH
Expands on the selling process by training the learner 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.

MG 150  33000  PRINCIPLES OF ADVERTISING VOC/TECH
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.

MG 160  33000  PRINCIPLES OF RETAILING VOC/TECH
Course examines development of retailing, organization of retail institutions, the merchandise handling process, understanding the retail customer and future directions in retailing.

MG 165  33000  RETAIL MANAGEMENT II VOC/TECH
A problem-solving approach to the operating principles and methods in the retail field. Management decision-making is emphasized. Prerequisite: MG 160

MG 182  33000  CUSTOMER RELATIONSHIP MGMT. VOC/TECH
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

MG 184  33000  CUSTOMER SERVICE VOC/TECH
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.

MG 199  33000  SPORTS/ENTERTAINMENT MGMT. VOC/TECH
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 112  22000  PRINCIPLES OF PHLEBOTOMY VOC/TECH
An orientation course designed to give students a thorough background in blood collection, including demonstrations of venipuncture and skin puncture techniques. This course is required for students admitted to the Medical Laboratory Technology program who do not have documentation of competency in Phlebotomy and for students who wish to obtain certification in Phlebotomy. Phlebotomy students must also enroll in the Phlebotomy clinical course, PHB 220.

MLT 121  21200  LAB FUNDAMENTALS & URINALYSIS VOC/TECH
A course designed to acquaint the student with the field of laboratory medicine, laboratory structure and staffing. Basic lab skills, instrumentation and quality control are learned and practiced techniques used to isolate and identify pathogenic bacteria, parasites and fungi. Prerequisite: Grade of "C" or better in MLT 121. Successful completion of the following courses: BIO 164 or equivalent; BIO 722 or equivalent; CHM 122 or equivalent.

MLT 122  53400  ADV. HEMATOLOGY & COAGULATION VOC/TECH
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 advanced course is a sequel to the Beginning Hematology course and includes an in-depth study of various anemias, leukemias and other hematological disorders. Prerequisite: Grades of "C" or higher in both MLT 121 and MLT 132. Beginning Hematology (MLT 122)

MLT 132  86400  CLINICAL CHEMISTRY VOC/TECH
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 MLT 121. Successful completion of the following courses: CHM 122 or equivalent; CHM 123 or equivalent; and BIO 164 or equivalent.

MLT 141  64400  CLINICAL MICROBIOLOGY VOC/TECH
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 better in MLT 121. Successful completion of the following courses: BIO 164 or equivalent; BIO 722 or equivalent; CHM 122 or equivalent.

MLT 231  53400  IMMUNOHEMATOLOGY VOC/TECH
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 and Serology must be taken prior to or concurrently with MLT 230. Successful completion of the following courses: BIO 164 or equivalent; BIO 732 or equivalent; CHM 122 or equivalent. CHM Intro to Organic and BioChemistry or equivalent.

MLT 270  21200  IMMUNOLOGY & SEROLOGY VOC/TECH
Immune reactions of the body will be studied. Reactions between antigen and antibodies will be used 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  12000 48  CLINICAL LABORATORY PRACTICUM VOC/TECH
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 four terms of MLT program with a GPA of 2.0 or higher. Corequisite: MLT 298
### COURSE DESCRIPTIONS

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credit Hours</th>
<th>Title</th>
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</tr>
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<tbody>
<tr>
<td>MLT 290</td>
<td>2</td>
<td>CLINICAL SEMINAR AND REVIEW</td>
<td>OPEN Students review medical laboratory subjects, share experiences in the clinical area and present 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</td>
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<td>ADVANCED EQUIPMENT TECHNIQUES</td>
<td>VOC/TECH Making and millwork. Prerequisite: MLW 440, 441, 442, 443</td>
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<td>VOC/TECH The purpose of this course is to train the student in the identification, operation and maintenance of stationary equipment.</td>
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<td>MLW 448</td>
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<td>ADV MILLWORK APPLICATION I</td>
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<tr>
<td>MLW 449</td>
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<td>ADV MILLWORK APPLICATION II</td>
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COURSE DESCRIPTIONS

MUA 120 1 0 2 0 0 APPLIED PIANO I GENERAL
Individual instruction in piano. Weekly half-hour lessons. Beginning, intermediate and advanced students accepted. May be repeated for a maximum of four credits.

MUA 121 2 1 0 0 0 APPLIED PIANO II GENERAL
This course is especially for the beginner in piano. Students will be introduced to the fundamentals of piano playing, including beginning note reading for the keyboard, technical development and appropriate repertoire.

MUA 147 1 0 2 0 0 APPLIED INSTRUMENTAL GENERAL
Individual instruction in all instruments. Weekly half-hour lessons. May be repeated for a maximum of four credits.

MUS 100 3 3 0 0 0 MUSIC APPRECIATION 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 3 3 0 0 0 MUSIC FUNDAMENTALS 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 preschool and elementary school children.

MUS 106 4 3 2 0 0 MATERIALS OF MUSIC I 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 4 3 2 0 0 MATERIALS OF MUSIC II 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 163 2 1 0 0 0 CONCERT CHOIR GENERAL
The Concert Choir is open to all students. Varied literature is chosen. May be repeated for a maximum of eight credits.

MUS 150 1 0 2 0 0 CHAMBER ENSEMBLE 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 four credits. Prerequisite: Audition with Director Corequisite: MUS 145

NET 124 3 3 0 0 0 MICROPROCESSOR INTERFACING VOC/TECH
A study of microprocessor/microcomputer interface methods. It includes parallel interfacing using the 8255 PPI and serial interfacing using UART and USARTs. Digital-to-Analog and Analog-to-Digital converters are also examined. Prerequisite: EET 611, 612. Corequisite: NET 125

NET 125 4 0 8 0 0 MICROPROCESSOR INTERFACE LAB VOC/TECH
An evaluation of microprocessor interface techniques. The experiments include parallel devices such as 8255 Programmable Peripheral Interface chip, UART and USART serial devices, D/A and A/D converters. Prerequisite: EET 611, 612. Corequisite: NET 124

NET 126 2 2 0 0 0 NETWORKING TECH-MAINFRAME VOC/TECH
To provide a technical level of understanding in the areas of mainframe networking connectivity, data communication concepts and protocol communication concepts.

NET 127 2 2 0 0 0 SERVICE & SUPPORT VOC/TECH
Provides technical level of competence installing network interface cards, replacing hard drives, installing communications software and hardware and troubleshooting 3.x and 4.x systems. Prerequisite: NET 128

NET 128 4 0 0 0 0 NETWORK COMPATIBILITY PRODUCTS VOC/TECH
Concepts of the software and hardware used to link various computers and operating systems. Prerequisite: NET 442, 444. Corequisite: NET 129

NET 129 2 0 4 0 0 NETWORK COMPATIBILITY PROD LAB VOC/TECH
Course covers installing and configuring compatibility software and hardware. Use of software to share data between dissimilar system types. Prerequisite: NET 443, 444. Corequisite: NET 129

NET 132 3 3 0 0 0 OPERATING SYS SOFTWARE BASICS VOC/TECH
This course is a user’s introduction to the Windows, MS DOS and UNIX Operating Systems. Objectives are to enable the user to load and exercise programs, create and modify files and maintain an orderly file system.

NET 139 4 3 2 0 0 MCS MODEL DESKTOP OP SYSTEM VOC/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

NET 144 3 2 2 0 0 DIGITAL & COMPUTER ELECTRONICS VOC/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

NET 145 3 0 6 0 0 DIGITAL & COMPUTER ELEC. LAB VOC/TECH
In the context of today’s computer technology, this class continues the study of digital electronic circuits, concentrating on gates, counters, registers and memory through hands-on lab experiments. Also included are lab tasks involving data communications by bus structure, parallel and serial ports and microprocessors. Corequisite: NET 144

NET 225 4 2 4 0 0 CISCO NETWORKING VOC/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. Prerequisite: NET 132

NET 227 2 2 0 0 0 CISCO ROUTERS VOC/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 225

NET 230 4 2 4 0 0 CISCO SWITCHES VOC/TECH
CISCO training includes learning the basics of setting up, configuring and maintaining a switch, bridge and router. Additional areas cover layer 1, 2 & 3 network design, IP addressing scheme, VLANs, IPX, compatibility access lists, TCP and TBC design. Prerequisite: NET 225

NET 245 4 2 0 0 0 CISCO WIDE AREA NETWORKS (WAN) VOC/TECH
CISCO training involves WIN design, point-to-point protocol, SQL, 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

NET 324 4 3 2 0 0 WINDOWS NETWORK MANAGEMENT VOC/TECH
This course is designed to meet the requirements of MCSE test 70-218. It covers the basic entry-level Windows networking materials and skills. Prerequisite: NET 123 & NET 132

NET 332 3 3 0 0 0 IMP WINDS網路 INFRA VOC/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, 623, 628

NET 345 3 2 2 0 0 WINDOWS DIRECTORY SERVICE VOC/TECH
This course concentrates on the specifics of active-directory administration. Course includes: setting up, maintaining and administrating the active directory services of current Windows server products. Prerequisite: NET 223, 623, 628

NET 352 3 3 0 0 0 WINDOWS SECURITY VOC/TECH
This course covers the current curriculum for designing security for an MS network. For more information, contact the program chairperson of the ITNA Department. Corequisite: NET 335, 664, 345

NET 353 3 3 0 0 0 WINDOWS SYSTEMS MANAGEMENT VOC/TECH
This course covers the current curriculum for designing the MS directory service. For more information contact the program chairperson of the ITNA Department. Corequisite: NET 335, 664, 345

NET 354 3 2 2 0 0 MICROSOFT ACCESS VOC/TECH
This course covers the current curriculum for designing the MS network infrastructure. For more information contact the program chairperson of the ITNA Department. Corequisite: NET 335, 664, 345

NET 402 3 2 2 0 0 LINUX NETWORK ADMINISTRATION VOC/TECH
This is the first in a series of ITNA Linux courses. This course covers the basic installation and administration of Linux operating system. For more information, contact the program chairperson of the ITNA Department. Prerequisite: NET 623 or instructor permission

NET 403 3 2 2 0 0 LINUX SYSTEM ADMINISTRATION VOC/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.

NET 404 3 2 2 0 0 LINUX SYSTEM SECURITY VOC/TECH
This is the third in a series of ITNA Linux courses. This course covers system programming for the Linux operating system. The final project for the course will be creating your own Packet Sniffer/Intrusion Detection System/Firewall. For more information contact the program chairperson of the ITNA Department. Prerequisite: NET 402 or instructor permission.

NET 432 3 2 2 0 0 WINDOWS SECURITY VOC/TECH
This is a survey course for network managers and/or administrators. This course does not have a lab component. It explains how to protect your network from malicious users and how to choose a Firewall for Microsoft Windows, Novell, Linux and CISO. For more information contact the program chairperson of the ITNA Department. Prerequisite: NET 623 or two years experience in industry and instructor permission.

NET 434 3 2 2 0 0 WINDOWS SECURITY VOC/TECH
This is the fourth in a series of ITNA Linux courses. This course includes the study of creating and installing basic and professional 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 432

NET 435 3 2 2 0 0 LINUX NETWORK PROGRAMMING VOC/TECH
This course covers 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 controlling the various operating systems. Prerequisite: NET 402, 442, 452

NET 438 3 2 2 0 0 LINUX NETWORK PROGRAMMING VOC/TECH
This course covers 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 controlling the various operating systems. Prerequisite: NET 402, 442, 452

NET 439 3 2 2 0 0 LINUX SYSTEMS CERTIFICATION VOC/TECH
This course covers 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 controlling the various operating systems. Prerequisite: NET 402, 442, 452
COURSE DESCRIPTIONS

NET 443 22 000 000 000 000 000
UNIX OPERATING SYSTEM
VOC/TECH
Concepts of the UNIX operating system commands. Use of shells, shell scripts, facilities and management commands. Corequisite: NET 444.

NET 444 10 000 000 000 000 000
UNIX OPERATING SYSTEM LAB
VOC/TECH
Course includes working with UNIX commands. Students will work with shells, write shell scripts, run facilities, work with management commands. Corequisite: NET 443.

NET 484 – ADD ONCT 43 200 000 000 000 000
NETPLUS CERTIFICATION
This course is a comprehensive study for learning, mastering and practicing the concepts required to pass the COMPTIA Net+ 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 22 000 000 000 000 000
NETWARE 4.X ADMINISTRATION
VOC/TECH
Course covers the knowledge and skills needed to perform Netware 4.0 network administration or system management tasks effectively.

NET 512 32 000 000 000 000 000
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 215, 225.

NET 521 22 000 000 000 000 000
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 521, 552.

NET 532 32 000 000 000 000 000
LINUX ENTERPRISE ADMIN II
VOC/TECH
Provides advanced administration skills to design, configure and administer a complex NetWare 5 network. Prerequisite: NET 215, 225.

NET 541 22 000 000 000 000 000
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 file servers and workstations, configure and install network protocols and cables and isolate and diagnose common network problems. Prerequisite: NET 512, 552.

NET 562 33 000 000 000 000 000
FUND OF NETWORK SECURITY
VOC/TECH
The course prepares students to recognize the threats and vulnerabilities present in existing information systems and to learn to design and develop the secure systems needed in the near future. It also prepares students for the role of decision-maker in the area of information security. Topics include legal and ethical issues, security technologies risk management, network and system security, cryptography and information security maintenance. Prerequisite: BCA 115.

NET 628 24 000 000 000 000 000
NETWORK APPLICATIONS LAB
VOC/TECH
This course will provide the student with an understanding of the software systems and applications that provide network services across different networks and operating system platforms. Prerequisite: NET 215. Corequisite: NET 628.

NET 632 20 000 000 000 000 000
NETWORK APPLICATIONS
VOC/TECH
This course will provide the student with an understanding of the software systems and applications that provide network services across different networks and operating system platforms. Prerequisite: NET 215. Corequisite: NET 628.

NET 653 43 200 000 000 000 000
MICROSOFT EXCHANGE SERVER
VOC/TECH
This course covers the current Microsoft Curriculum in the Microsoft Exchange Server Series.

NET 664 50 250 000 000 000 000
MS WINDOWS PROS/SERVER
VOC/TECH
This course includes the curriculum for the current Microsoft versions of professional and server products. The content is geared toward preparation for the associated Microsoft certification tests. Prerequisite: NET 223, 626, 623.

NET 680 33 000 000 000 000 000
TCP/IP FOR NETWORKING
VOC/TECH

NET 681 30 200 000 000 000 000
TCP/IP FOR NETWORKING LAB
VOC/TECH
Hands-on command manipulation of a TCP/IP network. Also includes installation and management. Corequisite: NET 680. Prerequisite: NET 445, 444.

NET 711 33 000 000 000 000 000
SQL DATABASE
VOC/TECH
This course covers the current curriculum for implementing a database in Microsoft SQL Server. For more information contact the program chairperson of the ITMA program. Prerequisite: NET 555, 664, 345.

NET 715 33 000 000 000 000 000
DATABASE SECURITY & AUDITING
VOC/TECH
This course is intended for students preparing for careers as developers, systems analysts, business analysts, database administrators or system development managers working with database applications. Students learn to implement database security and auditing in order to protect data. Prerequisite: CIS 305.

NET 730 32 200 000 000 000 000
COMPUTER FORENSICS & INV.
VOC/TECH
An introductory course intended for system administrators, providing training in detecting and analyzing data stored or often hidden on computer systems. The course prepares students to use computer forensics tools to uncover violations of company policy, embezzlement, e-mail harassment, leaks of proprietary information and criminal activity. Prerequisite: NET 612.

PEA 102 10 000 000 000 000 000
AEROBIC FITNESS I
VOC/TECH
Introduces aerobics concept of physical fitness. Includes aerobic activities, aerobic exercising and aerobic dance. Course designed for men and women.

PEA 104 21 200 000 000 000 000
PHYSICAL FITNESS/CONDITIONING
VOC/TECH
Development of personal fitness using a variety of conditioning and exercise techniques, including weight training, aerobics and aquatic fitness. Instruction on acute and chronic responses to exercise and the role of exercise in health promotion and weight management.

PEA 154 10 000 000 000 000 000
GOLF I
VOC/TECH
Beginning skills only.

PEA 164 10 000 000 000 000 000
SWIMMING I
VOC/TECH
Recreational swimming at Heartland Health Center. Some swimming experience expected.

PEA 174 10 000 000 000 000 000
TENNIS I
VOC/TECH
Introduction to basic skills (forehand, backhand, service and volley) and basic knowledge of game play.

PEA 194 31 400 000 000 000 000
WATER SAFETY INST/LIFEGUARD TR
VOC/TECH
Provides the student with the practical, cognitive, behavioral and decision-making skills needed for lifeguarding and the necessary skills to conduct/instruct all levels of Red Cross swimming and water safety lesson programs. Upon satisfactory completion, student will receive Red Cross Certification in Lifeguarding and Water Safety Instructor.

PEA 197 10 000 000 000 000 000
WEIGHT TRAINING I
VOC/TECH
Introduction to basic weight training. Emphasizes increasing physical capacity; that is increased muscular strength and power.

PEA 254 10 000 000 000 000 000
GOLF II
VOC/TECH
Expansion of basic golf skills. Prerequisite: PEA 154 or equivalent skill

PEA 284 10 000 000 000 000 000
ADVANCED LIFESAVING
VOC/TECH
Purpose is to provide the student with the skills/techniques to successfully rescue a person in need. Focus on water safety, personal and self rescue, swimming rescues and artificial resuscitation. Upon satisfactory completion, the student will receive Red Cross Certification. Required: Students must pass a swim test.

PEC 100 11 000 000 000 000 000
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.

PEC 160 33 000 000 000 000 000
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.
COURSE DESCRIPTIONS

PET 101
INTRO TO ATHLETIC TRAINING
OPEN
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 GOLF, WOMEN OPEN
Provides experience and instruction in women's golf. Course is designed for the varsity athlete in terms of conditioning, practice, game preparation and weight training. Limit one credit per year with a maximum of two 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 117
INTRO TO VARSITY BASEBALL, MEN
OPEN
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 one credit per year with a maximum of two 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, MEN
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 one credit per year with a maximum of two 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 123
VARSITY SPIRIT SQUAD 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 one credit per year with a maximum of two 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 124
VARSITY VOLLEYBALL OPEN
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 one credit per year with a maximum of two 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 125
VARSITY VOLLEYBALL, WOMEN OPEN
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 one credit per year with a maximum of two 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 126
VARSITY GOLF, MEN OPEN
Provides experience and instruction in men's golf. Course is designed for the varsity athlete in terms of conditioning, practice, game preparation and weight training. Limit one credit per year with a maximum of two 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 127
VARSITY SPIRIT SQUAD, WOMEN 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 one credit per year with a maximum of two 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.

PHI 101
INTRODUCTION TO PHILOSOPHY
CORE
Exploration of basic questions in epistemology, metaphysics and ethics. Emphasis on western philosophy tradition.

PHI 105
INTRODUCTION TO ETHICS
CORE
Comparative study of different traditional moral theories. Application of moral theories to different contemporary moral problems.

PHI 110
INTRODUCTION TO LOGIC
CORE
Learn to recognize and construct good arguments. Study of deduction including categorical and truth functional arguments. Study of induction. Examination of informal fallacies.

PHS 152
ASTRONOMY
GENERAL
The student is introduced to a scientific overview of stars, planets, galaxies and other inhabitants of the universe and the forces that determine their behavior. The history of discovery and the methods used to study distant objects are included.

PHY 106
SURVEY OF PHYSICS
CORE
The student is exposed to the scientific method with an emphasis on elementary problem-solving. Along with a review of basic mathematics, the topics of weights and measures, mechanics, heat, gas laws, electricity, magnetism, sound, light and modern physics are covered.

PHY 160
GENERAL PHYSICS I
CORE
This course is the first semester of a two-semester sequence in non-calculus physics. Topics include force, linear and rotational motion, energy, momentum, fluids, gaseous and heat. Prerequisite: MAT 101 or its equivalent.

PHY 161
GENERAL PHYSICS II
CORE
This course is the second semester of a two-semester sequence in non-calculus physics. Topics include electricity, magnetism, optics and modern physics. Prerequisite: PHY 160 or instructor permission.

PHY 223
CLASSICAL PHYSICS I
CORE
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.

PHY 224
CLASSICAL PHYSICS II
CORE
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: PHY 223 or equivalent. Corequisite: MAT 217 must be taken concurrently or prior to this course.

PHY 710
TECHNICAL PHYSICS
VOC/TECH
A physics course for students of technology. Topics include forces, work, energy, heat, electricity and magnetism with a strong emphasis on practical applications. Prerequisite: MAT 772 or equivalent.

PHN 151
FUNDAMENTALS OF NURSING
OPEN
Introduces the concepts of health assessment, safety, critical thinking, pharmacology, teaching/learning and communication. Associated skills are offered in the laboratory setting.

PHN 152
NURSING PRACTICE I
OPEN
Introduces nursing care of clients with common health problems with a focus on health assessment, standardized plan of care, therapeutic interventions, safety and basic communication. Includes lab and practicum applications. Prerequisite: PHN 151.

PHN 153
SUCCESS IN NURSING
OPEN
Explores the art and science of nursing practice including personal history, roles and legal/ethical practice issues for the professional practical nurse. Health care settings and health/illness/hospitalization will be discussed. Strategies for success in nursing will be applied.

INTRODUCTION TO PHILOSOPHY CORE
This course is a continuation of Classical Physics I. Topics include statics, dynamics, kinematics, fluid behavior, wave motion, vibrating systems, heat and thermodynamics. Corequisite: MAT 211 or equivalent. Corequisite: MAT 217 must be taken concurrently or prior to this course.

INTRODUCTION TO LOGIC CORE
Learn to recognize and construct good arguments. Study of deduction including categorical and truth functional arguments. Study of induction. Examination of informal fallacies.

SURVEY OF PHYSICS CORE
The student is exposed to the scientific method with an emphasis on elementary problem-solving. Along with a review of basic mathematics, the topics of weights and measures, mechanics, heat, gas laws, electricity, magnetism, sound, light and modern physics are covered.

INTRODUCTION TO NURSING CORE
This course is the first semester of a two-semester sequence in non-calculus physics. Topics include force, linear and rotational motion, energy, momentum, fluids, gaseous and heat. Prerequisite: MAT 101 or its equivalent.

SURVEY OF PHYSICS CORE
This course is the second semester of a two-semester sequence in non-calculus physics. Topics include electricity, magnetism, optics and modern physics. Prerequisite: PHY 160 or instructor permission.

AMERICAN NATIONAL GOVERNMENT CORE
A study of the American political system and how and why the citizens relate to the government as they do. Emphasis is placed upon the organization and functioning of the presidential, legislative and judicial subsystems.

POL 112
POLITICAL SCIENCE CORE
An introduction to political science and the collection of knowledge about political systems and processes. Prerequisite: PHI 110 or equivalent.

INTRODUCTION TO LAW OPEN
A general introduction to the American legal system including case briefing, court structure and civil and criminal 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.

POL 171
LEGAL RESEARCH & WRITING I 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 105.

POL 172
LEGAL RESEARCH & WRITING II OPEN
Advanced application of principles of legal research, Preparation of interoffice memorandums and demand letters. Out-of-state and federal law. Prerequisite: PRL 105, 112.

POL 110
INTRO TO PUBLIC ADMINISTRATION 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.

INTRODUCTION TO LAW OPEN
A general introduction to the American legal system including case briefing, court structure and civil and criminal 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.

POL 112
LEGAL RESEARCH & WRITING I OPEN
Advanced application of principles of legal research, Preparation of interoffice memorandums and demand letters. Out-of-state and federal law. Prerequisite: PRL 105, 112.

POL 114
ADV LEGAL RESEARCH & WRITING 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 113.

POL 118
COMPUTERIZED LEGAL RESEARCH OPEN
Introduction to computer-assisted legal research. Training in legal research search strategies using both the Lexis and Westlaw systems. Prerequisite: PRL 112.

POL 125
COMPARATIVE GOV'T & POLITICS 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.
COURSE DESCRIPTIONS

PRL 125 3 3 0 0 0
**EVIDENCE: THEORY & PRACTICE OPEN**
A study of the substantive and procedural law of evidence. Introduction to the rules of evidence. Methods of discovering, preserving and presenting evidence in civil and criminal trials. Prerequisite: PRL 123 or instructor permission

PRL 131 3 3 0 0 0
**TORTS & LITIGATION I OPEN**
A study of the basic law relating to personal and property damage. Topics include intentional tort, negligence, nuisance, strict liability and automobile law. Principles of trial practice including drafting basic pleadings and organization of materials for trial. Prerequisite: PRL 103, 112 or instructor permission

PRL 132 3 3 0 0 0
**TORTS & LITIGATION II OPEN**
A continuation of Torts & Litigation I. Areas of concentration will be premise liability, family torts, defamation, governmental immunity, malpractice and wrongful death. Advanced trial practice including drafting of pleadings and discovery documents. Prerequisite: PRL 111

PRL 137 3 3 0 0 0
**DEBTOR/CREDITOR LAW OPEN**
Procedures in nonbankruptcy debt collection. Fundamentals of bankruptcy law and bankruptcy procedure. Examination of alternatives to formal bankruptcy proceedings. Prerequisite: PRL 103, 112 or instructor permission

PRL 141 3 3 0 0 0
**BUSINESS & CORPORATE LAW I OPEN**
A study of the fundamentals of the law of contracts, the uniform commercial code and the rights of creditors in transactions.

PRL 142 3 3 0 0 0
**BUSINESS & CORPORATE LAW II OPEN**
Continuation of Business & Corporate Law I. Survey of rights of debtors and creditors in collections and bankruptcy. Formation of partnerships, proprietorships and corporations and a survey of the law applicable to each. Preparation of documents necessary to the organization and operation of each. Prerequisite: PRL 111

PRL 151 3 3 0 0 0
**REAL ESTATE LAW 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 103, 112 or instructor permission

PRL 163 3 3 0 0 0
**FAMILY LAW 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 103, 112 or instructor permission

PRL 167 3 3 0 0 0
**PROBATE PROCEDURE OPEN**
A study of wills including validity requirements, modification and revocation. Formation of trusts and the characteristics and requirements of each type. Laws of testamentary and intestate succession. Forms and procedures for probating an estate. Prerequisite: PRL 103, 112 or instructor permission
COURSE DESCRIPTIONS

RCP 705 5 2 1 0
RESP THEORY PRACTICUM II OPEN
This practicum will continue the supervised experience in the 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 700

RCP 710 7 2 0 1 6
RESP THEORY 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, EKGs and other cardiac diagnostic tests will be observed. Prerequisite: RCP 690, 705

RCP 715 7 2 0 5 0
RESP THEORY PRACTICUM IV OPEN
Hospital respiratory care with the addition of mechanical ventilation and care of patients in critical care units will complete the techniques from the prior practicums. Observation and performance of pulmonary function testing will be learned. Prerequisite: RCP 500, 700, 410 must be taken concurrently or prior to this course

RCP 720 5 2 0 1 1
RESP THEORY 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
RESP THEORY MGT & ETHICS OPEN
This course provides a perspective on management and ethical considerations related to patient care from a respiratory therapy perspective. Prerequisite: RCP 710

RDG 038 3 3 0 0 0
COLLEGE PREPARATORY READING I COLL PREP
The first in a series of two 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 COLL PREP
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 approval based on an alternative test.

RDG 165 3 3 0 0 0
SPEED READING GENERAL
An advanced reading course designed to improve reading speed and comprehension. Emphasis is on adapting to varying content 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 81 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.

SDV 108 1 1 0 0 0
THE COLLEGE EXPERIENCE
This course is designed to introduce students to college resources, services and expectations and to assist them in gaining maximum benefit from their college experience.

SDV 115 2 2 0 0
STUDY STRATEGIES
Provides students with study/reading strategies for independent learning and academic success. An examination of college policies and procedures is also included.

SDV 150 1 1 0 0 0
CAREER EXPLORATION
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 satisfaction and success.

SDV 153 2 2 0 0
PRE EMPLOYMENT STRATEGIES VOC/TECH
Covers all aspects of professional job placement procedures including career goal setting, developing prospective employer lists, resume writing, job application forms, employment tests, personal appearance, interviewing and follow-up.

SDV 157 1 1 0 0 0
BUILDING A PROFESSIONAL PORTFOLIO VOC/TECH
This course provides the writing and research skills necessary to compile 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 items.

SDV 164 2 1 2 0 0
ELECTRONIC PORTFOLIO DEV GENERAL
Students will receive instruction in creating an electronic portfolio of work. Emphasis will be on selecting artifacts, reflecting on choices, formatting and displaying a web-based portfolio for career or college transfer.

SDV 165 1 1 0 0 0
TRANSFER PLANNING 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.

SDV 171 1 1 0 0 0
LIBRARY INSTRUCTION GENERAL
Study of classification systems, use of library resources and the compilation of bibliographies.

SDV 172 1 1 0 0 0
INTERNET RESEARCH TECHNIQUES GENERAL
Students will learn how information resources are organized on the internet and how to reference, search and evaluate information on particular topics. Prerequisite: Basic computer literacy

SDV 195 – ADJUNCT
STUDENT GOVERNMENT EXPERIENCE GENERAL
The student participates in Student Action experience by attending board meetings and functions and by serving on subcommittees of SAC. The student will study systems model theory and complete a written project that integrates their particular experience into a general framework. May be repeated up to four times. (PR) Prerequisite: SAC 191

SDV 212
COOP CAREER SEMINAR VOC/TECH
Examination of topics relevant to the internship experience, sharing workplace problems encountered and the solutions found to those problems. This course may be repeated for a maximum of four credits. Corequisite: SDV 222 or 223, or 224, or 225 or 227

SDV 222 1 0 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. (PR) Prerequisite: SDV 212

SDV 223 2 0 0 0 0
COOP CAREER EXPERIENCE II VOC/TECH
Practical experience through on-the-job training in an approved business setting. Tasks will be consistent with student’s career objectives, skills and knowledge. (PR) Prerequisite: SDV 212

SDV 224 3 0 0 0 0
COOP CAREER EXPERIENCE III VOC/TECH
See SDV 223. (PR) Prerequisite: SDV 222

SDV 225 4 0 0 0 0
COOP CAREER EXPERIENCE IV VOC/TECH
See SDV 223. (PR) Prerequisite: SDV 222

SDV 226 5 0 0 0 0
COOP CAREER EXPERIENCE V VOC/TECH
See SDV 223. (PR) Prerequisite: SDV 222

SDV 227 6 0 0 0 0
COOP CAREER EXPERIENCE VI VOC/TECH
See SDV 223. (PR) Prerequisite: SDV 222

SOC 100 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 and programs for prevention and treatment.

SOC 105 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 115
FUND OF ORAL COMMUNICATION CORE
Explores the fundamentals of speech communication through the study and practice of interpersonal and small group communication and the composition and delivery of short speeches.

SOC 120 3 3 0 0 0
INTERCULTURAL COMMUNICATION CORE
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.

SOC 126 3 3 0 0 0
INTERPERSONAL & SMALL GROUP COMM Core
An introduction to interpersonal and group communication theories and their application in relationship development, conflict resolution, group problem-solving and group presentations.

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SCV 310 30000 00 0 0 0
PROFESSIONAL COMMUNICATION
GENERAL
Communication theory applied to organizational settings in such forms as interviewing, group work, conflict resolution and public, impromptu and ceremonial speaking. Topics: organizational perspectives, leadership, power, intercultural diversity, nonverbal communication and perception. Prerequisite: SCI 101 or SCI 206 or permission of instructor.

SRV 110 30000 00 0 0 0
SURVEY DRAFTING
VOC/TECH
This course includes the application of manual and computer-aided techniques in survey drafting. The topics include flat maps, topography, field notebook sketches and property descriptions. Third party software will be utilized. Prerequisite: CET 178.

SRV 120 54200 00 0 0 0
US PUBLIC LANDS SURVEY SYSTEM
VOC/TECH
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; resurveys; special surveys and special instructions; field notes; and plats. Prerequisite: CET 112.

SRV 210 31400 00 0 0 0
SAFETY IN THE WORK ENVIRONMENT
VOC/TECH
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 positive 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.

SRV 225 22000 00 0 0 0
INTRO TO LAND INFORMATION SYST
VOC/TECH
An introduction to Land Information System and Land Records Research. Mapping information analysis compiled from county records for environmental protection, land uses, land values and the responsibility of the professional surveyor to a land information system will be covered. An introduction to US software will be included. Prerequisite: CET 112.

SRV 230 31400 00 0 0 0
BOUNDARY SURVEYING
VOC/TECH
This course will develop a working knowledge of land boundary surveying including liability, professional stature, original surveys, apportionment procedures and description writing. Field work in both urban and rural settings will be performed. Prerequisite: SRV 120.

SRV 235 54200 00 0 0 0
INTRODUCTION TO GEODESY
VOC/TECH
This course deals with concepts of astronomy and geodesy that are relevant to the practice of surveying. They include theory; field techniques; coordinate systems; gravity and leveling; control surveys and networks; GPS surveying, an introduction to the figure of the Earth and its geometric and physical characteristics; solar and Polars observations; and computations involved in the determination of true north. Prerequisite: MAT 775 or instructor approval.

SRV 240 40000 00 0 0 0
BOUNDARY LAW
VOC/TECH
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 locations and in resolving boundary disputes will be examined. Prerequisite: SRV 220.

SRV 305 50000 00 0 0 0
FIELD COOP
VOC/TECH
Practical experience through on-the-job training in an approved surveying setting. Tasks will be consistent with students’ career objectives, skills and knowledge. Prerequisite/Corequisite: Successful completion of 15 credit hours of SRV program courses and/or department approval.

SUR 130 22000 00 0 0 0
INTRO TO SURGICAL TECHNOLOGY
VOC/TECH
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, laws, scope of practice and the physical environment will be reviewed. This course includes one operating room shadowing experience.

SUR 140 53400 00 0 0 0
FUND OF SURGICAL TECH I
VOC/TECH
Teaches the skills needed to work as a surgical technologist. 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 142 53400 00 0 0 0
FUND OF SURGICAL TECH II
VOC/TECH
This course focuses on the scrub role. Instrumentation and setting up of instruments will be discussed. How to pass, load suture, dress wounds and safely discharge the patient will be included. The goal of the course is for students to begin to feel comfortable in the scrub role and move into more challenging cases. Prerequisite: SUR 140 with a grade of “C” or better. Corequisite: SUR 805.

SUR 200 33000 00 0 0 0
SURGICAL PROCEDURES/TECHNIQUES
VOC/TECH
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. It will discuss how and why these procedures are performed, risks, benefits and outcomes.

SUR 202 33000 00 0 0 0
ADV SURGICAL PROCEDURES/TECH
VOC/TECH
This class will discuss advanced surgical procedures and emergency cases. All specialty areas will be included, along with neurology 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. Prerequisites: SUR 142 and SUR 200 with a grade of “C” or better. Corequisite: SUR 810.

SUR 805 50000 00 0 0 0
CLINICAL PRACTICUM I
VOC/TECH
Clinical is spent circulating and scrubbing for minor and major procedures. The student will begin circulating and when students have demonstrated the ability to circulate, they will begin scrubbing. All specialty areas will be covered and they will scrub for a variety of cases. The goal is to expose the student to many different types of surgery. Prerequisites: SUR 130 and SUR 140 with a grade of “C” or better, BIO 721. Corequisite: SUR 142.

SUR 810 50000 00 0 0 0
CLINICAL PRACTICUM II
VOC/TECH
The student will gain more experience in the scrub and circulating roles. Experiences in cardiovascular and neurosurgery are included. Two call or emergency experiences are included. The student should feel comfortable assisting in circulating and scrubbing independently for procedures in all specialty areas. Prerequisites: SUR 142 and SUR 805 with a grade of “C” or better. Corequisite: SUR 202.

TEL 111 33000 00 0 0 0
BASIC ELECTRICITY/ELECTRONIC I
VOC/TECH
For beginners to solve basic electrical 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 22000 00 0 0 0
BASIC ELECTRICITY/ELECTRON. II
VOC/TECH
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 currents, transformer action, series and parallel resonant circuits. May also be taken as a study course.

TEL 115 22000 00 0 0 0
ELECTRONIC CIRCUITS
VOC/TECH
Basic and operational amplifiers, power supplies, oscillators, pulse circuits and modulation. Must have prior knowledge in electricity/electronics. Prerequisite: TEL 112.

TEL 118 33000 00 0 0 0
SEMICONDUCTOR DEVICES
VOC/TECH
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 33000 00 0 0 0
TELECOMMUNICATIONS I
VOC/TECH
Provides an overview of telecommunication and covers basic telecommunication circuits, equipment and diagnostic procedures for lines, basic key systems and an understanding of the telecommunications industry. Corequisite: TEL 213.

TEL 212 30600 00 0 0 0
INTRODUCTION TO TELEPHONE LAB
VOC/TECH
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 40000 00 0 0 0
TELECOMMUNICATIONS II
VOC/TECH
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 220, 223.

TEL 222 40000 00 0 0 0
TELECOM OUTSIDE PLANT
VOC/TECH
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 225 30600 00 0 0 0
TELECOM TRANSPORT LAB
VOC/TECH
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. Prerequisites: TEL 210, TEL 215. Corequisite: TEL 220.

TEL 230 40000 00 0 0 0
ADVANCED TOPICS IN TELECOM
VOC/TECH
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 210, 225. Corequisite: TEL 235.

TEL 232 33000 00 0 0 0
DATA COMMUNICATIONS
VOC/TECH
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 215.

TEL 235 30600 00 0 0 0
ADVANCED TOPICS IN TELECOM LAB
VOC/TECH
Provides hands-on learning with broadband fiber circuits, digital multiplex systems and high-speed transport devices, Focus on system configuration and diagnostics are also presented. Prerequisite: TEL 220, 223. Corequisite: TEL 230.

TEL 240 33000 00 0 0 0
TELECOMMUNICATIONS MANAGEMENT
VOC/TECH
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 220, 223. Corequisite: TEL 245.
COURSE DESCRIPTIONS

TEL 245 3 0 6 0 0
INTERNETWORKING LAB VOC/TECH
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, xDSL, ISDN and other technologies are used and implemented in the lab setting. Prerequisite: TEL 230, 235 Co-requisite: TEL 240

VIN 111 3 2 2 0 0
VINEYARD EST & MAINTENANCE VOC/TECH
This course is designed to introduce students to current practices for establishing a vineyard and maintaining its health and productivity. Four field sessions consist of hands-on experience within area vineyards.

VIN 113 3 2 2 0 0
SPRING VITICULTURE TECHNOLOGY VOC/TECH
This course is designed to provide students initiated in the field of viticulture with an extension of the practical viticulture covered in VIN 111. The course is designed to serve as actual practical exposure and may qualify as experience for those seeking employment in commercial viticulture. Prerequisite: VIN 111

VIN 116 2 2 0 0 0
INTRODUCTION TO ENOLOGY VOC/TECH
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 technician. Prerequisite: VIN 150 or instructor permission

VIN 117 3 0 6 0 0
INTERNSHIP IN ENOLOGY VOC/TECH
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 150 or instructor permission

VIN 150 3 3 0 0 0
INTRODUCTION TO WINE VOC/TECH
This course presents introductory information on wine appreciation, focusing on sensory analysis, production, classification and culture of wine.

VIN 160 2 1 2 0 0
CELLAR EQUIPMENT OPERATION VOC/TECH
This course covers process technologies and process systems that are used in modern commercial wineries. The course will include lectures, demonstrations and three field trips.

VIN 211 2 0 0 0 0
INTEGRATED PEST MANAGEMENT VOC/TECH
This course will address management issues related to common, expected pest problems, as well as the occasional appearance of minor pest problems.

VIN 213 2 0 0 0 0
MIDWEST VINEYARD MGT VOC/TECH
This course is a study of commercial grape growing in the Midwest United States. Topics include cultivars, vine nutrition, irrigation, canopy management, pests, maturity sampling and harvest, balanced pruning/ cropping and cold injury. Prerequisite: VIN 111, 115

VIN 239 2 1 2 0 0
TRANSITIONAL SOILS-VITICULTURE VOC/TECH
This course will explore soils properties and behavior as they relate to growing grapes for fine wines. The course is designed for students who have taken the general soils course and desire further specialization in transitional soils.

VIN 246 2 2 0 0 0
INTERMEDIATE ENOLOGY VOC/TECH
This course in the science and technology of winemaking is intended for the experienced intermediate winemaker, the winery employee interested in career development or the advanced home winemaker who is seeking new challenges. Basic organic Chemistry, microbiology and H.S. Algebra or equivalent is recommended. Prerequisite: VIN 146

VIN 268 3 2 0 0 0
WINE & MUST ANALYSIS VOC/TECH
Principles of grape juice and wine analysis and the reasons for use of each analysis. Analysis of a practical and useful nature are chosen for the laboratory exercises demonstrating various chemical, physical and biochemical methods. High school Chemistry or equivalent recommended. Prerequisite: VIN 146

VIN 293 3 3 0 0 0
SOILS FOR VITICULTURE VOC/TECH
The course will explore soils properties and their influence on wines. The course focuses not only on growth and production, but on the long-term effects of viticulture on soil quality and the wider environment.

VIN 300 3 0 0 0 4
FIELD EXPERIENCE VOC/TECH
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 150 or instructor permission

VIN 922 3 0 0 0 4
INTERNSHIP IN ENOLOGY VOC/TECH
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 150 or instructor permission

WEL 111 3 3 0 0 0
WELDING BLUEPRINT READING VOC/TECH
The basic skills needed to read shop drawings (including welding symbols) will be learned. Prerequisite: MAT 772

WEL 120 2 0 4 0 0
OXY FUEL WELDING/CUTTING VOC/TECH
Skills will be developed in oxy-acetylene welding, cutting and repair. Safety is emphasized.

WEL 150 2 0 4 0 0
ARC WELDING I (SMAW) VOC/TECH
Skills will be developed in welding fillet joints in the vertical downhill and vertical uphill position. Safety is emphasized. Prerequisite: WEL 150

WEL 165 3 0 6 0 0
ARC WELDING II (SMAW) VOC/TECH
Skills will be developed in welding fillet joints in the horizontal position. Safety is emphasized. Prerequisite: WEL 150

WEL 166 2 0 4 0 0
ARC WELDING III (SMAW) VOC/TECH
Skills will be developed in welding corner fillet joints, weld arounds and sheet metal weldments in the flat positions. Safety is emphasized. Prerequisite: WEL 150

WEL 167 3 0 6 0 0
ARC WELDING IV (SMAW) VOC/TECH
Skills will be developed in welding beads, buildup surfacing and fillet weldments in the horizontal position. Safety is emphasized. Prerequisite: WEL 150

WEL 168 3 0 6 0 0
ARC WELDING V (SMAW) VOC/TECH
Skills will be developed in welding fillet joints in the vertical downhill and vertical uphill position. Safety is emphasized. Prerequisite: WEL 150

WEL 169 2 0 4 0 0
ARC WELDING VI (SMAW) VOC/TECH
Skills will be developed in welding fillet joints in the overhead position. Air carbon arc gouping and plasma arc cutting will also be practiced. Safety is emphasized. Prerequisite: WEL 150

WEL 176 2 0 4 0 0
ADV ARC WELDING I (SMAW) VOC/TECH
Skills will be developed in welding and testing vee groove joints in the flat and horizontal positions. Safety is emphasized. Prerequisite: WEL 150

WEL 177 3 0 6 0 0
ADV ARC WELDING II (SMAW) VOC/TECH
Skills will be developed in welding and testing in the vertical and overhead positions. Safety is emphasized. Prerequisite: WEL 150

WEL 181 2 0 4 0 0
GAS METAL ARC WELDING VOC/TECH
Practical application in the use of the gas metal arc welding process including submerged arc and flux cored arc. Safety is emphasized.

WEL 190 2 0 4 0 0
GAS TUNGSTEN ARC WELDING VOC/TECH
A course to develop skills in the gas tungsten arc welding process using mild steel, stainless steel and aluminum. Safety is emphasized. Prerequisite: WEL 150

WEL 305 3 0 6 0 0
PIPE WELDING/SMAW VOC/TECH
Welding practice and testing on open groove plate weldments in the 1G, 2G, 3G and 4G positions and, as time permits, on pipe weldments in the 2G, 5G and 6G positions. Safety is emphasized. Prerequisite: WEL 150

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<table>
<thead>
<tr>
<th>Name</th>
<th>Degree(s)</th>
<th>Institution(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGINSKY, VERA</td>
<td>2005, English as a Second Language</td>
<td>M.A., Minsk Pedagogical University; M.A.T., Drake University; Ph.D., Middlebury College</td>
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<tr>
<td>AGYEMAN, AHMED</td>
<td>2004, Academic Advisor</td>
<td>B.S., M.Ed., Iowa State University</td>
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<tr>
<td>ALBERTSON, MARCIA</td>
<td>1974, P.C. Applications</td>
<td>B.A., University of Northern Iowa</td>
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<td>ANDERSON, ROBERT L.</td>
<td>1974, Hospitality Careers</td>
<td>A.O.S., Culinary Institute of America; Mankato Area Vocational Technical Institute; C.C.E.; Order of the Golden Toque Society</td>
</tr>
<tr>
<td>ANDERSON, RON D.</td>
<td>1999, HVAC A.A.</td>
<td>Arapahoe Community College; B.S., University of Colorado-Denver</td>
</tr>
<tr>
<td>ATAL, HADI</td>
<td>2002, Academic Advisor</td>
<td>B.A., Grinnell College</td>
</tr>
<tr>
<td>Aukes, shiela r.</td>
<td>2006, Counselor</td>
<td>B.A., St. Cloud State University; M.S.W., University of St. Thomas</td>
</tr>
<tr>
<td>Bailey, Greg A.</td>
<td>2000, Industrial</td>
<td>Electromechanical Technology Assoc., National Institute of Technology</td>
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<tr>
<td>BAKER-Brodersen, Beth M.</td>
<td>2005, English/Academic Achievement Center</td>
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<td>Barrett, Larry</td>
<td>1988, Respiratory Therapy</td>
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<tr>
<td>Bascom, Tim P.</td>
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<tr>
<td>Becker, Amanda</td>
<td>2001, Nursing</td>
<td>B.S.N., Allen College; M.S.N., Drake University</td>
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<td>Bell, deborah p</td>
<td>1987, Dental Assistant</td>
<td>A.A., A.S., Des Moines Area Community College</td>
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<td>Beltrame, Dave</td>
<td>2004, Graphic Technologies</td>
<td>Diploma, Des Moines Area Community College</td>
</tr>
<tr>
<td>Bendy, steve j</td>
<td>2000, Graphic Design</td>
<td>B.F.A., B.S.Ed., University of Nebraska</td>
</tr>
<tr>
<td>Bergin, timothy m</td>
<td>1996, Biology</td>
<td>B.S., Kansas State University; M.S., University of Nebraska-Lincoln; Ph.D., Bowling Green State University</td>
</tr>
<tr>
<td>Berglund, eric j</td>
<td>2000, Coordinator, Network Systems</td>
<td>A.A.S., DeVry Institute of Technology</td>
</tr>
<tr>
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<td>2002, Nursing, A.D.N.</td>
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</tr>
<tr>
<td>Bishop, Patrick J.</td>
<td>1995, Diesel</td>
<td>A.A.S., Des Moines Area Community College; A.A.S., Iowa State University</td>
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<tr>
<td>Bittner, Sharon G.</td>
<td>2000, Director, Program Development</td>
<td>B.S., Indiana State University; M.A., Drake University</td>
</tr>
<tr>
<td>Booth, connie</td>
<td>1982, Nursing</td>
<td>B.S.N., Creighton University; M.S.N., University of Nebraska Medical Center</td>
</tr>
<tr>
<td>Boudjarane, Khaled</td>
<td>2005, Physics</td>
<td>B.Sc., M.Sc., University of Quebec, Trois-Rivieres; Ph.D., Laval University, Quebec, Canada</td>
</tr>
<tr>
<td>Bowlin, debbie d</td>
<td>2005, Health Occupations</td>
<td>A.A., Southwestern Community College; B.S.N., Grand View College</td>
</tr>
<tr>
<td>Bradley, Jane</td>
<td>1996, Biology</td>
<td>A.S., Seminole State University; B.S., Oklahoma State University; M.S., University of Oklahoma</td>
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<tr>
<td>Brand, sonja k</td>
<td>1995, Academic Achievement Center</td>
<td>B.S., Northwest Missouri State University</td>
</tr>
<tr>
<td>Brend, joseph</td>
<td>1998, Building Trades</td>
<td></td>
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<td>Brockelsby, John W.</td>
<td>1987, Business Administration</td>
<td>B.G.S., University of Nebraska at Omaha; M.A., Webster University</td>
</tr>
<tr>
<td>Brown, georgia k</td>
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<tr>
<td>Brown, lori m</td>
<td>2005, Dental Hygiene</td>
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</tr>
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<td>Bruiins, cynthia c</td>
<td>1987, Nursing</td>
<td>B.A., Central College; M.Ed., East Carolina University; B.S.N., Grand View College; M.S.N., Drake University; CNM/ARNP</td>
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<td>Brumback, lisa p</td>
<td>2005, Academic Achievement Center</td>
<td>B.A., Albright College</td>
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<td>Burkhardt, bryan a</td>
<td>2001, Electronics</td>
<td>B.S., Iowa State University</td>
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<td>Burns, jerald L</td>
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<td>A.A.S., Des Moines Area Community College</td>
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<tr>
<td>Butin, patricia</td>
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<td>Veterans/Scholarships; A.A., Des Moines Area Community College; B.A., Drake University</td>
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<tr>
<td>Calkin, jeffrey b</td>
<td>1988, Automotive Technology</td>
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<td>Campbell, karen j</td>
<td>1999, Medical Laboratory Technology</td>
<td>B.A., M.A.T., Drake University</td>
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<td>Campos, kyle ann</td>
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<td>B.F.A., M.S., Drake University</td>
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<tr>
<td>Carey, phillip j</td>
<td>2004, Hospitality Careers</td>
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<tr>
<td>Carpenter, christina m</td>
<td>2004, Counselor</td>
<td>A.A., State Fair Community College; B.S., M.S., Central Missouri State University; Kansas State University</td>
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<tr>
<td>Carroll, john w</td>
<td>2003, Title I Corrections</td>
<td>B.A., Loras College; M.A., University of Northern Iowa</td>
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<tr>
<td>Chacko, sandra j</td>
<td>1980, Nursing</td>
<td>B.S.N., M.A., University of Iowa; Ph.D., Iowa State University</td>
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<tr>
<td>Chase, hal s</td>
<td>1989, History</td>
<td>B.A., Washington &amp; Lee University; M.A., Stanford University; Ph.D., University of Pennsylvania</td>
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<tr>
<td>Cherry, michael r</td>
<td>2000, Safety/Fire Science</td>
<td>A.A., Des Moines Area Community College; B.A., Simpson College</td>
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<td>Chopard, lois</td>
<td>1987, Academic Advisor</td>
<td>B.A., University of Northern Iowa</td>
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<tr>
<td>Christman, rick l</td>
<td>1989, English</td>
<td>B.A., University of Wisconsin-Madison; M.A., Mankato State University; D.A., Drake University</td>
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<tr>
<td>Cipale, deborah j</td>
<td>2005, Coordinator</td>
<td>Nursing Resource Lab. R.N., Iowa Methodist School of Nursing; B.S.N., Grand View College; M.S.N., Nebraska Methodist College</td>
</tr>
<tr>
<td>Conis, peter j</td>
<td>2000, Sociology/Criminal Justice</td>
<td>A.A., Des Moines Area Community College; B.S., M.S., Ph.D., Iowa State University</td>
</tr>
<tr>
<td>Conway, anna l</td>
<td>2007, Speech</td>
<td>Sp.D., International University, Moscow; M.A., University of Northern Iowa</td>
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<td>Cooper, margaret h</td>
<td>2007, Nursing</td>
<td>R.N., Iowa Lutheran Hospital School of Nursing; B.S.N., Drake University; M.S., University of Iowa</td>
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<tr>
<td>Cory, cynthia h</td>
<td>1980, Nursing</td>
<td>B.S.N., University of Iowa; M.S.N., Clarkson College</td>
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<td>Dameron, april j</td>
<td>2001, Academic Advisor</td>
<td>B.A., Simpson College</td>
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<td>Davenport, rita l</td>
<td>2002, Counselor</td>
<td>B.A., Central College; M.S.E., University of Wisconsin, Platteville</td>
</tr>
<tr>
<td>Davis, susan m</td>
<td>2003, Nursing</td>
<td>Diploma, St. Vincent School of Nursing; B.S.N., Briar Cliff University; M.S., Iowa State University</td>
</tr>
<tr>
<td>Dawson, rick e</td>
<td>2004, Associate Provost</td>
<td>West Campus; A.A., Iowa Central Community College; B.A., Buena Vista College; M.S., Northwest Missouri State University; University of Iowa</td>
</tr>
<tr>
<td>Day, ann m</td>
<td>2000, Nursing</td>
<td>B.S.N., M.S.N., University of Iowa</td>
</tr>
<tr>
<td>Denson, robert j</td>
<td>2003, President/CEO</td>
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</tr>
<tr>
<td>Dickson, nancy k</td>
<td>1995, Director, Scheduling</td>
<td>B.A., Western Illinois University; University of Illinois; North Dakota State University</td>
</tr>
<tr>
<td>Dickson, valree m</td>
<td>1992, Nursing</td>
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</tbody>
</table>
FACULTY AND STAFF

DORAN, JOHN M., 1980, Mathematics. B.A., University of Northern Iowa; M.A., San Diego State University

DORON, BONNE B., 1994, English. A.A., Colby-Sawyer College; B.A., M.A., East Texas State University; Ph.D., Texas Woman's University

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DOUGLAS, LAURA L., 2005, Provost, Urban Campus. B.A., University of Southern Maine; M.A., School for International Training; M.A., Ph.D., University of Michigan

DOWIE-REESER, LORI K., 1995, Academic Advisor. B.A., Simpson College; M.A., Des Moines Area Community College

DYKE, BRADLEY F., 2002, Political Science/History. B.A., B.A.Ed., University of Missouri; Kansas City; M.A., University of Kansas

EASTER, WILLIAM J., 1994, Culinary Arts. A.A.S., Des Moines Area Community College

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FRAZER, DOUG L., 1993, Academic Advisor. A.L.S., Black Hawk College; B.A., M.S., Ed.D., Drake University; University of Maryland; Harvard University

FRIEDLEIN, KAREN L., 2003, Biology. B.S., The George Washington University; M.S.M., Hampton University; D.P.M., University of Osteopathic Medicine and Health Science

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FUNKE, REBECCA S., 2004, Librarian/ Media Specialist. B.A., M.A., University of Iowa

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GALENA, RANDY J., 2005, Director, Program Development. B.A., University of Northern Iowa; M.A., Drake University

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GARDNER, MARVIN., 1999, Data/Computer Science. B.S., M.A., University of Iowa

GARVIS, PAMELA J., 2003, Nursing. A.S., Des Moines Area Community College; B.S.N., Briar Cliff University


GATZKE, MICHAEL L., 1997, Architectural Drafting. B. Arch., Iowa State University; Assoc. AIA; CSI-I; CDT; ACP

GAVIN, DAVID, 1999, English. B.A., Portland State University; M.F.A., University of Arkansas

GEIGER, KERRY, 1977, Respiratory Therapy. B.S., University of Illinois; M.Ed., Iowa State University; University of Chicago Hospital and Clinic Schools; University of Iowa; Iowa State University

GEIS, TENA M., 2004, Dental Hygiene. B.S., University of Iowa

GIMMER, BRETT L., 2007, Automotive Technology. A.A.S., Community College of Denver; B.A.S., University of Northern Colorado

GLASSMAN, DONALD L., 1998, Biology. B.S., M.S., University of Maryland; D.V.M., University of Minnesota

GOCKEN, R. DREW., 1992, Academic Dean, Business Management & Information Technology. B.S., Iowa State University; Illinois Institute of Technology; M.Ed., Iowa State University

GOODE, TERRY L., 1989, Diesel. A.A.S., Des Moines Area Community College

GOODRICH, TONY A., 2004, Biology. B.A., Warburg College; M.S., Palmer College of Chiropractic

GORMAN, WILLIAM G., 1989, Diesel. A.A.S., Des Moines Area Community College; Iowa State University; Drake University

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GRANETH, GEORGE J., 2000, Architectural Millwork. B.A., University of Iowa

GRANSTRA, PATRICIA R., 1997, English. B.A., Buena Vista College; M.A., University of South Dakota

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HANSEN, PAULA, 1989, Business Administration. B.S., University of South Dakota; M.A., Western Michigan University

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HAUSER, DAVID W., 1992, Philosophy. B.A., M.S., Iowa State University; M.A., University of Arizona; Ph.D., Duquesne University

HAUSER, JUDITH A., 1996, English. B.A., Drake University; M.A., Florida State University; M.A., Iowa State University

HAWKINS, DELORES W., 1999, Director of Financial Aid. B.S., M.S., Iowa State University

HEILSKOV, HEIDI, 1999, Academic Advisor. B.S., Iowa State University

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HELGESON, A. SCOTT, 1994, Biology. B.A., M.A., University of Nebraska

HENSEN, KARLA, 2004, Judicial Officer. B.S., M.S., Ph.D., Iowa State University

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HILL, HOMER D., 2004, Academic Advisor. B.A., M.A., University of Southern Mississippi; Certificates, Duke University

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HOWELL, AMY, 1999, Academic Advisor. B.S.W., University of Northern Iowa

HOWSARE, ANNE M., 2003, Counselor. B.A., M.A., University of Iowa

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