Catalog 2006-07

DMACC
Can I find answers to the following FAQs online? Yes, visit www.DMACC.edu

What do I need to consider if I’m planning to transfer? Transfer Information

What majors/programs are available to me at DMACC? Educational Programs

Who can help me decide which career suits me? Career Resource Center

Where can I receive help in selecting my courses? Educational Advising/Counseling Services

How much will my classes cost? Tuition/Fees

What do I have to do to be admitted? Admissions

Are financial aid programs available? Financial Aid/Foundation

Is there campus housing available? Student Services/Student Housing

Can I get a part-time or work-study job on campus? Financial Aid/Student Employment Assistance

Is day care available for my child/children? Child Care

If I have a learning disability, whom should I contact? Services for Students with Disabilities

I understand DMACC offers free tutoring. How can I use this service? Tutoring

How do I transfer credits from a different school? Transfers to DMACC

Can I finish my high school diploma at DMACC or get a GED? GED Testing Centers

I am new to the U.S. Is English as a second language taught at DMACC? English as a Second Language (ESL)

Can I receive help with my course work? Academic Achievement Center and Tutoring

Is there an easy career assessment tool to help select my DMACC program/major? Choosing a Career Guide

For more information about services, procedures and policies at Des Moines Area Community College, pick up a copy of the Student Handbook at any Student Services office. The Handbook includes information on student rights and responsibilities, student conduct and discipline policies, parking policies, academic appeals, policies regarding tobacco, alcohol and weapons on campus, and more.
## PROGRAMS AVAILABLE 2006–07

### ARTS AND SCIENCES AND PREPROFESSIONAL EMPHASIS

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<th>Campus</th>
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#### Pre-professional Emphasis - Programs available at selected campuses

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Associate in General Studies: AGS - All

### VOCATIONAL AND PARAPROFESSIONAL PROGRAMS

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### PROGRAM AWARD CAMPUS

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### PROGRAM AWARDS CAMPUS

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### CAMPUS CODES:

- (A) Ankeny
- (B) Boone
- (C) Carroll
- (N) Newton
- (W) West

* Selected courses in this program are offered at this campus

AA = Associate in Arts degree
AS = Associate in Science degree
AAS = Associate in Applied Science degree
AGS = Associate in General Studies degree
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  - Accounting Paraprofessional
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  - Aging Services Management
  - Agri-Business
  - Architectural Millwork
  - Architectural Technologies
  - Auto Collision Technology
  - Auto Mechanics Technology
  - Biotechnology
  - Building Trades
  - Business Administration
  - Business Information Systems
  - CAP - Chrysler
  - Caterpillar Technology
  - Civil Engineering Technology
  - Commercial Horticulture
  - Computer-Aided Design Technology
  - Criminal Justice - AA or AS
  - Culinary Arts
  - Dental Assistant
  - Dental Hygiene
  - Diesel Technology
  - Early Childhood Education
  - Early Childhood Education- Associate
  - Electrical Construction Trades
  - Electronics, Robotics and Automation
  - Electronic Systems
  - Servicing Technology
  - Entrepreneurship
  - Fashion/Design
  - Fire Science Technology
  - Fitness and Sports Management
  - Graphic Design
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  - Hospitality Business
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  - Human Services
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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
History

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 Synerg.e 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 2001-2003. Robert Denson became our current president in November 2003.

Mission and Goals

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

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

DMACC exists to:

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

Nondiscrimination Policy

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

Student Right to Know

Institutions are required to provide students with information regarding campus security, alcohol and drug use, crime prevention, reporting of crimes, sexual assaults, Equal Employment Opportunity and Affirmative Action, college policy regarding HIV/AIDS, graduation rates, and transfer data, drug-free schools, and campus information. This data can be obtained at the Information Center on the Ankeny Campus and from the Provost’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.
**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 plans further expansion.

**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 some 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**

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<th>District</th>
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<td>Harold Belken, Des Moines</td>
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<td>Ben Norman, Board Vice-Chair, Ankeny</td>
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<td>Cheryl Langston, Ames</td>
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<td>Naomi Neu, Carroll</td>
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<td>Joe Pugel, Board Chair, Newton</td>
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<td>Wayne Rouse, M.D., Boone</td>
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<td>Madelyn Tursi, Des Moines</td>
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<td>James Crawford, Clive</td>
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<td>Kevin Halterman, Indianola</td>
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### Ankeny Campus
(515) 964-6200 or 1-800-362-2127
Campus Code #1 and the Ext#

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### Boone Campus
(515) 432-7203 or 1-800-362-2127
Campus Code #3

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

### Carroll Campus
(712) 792-1755 or 1-800-362-2127
Campus Code #4

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Veterans Services: Refer all inquiries to: 964-6284 or 800-362-2127 Ext. #6284 Ankeny Campus
Newton Campus
(641)-791-3622 or 1-800-362-2127
Campus Code # 5

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

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

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

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

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2006–2007 ACADEMIC CALENDAR

Fall Semester 2006
Aug. 28, 2006..............................Fall Semester Begins
.............................................(first day of classes)
Sept. 4, 2006................................Labor Day, No Classes,
.............................................Offices Closed
Oct. 1, 2006................................Application Deadline
.............................................for Fall Graduates
Oct. 20, 2006...............................MIDTERM
Nov. 6, 2006................................Last Day to Withdraw from
.............................................Regular Term Classes
Nov. 23–26, 2006......................Thanksgiving Holiday
.............................................No Classes, Offices Closed
Dec. 15, 2006..............................Last Day of Fall Semester
Dec. 23, 06–Jan. 1, 07 .........Christmas & New Year’s
.............................................Holidays Offices Closed

Spring Semester 2007
Jan. 8, 2007...................................Spring Semester Begins
.............................................(first day of classes)
Jan. 15, 2007................................Martin Luther King Holiday
.............................................Offices Closed
Feb. 1, 2007..................................Application deadline
.............................................Spring/Summer Graduates
Mar. 2, 2007..................................MIDTERM
Mar. 9, 2007..................................All Staff In-Service
.............................................No Classes, Offices Closed
Mar. 19–25, 2007.....................Spring Break
.............................................No Classes, Offices Open
Mar. 27, 2007..................................*Last Day to Withdraw
.............................................from Regular Term Classes
May 3, 2007..................................Last Day of Spring Semester
May 3, 2007..................................7:00 p.m. Ankeny/Urban/
.............................................Newton/West Graduation
May 4, 2007..................................10:00 a.m. Boone Graduation
May 7, 2007..................................6:00 p.m. Carroll Graduation

Summer Semester 2007
May 29, 2007..................................Summer Semester Begins
.............................................(first day of classes)
July 4, 2007..............................Holiday - No Classes
.............................................Offices Closed
Aug. 8, 2007..................................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:
   - DMACC Admissions Office
   - 2006 South Ankeny Boulevard
   - Ankeny, Iowa 50023-8995
   - or fax the form to 515-964-6391.

   Students may request a form by calling the Admissions Office at 1-800-362-2127, ext. 2408 or 1-800-622-3334.

   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.

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

3. Complete any program entrance 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 at the time all admission requirements are met, the applicants will be placed on stand-by 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. There is no charge for this service the first time; however, any retests cost $10 each.

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

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

   - Writing – grade of C or higher in a college-level writing course.
   - Reading – grade of C or higher in 6 hours of college-level academic course work such as psychology, sociology, economics, etc. and/or vocational technical course work requiring comparable reading skills.
   - Math – grade of C or higher in 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 writing assessment before enrolling in any course that has writing expectations or requirements.
   3. A reading assessment before enrolling in a course with substantial reading assignments. 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: 712-792-1753 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 parent/guardian and 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.
ADMISSIONS

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 any full-time student must meet the Guidelines for Required Assessment.

ADMISSION OF PRE-HIGH SCHOOL STUDENTS

In limited circumstances, DMACC may allow pre-high school students to enroll in credit courses. Completion of all the steps listed below is necessary before the College will make a decision about admitting and enrolling any person who is not at least a freshman in high school:

1. Approval of the school counselor or principal.
2. Approval of the parent or guardian.
3. COMPASS testing or submission of ACT scores. Students not meeting minimum scores for placement in college-level courses will not be allowed to enroll. Course placement based on test scores will be mandatory.
4. Any specific course or program prerequisite must be met.
5. Students are limited to no more than two credit courses per term.
6. Students must meet, without the parent being present, with the appropriate instructor, program chair, or dean for an evaluation of readiness for each desired course. A determination that a student is not ready, either educationally or emotionally, will prohibit enrollment in that course.

ADMISSION OF HOMESCHOOLED STUDENTS

Home-schooled students may apply for admission by following these guidelines:

1. Complete a Des Moines Area Community College 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.
4. The student must meet with a DMACC advisor or counselor prior to registration.

Note: Course placement is mandatory based on COMPASS or ACT results.

ADMISSION OF GUEST STUDENTS

Students who have been accepted for admission at another college or university or whose primary enrollment is at another college may enroll as a “guest student” at DMACC. Guest student status allows an individual to enroll as a full-time student for summer semesters only without meeting the assessment requirements.

Guest students complete a DMACC Application for Admission and supply proof of enrollment such as an acceptance letter or a valid student ID from their primary school of attendance. Guest students who decide to enroll for a fall or spring semester must meet DMACC admission and assessment requirements.

Note: Guest students are not eligible for financial aid.

ADMISSION OF INTERNATIONAL STUDENTS

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

Deadlines for New International Students

All Applications for Admission and supporting documents must be received NO LATER THAN 120 days prior to the first day of the semester.

Semester	Deadline
Fall 2007..................................April 29, 2006
Spring 2008.............................September 7, 2007

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 23, 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
ADMISSIONS

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:
   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 a resident of Iowa 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.
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:
- Written and notarized documentation from an employer that you are employed in Iowa or a signed and notarized statement from you describing your employment and sources of support.
- Iowa state income tax form.
- Iowa driver’s license
- Iowa vehicle registration card.
- 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 Bureau of Immigration and Citizenship Services. International students cannot establish residency while studying in this country on a temporary visa.
Residency questions and documents should be submitted to the Director of Admissions 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 before meeting all requirements imposed at the time of suspension.

TRANSFERRING CREDIT TO DMACC

Evaluation of Previous Training and Education
Students must request that a transcript bearing the official seal and signature of the official in charge of the records be sent directly to the DMACC Admissions Office by each college or university previously attended. Transcripts that have been in the student’s possession will not be considered official documents. Transcripts must be sent from each previously attended institution even though all previous records may be summarized on one transcript.
DMACC will accept credit from an institution only when submitted by the institution where the credit was earned.
Students submitting an official transcript in a language other than English must also submit and pay for an English translation of this transcript. 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 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 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. 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 on 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 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 an arts and sciences, 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 telephone, fax, or via the Internet in accordance with the times and dates published in the schedule of classes or via the Internet.

DROPPING A COURSE

Students may drop a course through the first five days of the full-length semester. 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. 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, or fax, or via the internet.

VISIT US ONLINE: www.DMACC.edu
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.

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 FACTS management company. 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.

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 initiates a drop via the Internet.
2. The date the student initiates a drop via 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. Education tax credits are subtracted from the tax amount owed. 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/iniits/hope.
EDUCATIONAL EXPENSE/STUDENT ACCOUNTS/FINANCIAL AID

STUDENT TUITION RATE FOR CREDIT OFFERINGS

<table>
<thead>
<tr>
<th>Description</th>
<th>Resident</th>
<th>Nonresident</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full- or part-time enrollment (per credit)</td>
<td>$ 97.00</td>
<td>$ 194.00</td>
</tr>
<tr>
<td>Audit (per credit)</td>
<td>$ 97.00</td>
<td></td>
</tr>
<tr>
<td>Career Supplemental noncredit courses (per contact hour)</td>
<td>Market Rate</td>
<td></td>
</tr>
<tr>
<td>Continuing and General Adult Ed—Local schools (per contact hour)</td>
<td>Market Rate</td>
<td></td>
</tr>
<tr>
<td>High School—Diploma (per course)</td>
<td>$ 75.00</td>
<td></td>
</tr>
<tr>
<td>Level 4-6 (per course)</td>
<td>$ 75.00</td>
<td></td>
</tr>
<tr>
<td>Correspondence fee</td>
<td>$ 85.00</td>
<td></td>
</tr>
</tbody>
</table>

Nonresident tuition is 200% of resident rate.

FEES

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</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</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>Instruction materials fee</td>
<td>$ 50.00</td>
</tr>
<tr>
<td>NLN Testing—per test</td>
<td>$ 100.00</td>
</tr>
<tr>
<td>Returned Check Fee</td>
<td>$ 20.00</td>
</tr>
</tbody>
</table>

TRANSCRIPT FEES

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</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>Amount</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>Description</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>Total</td>
<td>$12,408</td>
<td>$15,348</td>
</tr>
</tbody>
</table>

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.
FINANCIAL AID

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.
3. Review all data before mailing the FAFSA.
4. Mail the FAFSA in the attached envelope.
5. If the student will be filing the FAFSA by April 1 prior to the fall term.

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 mailing 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 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.

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.

State of Iowa Scholarship Program

CRITERIA AND CONDITIONS FOR DMACC FOUNDATION AWARDS

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.

Examples of Awards:

Erskine F. and Vina G. Bennett Scholarships
This award is for full-time students at the Newton campus and requires a 3.0 GPA. The award is need-based and pays all tuition and fees for the Fall semester. Term offered: Fall (not renewable).
FINANCIAL AID

Melvin G. Straub Scholarship in Graphic Communication
This award is for students in graphic communication with a minimum 2.5 GPA as they enroll for their third (summer) term. Term offered: Summer semester (renewable for Fall).

DMACC Pioneers Scholarships
These scholarships are funded by the DMACC Pioneers, an organization of retired DMACC and Iowa Department of Education employees. To be eligible, a 2.75 GPA is required. Awards are renewable dependent on maintaining minimum criterion. Term offered: Fall

The Pella Rolscreen Scholarship
Application for this award is open to Ankeny and Carroll campus students only. This scholarship requires a 3.0 GPA and is need-based. Term offered: Fall

Lue B. McLain Trust Scholarship
Application for this award is limited to Newton Community Schools graduates or Jasper County resident students. This scholarship requires a 2.5 GPA and is need-based. The award may be used at all campuses. Award is $500. Term offered: Fall (renewable for Spring).

Sciences & Humanities Scholarship
Must be a Liberal Arts student. Requires a 3.0 GPA. Preference given to nontraditional students. Term offered: Fall

Al Borchers Memorial Scholarship
Awarded to student enrolled full- or part-time in a Business/Math Program at the Newton Campus. Must be a Jasper County resident with a minimum 2.5 GPA. Term offered: Fall (not renewable).

DMACC ALUMNI ASSOCIATION

DMACC Alumni Association Scholarships and Grants
DMACC’s Alumni Association annually awards scholarships to outstanding DMACC students. These awards are made possible through special alumni fund-raising activities and gifts to the Association for this purpose. Contact the DMACC Alumni Office for more information. Term offered: Spring

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.

Outside Scholarships and Grants Websites
FASTWEB – http://www.fastweb.com
CollegeQuest – http://www.collegequest.com
CASHE – http://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

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.

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:
These 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 $2,625 for freshmen and $3,500 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.

PARTNERSHIP LOANS
The Partnership Loan Program provides low-interest loans to students and families who would not otherwise receive adequate amounts of student aid. Students may obtain additional information by calling 1-800-542-6005.

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

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

VISIT US ONLINE: www.DMACC.edu 17
FINANCIAL AID

repayment options and requirements and loan cancellation provisions. Students may use the www.dlservicer.ed.gov to complete the Exit Counseling requirement or visit any DMACC campus for Exit Counseling.

VETERANS EDUCATIONAL BENEFITS

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

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

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

DMACC is an SOC–Svicememembers 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 (TAG) 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, childcare assistance if not eligible for State block grant. All financial assistance depends on availability of funds. Details may be obtained from the Iowa New Choices Office on the Urban Campus, 515-248-7520.

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.

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 maintain 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 (repeat), 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 the next term of enrollment.
   e. Summer credits earned will be included when totaling minimum credits completed for each calendar year.
FINANCIAL AID

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

4. Cancellation of Eligibility
The second consecutive term a student fails to meet one or more of the minimum progress standards, he/she will 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 re-enrolling 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.

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 are provided class lists and must identify students who have never attended their class. Students will receive a letter 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 letter to the Information Center by the deadline provided. If the letter 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 due date.

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

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

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

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 exceed 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 $1,176.00.

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 |

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 | $1,176.00 |
| Multiply Percent of Unearned Aid | X .90 |
| Amount to be Repaid | $1,058.40 |

Bill is required to return the remaining unearned amount.

| Total Unearned Aid | $2,258.10 |
| Subtract Percent of Unearned Aid | $1058.40 |
| Amount Bill Must Repay | $1,199.70 |

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 $1,058.40 to Bill's loan. Bill will be required to repay $202.60 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 percent of the unearned Pell Grant.

| Unearned Pell Grant | $997.10 |
| X .50 | $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.

Outstanding Balance on DMACC Account
If a student withdraws from DMACC prior to completing 60 percent of the semester, the student is responsible for paying any outstanding tuition and fee charges that remain after DMACC has repaid any unearned financial aid to the federal government.

Example:
Bill's tuition for the term is $1,140.00. Because Bill withdrew during the third week of classes (11 days), his tuition refund is calculated at 0 percent. Because Bill only earned 10 percent of his financial aid, only $251.00 of his DMACC bill was covered. Bill still owes DMACC $889.10. He will need to make payment arrangements with the DMACC Student Accounts Office.

Post-Withdrawal Disbursement
The federal law provides that, if a student did not receive all of his/her earned financial assistance prior to leaving school, DMACC may credit a student's account for any outstanding institutional charges. However, DMACC must seek the student's written permission within 30 days of the student's withdrawal date to do so.

Questions Concerning Return of Financial Aid Title IV Funds
Contact the DMACC Financial Aid Office by calling 1-800-362-2127, ext. 6282, for additional information concerning the Return of Title IV Aid or at www.DMACC.edu/finaid.htm. As the regulations governing Return of Title IV aid are subject to change, refer to DMACC's financial aid website www.DMACC.edu/finaid for up-to-date 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 published in their “hometown” newspaper.

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 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. Financial aid may be adjusted for students who are administratively dropped.

When one-third of the term has passed, students 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.

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. 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>

Other Grade Designations:

<table>
<thead>
<tr>
<th>Grade Designation</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>
ACADEMIC INFORMATION

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>9.99</td>
</tr>
<tr>
<td>Fundamentals of Speech</td>
<td>3</td>
<td>A</td>
<td>12.00</td>
</tr>
<tr>
<td>Finite Mathematics</td>
<td>4</td>
<td>C-</td>
<td>6.68</td>
</tr>
<tr>
<td>Intro to Computer Literacy</td>
<td>3</td>
<td>C+</td>
<td>6.99</td>
</tr>
<tr>
<td>Elementary Spanish</td>
<td>4</td>
<td>D+</td>
<td>5.32</td>
</tr>
</tbody>
</table>

**TOTAL 17 semester hours 40.98**

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

- I Grade value included in the GPA calculation
- E Grade value excluded in the GPA calculation

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

Example:

| FL 92-93 PSCH 101 | D | 3.00 | E |
| SP 95-96 PSCH 101 | A | 3.00 | I |

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

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

Challenge Tests

(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 course only once. This can occur at any time prior to formal registration in that course or, if the students are enrolled in the course, by the designated drop date for the course.
- 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” grade is earned and is not included when computing grade-point average.

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

Credit for Educational Experience in the Armed Forces

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

Credit is awarded only for significant learning experiences as recommended by the ACE guide. No credit will be awarded based on the Military Occupational Specialties 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. 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. Up to 30 semester hours of credit may be granted. 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 students’ permanent records.

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.

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 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.

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.
ACADEMIC INFORMATION

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-, 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 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.

5. Guidelines for REENROLLMENT OF SUSPENDED students:
   a. After the non-enrollment period, a student on ACADEMIC SUSPENSION may apply for re-enrollment. Students who are placed on academic suspension at the end of the spring semester may not reenroll until the following spring semester.
   b. In all instances, a readmitted student will be placed on CONDITIONAL ENROLLMENT.
   c. A student seeking reenrollment must develop an Educational Achievement Plan with a counselor/advisor and/or program chairperson and obtain the appropriate signatures for approval.
   d. A student on Academic Suspension for a second or subsequent time may reenroll only after receiving written approval of the Director of Student Development.
   e. Individual programs may impose additional reenrollment requirements.

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

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
ACADEMIC INFORMATION/PROGRAM REQUIREMENTS & GRADUATION

officially recognized activities, weight and 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’ GPA 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. Students can mail 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, 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 copy of a transcript that is issued to students is considered to be unofficial. Transcripts will not be issued for students who have an unpaid financial obligation to Des Moines Area Community College.

Students who have access to the DMACC Web Info System can view an unofficial copy of their transcript on the Internet.

TRANFERRING 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:

Arts and Sciences
- 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.

VISIT US ONLINE: www.DMACC.edu
PROGRAM REQUIREMENTS & GRADUATION

- 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
  - One credit in American Government
  - Two credits in American History
  - Six credits in English
  - Three 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/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. The advisors and counselors at each DMACC campus are available to work with students in planning their program 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
  - 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 Analysis Report
Students may visit the credentials/graduation office or mail a request to receive a report of their progress toward completion of requirements for a program of study. Students are encouraged to request a Graduation Analysis 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 an application for graduation in order to receive their diploma. Students who do not complete requirements for graduation in the term for which they applied must submit a new application. 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 degree, diploma or certificate need to complete a graduation application 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
**PROGRAM REQUIREMENTS & GRADUATION**

**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**
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 transcript showing the degree awarded and date granted 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 of 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. Develop reasoned and thorough arguments.
   b. Analyze the arguments of others, distinguishing fact from opinion and identifying assumptions and inferences.
   c. Recognize and value the existence of different points of view.
   d. Analyze the conditions of a given problem and design solutions to it.
   e. Develop research techniques and acquire knowledge of bibliographic citation.
3. Developing an understanding of fundamental scientific principles and their application.
   a. Demonstrate an understanding of basic scientific principles.
   b. Apply scientific principles to analyze and solve problems in nature, culture and society.
   c. Make informed decisions, as citizens, on matters of public policy related to science.
4. Developing an understanding of fundamental mathematical principles and their application.
   a. Obtain correct mathematical results with or without technological assistance.
   b. Develop logical thinking skills that permit the selection of models appropriate to problems.
   c. Express models numerically, graphically and symbolically.
   d. Identify, interpret and manipulate relevant data.
5. Developing an understanding of human society and cross-cultural variation and perspective.
   a. Demonstrate an understanding of social and behavioral sciences and their application to the study of cultural diversity.
   b. Demonstrate an understanding of social and behavioral sciences and their application to the study of global cultures.
6. Developing a knowledge of and appreciation for the human condition as expressed in works of human imagination and thought.
   a. Demonstrate a fundamental knowledge of history, philosophy, literature or the arts.
   b. Demonstrate an understanding of the impact of human expression on culture and of culture on human expression.
   c. Recognize the significance of historical context to culture and human expression.

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

**Degrees**
The requirements for the AA, AS, AAS, AGS degrees and the 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 and listing.

**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.

**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. No more than 43 transfer semester credit hours may be applied toward the degree.
3. Complete the final 10 semester credit hours at DMACC (or petition to the Registrar for an exception).
4. Complete a minimum of 64 semester credit hours.
PROGRAM REQUIREMENTS & GRADUATION

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

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 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 least 64 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 Assistant Registrar for an exception).
4. Complete a minimum of 12 semester credit hours of Independent Study at DMACC after the effective date of this catalog to learn degree requirements in addition to these general requirements.
5. Complete 16 semester credit hours of vocational/technical credit.
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.

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 least 64 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:
   a. Communications - 3 credits
      ENG 105, ENG 106, ENG 108, COM 703, ADM 157
   b. Social & Behavioral Sciences/Humanities - 3 credits
      AGB 101
      ANT 100, 105
      ART 101, 184
      ASL 151, 181, 251, 291
      DRA 101
      ECO 120, 130
      FIA 141, 142, 241, 242
      FIC 141, 142, 241, 242
      FLF 141, 142, 241, 242
      FLG 141, 142, 241, 242
      FLI 141, 142, 241, 242
      FLS 141, 142, 241, 242
      GEO 111, 125, 124
      HIS 112, 113, 150, 153
      HUM 120, 116, 121
      LIT 101, 142, 110, 111, 185, 166, 188, 193, 130, 190
      MGT 145
      MUS 100, 101
      PHI 101, 110, 105
      POL 111, 112, 121, 125, 171
      PSY 111, 121, 241, 251, 102, 261
      REL 101
      SOC 111, 115, 120, 200
   c. Mathematics or Sciences - 3 credits
      ENV 115, 116
      BUS 211 or MAT 157, BUS 112
      CHM 105, 122, 132, 165, 175, 263, 273
      EIL 106
      MAT 141, 118
      MAT 157 or BUS 211
      MAT 166, 130, 129, 211, 217, 218, 227, 772, 773
      PHY 106, 162, 172, 213, 223, 710
   d. Distributed Requirement - 3 credits
      Choose one course from 1, 2 or 3 above or SPC 101, 126 or ELT 368.

**Diploma**

To receive a diploma, students must:
1. Maintain a 2.00 grade-point average on all work applicable for the diploma.
2. Earn at least 28 semester credit hours applicable to the degree being pursued.
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
STUDENT SERVICES

ACADEMIC ACHIEVEMENT CENTERS

The Academic Achievement Centers located on each campus are available to all full-time and part-time students in the following categories:

1. Students seeking assistance with college course work, especially in the areas of math, science, English, reading and study skills.
2. Adults working toward high school completion (GED or adult high school diploma) or completing a program of basic literacy skills (ABE).
3. Students pursuing studies for academic upgrading, prerequisites or enrichment.

Instructors will diagnose academic skill levels, establish individual programs of study and assist in the learning process. Students progress at a pace based on ability, interest, needs, and time available for learning.

Computer services are also available in the Academic Achievement Centers. These services include various educational and support programs in many areas and a computer-based educational system (PLATO).

Contact the Academic Achievement Center at each campus for additional information.

ALUMNI ASSOCIATION

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

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 ...................... 515-432-5096
Carroll Campus ..................... 712-729-8303
Newton Campus ..................... 641-791-1730
Urban Campus ....................... 515-248-7218
West Campus ....................... 515-633-2426

The Ankeny Assessment Center offers:
ACT, VUE, EMT-B & First Responder, LSAT, MCAT, MPRE, PRAXIS, and Plumbers & Steamfitters Local Union Math Test.

The Boone Assessment Center also offers CLEP testing.

VISIT US ONLINE: www.DMACC.edu
STUDENT SERVICES

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 to Thursday, 7:00 a.m. to 3:00 p.m. Friday; and 8:00 a.m. to 12:30 p.m. Saturday. Security measures may include uniformed security guards, closed circuit-television, building security systems, exterior lighting, courtesy phones, and attention to landscape materials. In addition, the Ankeny, Des Moines, Boone, Carroll, Newton, and West Des Moines Police Departments patrol and assist the College in their respective jurisdictions. DMACC Security personnel administer traffic and parking regulations, ensure safety and security, and provide assistance to the College community.

CAREER AND TRANSFER RESOURCE CENTER (CTRC)
The CTRC 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.

CHILD CARE
The DMACC Child Development Center on the Ankeny Campus provides child care for the children of students and staff. Children ages 2–5 are eligible for child care during normal College business hours. Children must attend on a full- or part-time, regularly scheduled basis. The child care center is open year-round on student contact days only.

There is generally a waiting list. To request an application or for more information, call 515-964-6488.

Children should not be brought to class or left unattended at any time in a classroom, at clinical sites, or on College property.

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

In addition to 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.

EDUCATIONAL ADVISING
Educational advisors are available to assist students in planning their educational programs, meeting graduation requirements,
STUDENT SERVICES

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.

FOOD SERVICES

Vending machines are available at each campus. The Ankeny, Boone, Urban and West Campuses have food services where food is prepared onsite. 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 facility hours are posted online at www.dmacc.edu/wellness/ 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 on the Ankeny and Boone Campuses. Opportunities exist year-round for both individual and team sports. Applications for participation are available online at www.dmacc.edu/wellness/welcome.asp and in the Recreation & 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. Remote access is also available to patrons who have a current DMACC library card. DMACC provides access to INNOPAC, the online catalog; several EBSCO host databases, Lexis-Nexis Academic, both of which include full text articles from over 8,000 periodicals as well as abstracting and indexing for more than 10,000 titles. Also available are other resources such as CQ Researcher, Grolier Online Encyclopedia, online catalogs of other Iowa libraries, online reference service, and library news and information.

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

Ankeny Campus

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

Boone Campus
The Boone Campus Library has a collection of approximately 19,000 circulating and reference books, 175 periodical subscriptions, compact discs, audio books and a large collection of videos. Material not owned by the Library can be obtained through interlibrary loan at no charge. It also participates in the Open Access program through the State Library. The Library also provides access to the 40-station student computer lab at the Boone Campus. In addition, a Library Instruction class (SDV171) and an Internet Research class (SDV172) 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 offered by the staff each semester.

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 make-up exams and quizzes. Students enrolled in telecourses may view telecourse videotapes for these courses in the ILC. Students may borrow materials housed at any of the other DMACC libraries by processing an interlibrary loan request at the ILC.

Urban Campus
The library at Urban Campus has a book collection of more than 13,000 volumes. This collection reflects the courses of study for the College, including a reference collection unique to the Urban Library that complements the legal assistant program. In addition to the book collection, the Urban Campus Library subscribes to a large number of periodicals and has many more periodicals available online along with other reference databases. There is a collection of videotapes that supplements the textbooks in accounting and mathematics, videotapes for the telecourse division of the College and videotapes to amplify a variety of subjects. There is a pamphlet file of materials to use in research. Students can access materials from other libraries through interlibrary loan services. Study facilities and 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 50023-8995

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

Information about housing for the Carroll,
Newton & 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 make-up 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 they arrive to take their exams, they will be required to present picture identification, such as a driver’s license. For Testing Center hours, students should contact the Information Desk at the Newton Campus and the Testing Center or Academic Achievement Center at the Ankeny, Boone, Urban campuses and the Learning Resource Center at the West campus.

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

Employment Opportunities:
The tutoring 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 and West campuses.

STUDENT ACTIVITIES

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.

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 Office for information. Most recognized organizations fall into one of the...
BUSINESS RESOURCES

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 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 & SPECIALIZED PROGRAMS

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

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

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

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, and Carmike Movie Theaters in Des Moines. The Carroll Campus offers Adventureland Park, Carroll Community Theatre, Worlds/Oceans of Fun, and Carroll Theater V discounted tickets. Urban Campus offers discount tickets to Adventureland Park, Carmike Theaters and discounted bus passes for Metro Transit Authority. Ticket offerings vary at the Boone, Newton and West Campuses. Check in the main offices for details. Cash and personal checks are accepted at all campuses. Credit cards are accepted at the Urban Campus.

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

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

For more information, call 515-287-8700 or 800-362-2127, ext. 8700, or check our website www.dmacc.edu/success/.

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.
CONTINUING EDUCATION & SPECIALIZED PROGRAMS

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

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

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

Conference Center - Newton
The DMACC Newton Conference Center is located on the DMACC 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 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 aired on Mediacom Cable, College Channel 16 and Iowa Public Television Channel 11 in Central Iowa. For more information, see the Distance Learning Homepage at www.dmacc.edu/distance/welcome.htm 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 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, 8 hours in the classroom and 8 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, & C motor homes, to fifth-wheel trailers to travel trailers.

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.
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 web site 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 conveniently 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 some college credit courses. More information is available on web site 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 will 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
Student who plan to transfer to a four-year college or university usually select the Associate in Liberal Arts or the Associate in Science degree to prepare for transfer. 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 Liberal Arts Associate in Arts and Associate in Science 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. Pre-professional 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 web site at: http://www.dmacc.edu/programs/pdp/

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

DMACC faculty and staff continue to work on new partnerships with other colleges and universities. Contact a counselor or academic advisor for details.
DMACC EDUCATIONAL PROGRAMS

**Accounting**
- Δ = Associate Degree
- D = Diploma
- C = Certificate

- Δ Accounting Information Systems
- Δ Accounting Paraprofessional
- Δ Accounting Specialist
- D = Accounting & Bookkeeping
- C = Accounting Certificate I
- C = Accounting Certificate II

**Administrative Assistant/Legal/Secretarial Careers**
- Δ = Associate Degree
- A = Diploma
- C = Certificate

- Δ Administrative Assistant
- Δ Legal Assistant
- D = Medical Administrative Assistant
- D = Office Assistant
- C = Medical Transcriptionist
- C = Information Processing Support
- C = Office Specialist
- D = Supervision

**Automotive/Diesel**
- Δ = Associate Degree
- A = Diploma
- C = Certificate

- Δ ASEP – General Motors
- Δ ASSET – Ford
- Δ Auto Collision Technology
- Δ Auto Mechanics Technology
- Δ CAP – Chrysler
- Δ Caterpillar Technology
- D = Diesel Technology
- D = Auto Chassis & Power Train
- D = Auto Engines & Tune-Up
- D = Auto Maintenance & Light Repair

**Agri-Business**
- Δ = Associate Degree
- A = Diploma
- C = Certificate

- Δ Agri-Business AAS
- Δ Veterinary Technology
- D = Agronomy
- D = Animal Science
- C = Farm Management
- C = Sales and Service

**Art**
- Δ = Associate Degree
- D = Diploma
- C = Certificate

- Δ Graphic Design
- C = Air Brush Art Certificate
- D = Production Art Certificate

**Biotechnology**
- Δ = Associate Degree
- D = Diploma
- C = Certificate

- Δ Biotechnology

**Business**
- Δ = Associate Degree
- D = Diploma
- C = Certificate

- Δ Business Administration
- D = Fashion/Design
- Δ = Marketing
- Δ = Management
- D = Entrepreneurship
- Δ = Mortuary Science
- Δ = Retailing
- D = Sales and Management
- C = Interior Design Consultant

**Building Trades**
- Δ = Associate Degree
- D = Diploma
- C = Certificate

- D = Heating, Air Conditioning, & Refrigeration Technology
- D = Architectural Millwork
- D = Building Trades
- C = Electrical Construction Trades
- C = Building Maintenance

**College Transfer – Liberal Arts**
- Δ = Associate Degree
- D = Diploma
- C = Certificate

- Δ Associate of Arts
- C = Associate of Science

**Community Services**
- Δ = Associate Degree
- D = Diploma
- C = Certificate

- Δ Early Childhood Education
- Δ Criminal Justice
- Δ Fire Science Technology
- Δ Human Services
- C = Fire Specialist
- C = Chemical Dependency Counseling

**Computers and Data Processing**
- Δ = Associate Degree
- D = Diploma
- C = Certificate

- Δ Business Information Systems
- D = Information Technology/Network Administration
- D = Management Information Systems
- C = Computer Applications
- C = Data Base Specialist
- D = Data Entry
- D = Computer Languages
- C = E-Commerce Design
- C = Microcomputers
- C = Network Security

**Culinary Arts, Hotel Management, Dietary Management**
- Δ = Associate Degree
- D = Diploma
- C = Certificate

- D = Culinary Arts
- D = Hotel & Restaurant Management
- D = Hospitality & Business
- D = Dietary Management

**Drafting/Design**
- Δ = Associate Degree
- D = Diploma
- C = Certificate

- Δ = Architectural Technology
- Δ = Computer-Aided Design Technology

**Engineering & Electronics Technology**
- Δ = Associate Degree
- D = Diploma
- C = Certificate

- Δ Civil Engineering Technology
- Δ Electronic Systems Servicing Technology
- Δ Electronics, Robotics & Automation
- Δ Land Surveying
- Δ = Telecommunications Technology

**Fitness**
- Δ = Associate Degree
- D = Diploma
- C = Certificate

- Δ Fitness & Sports Management

**Health Professions**
- Δ = Associate Degree
- D = Diploma
- C = Certificate

- Δ Aging Services Management
- Δ Associate Degree Nursing (RN)
- Δ Advanced Standing Nursing (RN)
- Δ Dental Hygiene
- Δ Medical Laboratory Technology
- Δ Respiratory Therapy
- D = Licensed Practical Nursing (LPN)
- D = Medical Assistant
- D = Surgical
- C = Adult Services Specialist
- C = Emergency Medical Technology (EMT)
- C = Long-Term Care Administrator
- C = Phlebotomy
- C = Nurse Aide

**Horticulture**
- Δ = Associate Degree
- D = Diploma
- C = Certificate

- Δ Commercial Horticulture
- C = Greenhouse Production
- C = Landscape Design
- C = Turf Maintenance

**Interpretation & Translation**
- Δ = Associate Degree
- D = Diploma
- C = Certificate

- Δ Interpretation & Translation
- Δ = Interpretation & Translation, General
- Δ = Interpretation & Translation, Healthcare
- Δ = Interpretation & Translation, Judiciary

**Manufacturing**
- Δ = Associate Degree
- D = Diploma
- C = Certificate

- Δ = Graphic Technologies
- Δ = Industrial Electro-Mechanical Technology
- Δ = Manufacturing Technology
- Δ = Tool and Die Making
- Δ = Machinist Technology
- D = Die Making
- D = Welding
- C = Digital Publishing & Prepress
- C = Graphic Sales & Customer Service
- C = Printing Technologies
- C = Security & Safety Specialist
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.e., 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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**Are you a match?**

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

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

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

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

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

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

**Industrial Technology**
- Have a pleasant, accommodating manner
- Make creative designs with food
- Good organizational 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

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

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

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

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).

1. ANT 100 Introduction to Anthropology
2. ECO 120 Principles of Macroeconomics
3. GEO 111 Intro to Geography
4. HIS 112 Western Civ: Ancient to Early Modern
5. HIS 150 US History to 1877
6. POL 111 American National Government
7. POL 112 American State & Local Government
8. POL 171 Intro to Public Administration
9. PSY 110 Introduction to Psychology
10. PSY 241 Abnormal Psychology
11. PSY 251 Social Psychology
12. SOC 100 Intro to Sociology
13. SOC 101 Sociology
14. SOC 115 Social Problems
15. SOC 120 Marriage & Family
16. SOC 125 Social Problems
17. SOC 200 Minority Group Relations

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.

Associate in Arts Degree (AA)
The Associate in Arts Degree provides the courses of study equivalent to those offered to freshman 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 who graduate from the Arts and Sciences division are expected to demonstrate the ability to think and to communicate effectively both orally and in writing; to use mathematics meaningfully, not just punch in numbers on a calculator; to understand the modes of inquiry of the major disciplines; to be aware of our culture and of other cultures and times; to achieve insights gained through experience in thinking about ethical problems; to develop the capacity for self-understanding and problem solving; and finally, to gain sufficient depth in some field of knowledge to contribute to society.

College transfer work is offered in the following disciplines:

<table>
<thead>
<tr>
<th>Accounting</th>
<th>Anthropology</th>
<th>Architecture</th>
<th>Art</th>
<th>Business Administration</th>
<th>Chemistry</th>
<th>Chiropractic</th>
<th>Computer Science</th>
<th>Drama</th>
<th>Dentistry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting</td>
<td>Anthropology</td>
<td>Architecture</td>
<td>Art</td>
<td>Business Administration</td>
<td>Chemistry</td>
<td>Chiropractic</td>
<td>Computer Science</td>
<td>Drama</td>
<td>Dentistry</td>
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<tr>
<td>Education</td>
<td>English</td>
<td>French</td>
<td>History</td>
<td>Geography</td>
<td>Literature</td>
<td>Mathematics</td>
<td>Physician's Assistant</td>
<td>Medicine</td>
<td>Social Work</td>
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<td>English</td>
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<td>Mathematics</td>
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<td>French</td>
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<tr>
<td>Philosophy</td>
<td>Political Science</td>
<td>Psychology</td>
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<td>Psychology</td>
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</tr>
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</table>

40 DES MOINES AREA COMMUNITY COLLEGE CATALOG 2006–2007
# PROGRAMS AVAILABLE

## 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.

<table>
<thead>
<tr>
<th>Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENV 115</td>
<td>Environmental Science</td>
<td>ENV 263</td>
</tr>
<tr>
<td>ENV 116</td>
<td>Environmental Science Lab</td>
<td>ENV 275</td>
</tr>
<tr>
<td>BIO 130</td>
<td>Field Ecology</td>
<td>MAT 141</td>
</tr>
<tr>
<td>BIO 156</td>
<td>Human Biology w/Lab</td>
<td>MAT 118</td>
</tr>
<tr>
<td>BIO 104</td>
<td>Introductory Biology w/Lab</td>
<td>MAT 159</td>
</tr>
<tr>
<td>BIO 112</td>
<td>General Biology I</td>
<td>MAT 150</td>
</tr>
<tr>
<td>BIO 115</td>
<td>General Biology II</td>
<td>MAT 129</td>
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<tr>
<td>BIO 167</td>
<td>Microbiology w/Lab</td>
<td>MAT 218</td>
</tr>
<tr>
<td>BIO 164</td>
<td>Essentials Anatomy/Physiology</td>
<td>MAT 217</td>
</tr>
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<td>BIO 168</td>
<td>Anatomy &amp; Physiology I</td>
<td>MAT 218</td>
</tr>
<tr>
<td>BIO 175</td>
<td>Anatomy &amp; Physiology II</td>
<td>MAT 217</td>
</tr>
<tr>
<td>BUS 211</td>
<td>Business Statistics (OR MAT 157 Statistics)</td>
<td>PHYS 106</td>
</tr>
<tr>
<td>CHM 105</td>
<td>Survey of Chemistry</td>
<td>PHYS 162</td>
</tr>
<tr>
<td>CHM 122</td>
<td>Intro to General Chemistry</td>
<td>PHYS 172</td>
</tr>
<tr>
<td>CHM 132</td>
<td>Intro to Organic/ Biochemistry</td>
<td>PHYS 215</td>
</tr>
<tr>
<td>CHM 165</td>
<td>General/ Inorganic Chemistry I</td>
<td>PHYS 223</td>
</tr>
<tr>
<td>CHM 175</td>
<td>General/ Inorganic Chemistry II</td>
<td>PHYS 223</td>
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</table>

## Humanities 9 Credits

<table>
<thead>
<tr>
<th>Code</th>
<th>Course Name</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ART 101</td>
<td>Art Appreciation</td>
<td>FLF 141</td>
</tr>
<tr>
<td>FLC 241</td>
<td>Intermediate Japanese I</td>
<td>LIT 111</td>
</tr>
<tr>
<td>ASL 151</td>
<td>American Sign Language I</td>
<td>LIT 142</td>
</tr>
<tr>
<td>FLC 242</td>
<td>Intermediate Japanese II</td>
<td>LIT 108</td>
</tr>
<tr>
<td>ASL 181</td>
<td>American Sign Language II</td>
<td>FLF 241</td>
</tr>
<tr>
<td>FLD 141</td>
<td>Elementary Spanish I</td>
<td>LIT 166</td>
</tr>
<tr>
<td>ASL 253</td>
<td>American Sign Language III</td>
<td>FLF 242</td>
</tr>
<tr>
<td>FLD 142</td>
<td>Elementary Spanish II</td>
<td>LIT 188</td>
</tr>
<tr>
<td>ASL 291</td>
<td>American Sign Language IV</td>
<td>FLG 141</td>
</tr>
<tr>
<td>FLD 241</td>
<td>Intermediate Spanish I</td>
<td>LIT 193</td>
</tr>
<tr>
<td>FLD 242</td>
<td>Intermediate Spanish II</td>
<td>FLG 241</td>
</tr>
<tr>
<td>FLD 243</td>
<td>Intermediate Spanish III</td>
<td>FLG 241</td>
</tr>
<tr>
<td>FLA 140</td>
<td>Elementary Arabic I</td>
<td>LIT 190</td>
</tr>
<tr>
<td>HUM 112</td>
<td>Western Civ. Ancient to Early Modern</td>
<td>MUS 100</td>
</tr>
<tr>
<td>FLA 142</td>
<td>Elementary Arabic II</td>
<td>FLG 242</td>
</tr>
<tr>
<td>HUM 115</td>
<td>Western Civ. Early Modern to Present</td>
<td>MUS 102</td>
</tr>
<tr>
<td>FLA 241</td>
<td>Intermediate Arabic I</td>
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</tr>
<tr>
<td>HUM 120</td>
<td>Introduction to Film</td>
<td>MUS 102</td>
</tr>
<tr>
<td>FLD 242</td>
<td>Intermediate Arabic II</td>
<td>FLG 141</td>
</tr>
<tr>
<td>HUM 116</td>
<td>Encounters in Humanities</td>
<td>PHIL 101</td>
</tr>
<tr>
<td>FLC 141</td>
<td>Elementary Chinese I</td>
<td>FLG 241</td>
</tr>
<tr>
<td>HUM 121</td>
<td>America in the Movies</td>
<td>PHIL 100</td>
</tr>
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<td>FLC 142</td>
<td>Elementary Chinese II</td>
<td>FLG 242</td>
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<td>LIT 101</td>
<td>Intro to Literature</td>
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</tr>
<tr>
<td>FLC 241</td>
<td>Intermediate Chinese I</td>
<td>FLG 141</td>
</tr>
<tr>
<td>LIT 142</td>
<td>Major British Writers</td>
<td>REL 101</td>
</tr>
<tr>
<td>FLC 242</td>
<td>Intermediate Chinese II</td>
<td>FLG 142</td>
</tr>
<tr>
<td>LIT 110</td>
<td>American Literature to Mid 1800s</td>
<td>FLG 142</td>
</tr>
</tbody>
</table>

## 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.

## Degrees and Diplomas

### 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: Fitness & Sports Management
- Accounting Paraprofessional: Fire Science Technology
- Biotechnology: Health Care Administration
- Business Administration: Human Services
- Early Childhood Education: Legal Assistant
- Criminal Justice: Management Information Systems

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

### Associate in Science Degree (AS) 64 Credits

- **Total AA Degree Requirements**
- **Associate in Science Requirements**
- **Core Requirements** 28 credits
- **Communications** 9 credits
- **Electives** 16 credits

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. 1. ENG 105 Composition I

2. ENG 106* Composition II or ENG 108 Comp II: Technical Writing
   * Students who intend to transfer to a four-year institution are advised to take ENG 105 and ENG 106.

3. One speech course from the following list:
   - SPC 101 Fundamentals of Oral Communication
   - SPC 126 Interpersonal and Small Group Communication

### Degrees and Diplomas

**VISIT US ONLINE:** [www.DMACC.edu](http://www.DMACC.edu) 41
Students must select from the following courses:

### Humanities 3 Credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART 101</td>
<td>1</td>
<td>Art Appreciation</td>
</tr>
<tr>
<td>ASL 101</td>
<td>1</td>
<td>American Sign Language I</td>
</tr>
<tr>
<td>ASL 111</td>
<td>1</td>
<td>American Sign Language II</td>
</tr>
<tr>
<td>ASL 251</td>
<td>1</td>
<td>American Sign Language III</td>
</tr>
<tr>
<td>ASL 291</td>
<td>1</td>
<td>American Sign Language IV</td>
</tr>
<tr>
<td>DRA 101</td>
<td>1</td>
<td>Intro to Theatre</td>
</tr>
<tr>
<td>FLA 141</td>
<td>1</td>
<td>Elementary Arabic I</td>
</tr>
<tr>
<td>FLA 142</td>
<td>1</td>
<td>Elementary Arabic II</td>
</tr>
<tr>
<td>FLA 241</td>
<td>1</td>
<td>Intermediate Arabic I</td>
</tr>
<tr>
<td>FLA 242</td>
<td>1</td>
<td>Intermediate Arabic II</td>
</tr>
<tr>
<td>FLC 141</td>
<td>1</td>
<td>Elementary Chinese I</td>
</tr>
<tr>
<td>FLC 142</td>
<td>1</td>
<td>Elementary Chinese II</td>
</tr>
<tr>
<td>FLC 241</td>
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<td>Intermediate Chinese I</td>
</tr>
<tr>
<td>FLC 242</td>
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<td>Intermediate Chinese II</td>
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<td>Intermediate French I</td>
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<tr>
<td>FLG 141</td>
<td>1</td>
<td>Elementary German I</td>
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<tr>
<td>FLG 142</td>
<td>1</td>
<td>Elementary German II</td>
</tr>
<tr>
<td>FLG 143</td>
<td>1</td>
<td>Elementary German II</td>
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<tr>
<td>LIT 142</td>
<td>1</td>
<td>Major British Writers</td>
</tr>
<tr>
<td>LIT 170</td>
<td>1</td>
<td>American Literature to 1800s</td>
</tr>
<tr>
<td>LIT 171</td>
<td>1</td>
<td>American Literature since 1800s</td>
</tr>
<tr>
<td>LIT 175</td>
<td>1</td>
<td>Contemporary Literature</td>
</tr>
<tr>
<td>LIT 185</td>
<td>1</td>
<td>Science Fiction</td>
</tr>
<tr>
<td>LIT 188</td>
<td>1</td>
<td>Detective Fiction</td>
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<tr>
<td>LIT 193</td>
<td>1</td>
<td>Humor in Literature</td>
</tr>
<tr>
<td>LIT 130</td>
<td>1</td>
<td>African American Literature</td>
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</tbody>
</table>

### Mathematics & Sciences 6 Credits

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

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
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<tbody>
<tr>
<td>ENV 115</td>
<td>1</td>
<td>Environmental Science</td>
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<td>ENV 116</td>
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<td>Environmental Science Lab</td>
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<td>BIO 138</td>
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<td>Field Ecology</td>
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<tr>
<td>BIO 156</td>
<td>1</td>
<td>Human Biology w/lab</td>
</tr>
<tr>
<td>BIO 104</td>
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<td>Introductory Biology w/lab</td>
</tr>
<tr>
<td>BIO 112</td>
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<td>General Biology I</td>
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<td>BIO 113</td>
<td>1</td>
<td>General Biology II</td>
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<tr>
<td>BIO 187</td>
<td>1</td>
<td>Microbiology w/Lab</td>
</tr>
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<td>BIO 164</td>
<td>1</td>
<td>Essential Anatomy/Physiology</td>
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<td>BIO 168</td>
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<td>BIO 175</td>
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<td>BUS 218</td>
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<td>Business Statistics</td>
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<td>CHM 105</td>
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<td>Survey of Chemistry</td>
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<tr>
<td>CHM 122</td>
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<td>Organic Chemistry I</td>
</tr>
<tr>
<td>CHM 273</td>
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<td>Organic Chemistry II</td>
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### Social and Behavioral Sciences 6 credits

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<tr>
<td>ANT 100</td>
<td>1</td>
<td>Introduction to Anthropology</td>
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<tr>
<td>ANT 105</td>
<td>1</td>
<td>Cultural Anthropology</td>
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<tr>
<td>ECO 120</td>
<td>1</td>
<td>Principles of Macroeconomics</td>
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<tr>
<td>ECO 130</td>
<td>1</td>
<td>Principles of Microeconomics</td>
</tr>
<tr>
<td>GEO 101</td>
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<td>Intro to Geography</td>
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<td>GEO 125</td>
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<td>GEO 124</td>
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<td>Geog Geography of the Non West World</td>
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<tr>
<td>HIS 112</td>
<td>1</td>
<td>Western Civ: Ancient to Early Modern</td>
</tr>
<tr>
<td>HIS 115</td>
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<td>Western Civ: Early Modern to Present</td>
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<tr>
<td>HIS 150</td>
<td>1</td>
<td>US History to 1877</td>
</tr>
<tr>
<td>HIS 155</td>
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<td>US History since 1877</td>
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<td>POL 131</td>
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<td>American National Government</td>
</tr>
<tr>
<td>POL 112</td>
<td>1</td>
<td>American State &amp; Local Government</td>
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### Communications 3 Credits

<table>
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<tr>
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<th>Credits</th>
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<td>COM 103</td>
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<td>Communication Skills</td>
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<td>ENG 105</td>
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<td>Composition I</td>
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<td>ENG 106</td>
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<td>Composition II</td>
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<tr>
<td>LIT 190</td>
<td>1</td>
<td>Women Writers</td>
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<tr>
<td>MUS 100</td>
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<td>Music Appreciation</td>
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<td>MUS 102</td>
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<td>Music Fundamentals</td>
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<td>PHI 101</td>
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<td>Intro to Philosophy</td>
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<td>PHI 105</td>
<td>1</td>
<td>Introduction to Ethics</td>
</tr>
<tr>
<td>REL 101</td>
<td>1</td>
<td>Survey of World Religions</td>
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</table>

### Distributed Requirement 4 Credits

- Complete 12 additional credits from any of the courses in categories 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.

### 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 in the Student Development Office 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: 3 credits
   - Social & Behavioral Science/Humanities: 3 credits
   - Math or Sciences: 3 credits
   - Distributed requirements: 3 credits

### Communications 3 Credits

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<tr>
<th>Course</th>
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<tr>
<td>COM 103</td>
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<td>ENG 105</td>
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<tr>
<td>ENG 106</td>
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<tr>
<td>LIT 190</td>
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<td>Women Writers</td>
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<tr>
<td>MUS 100</td>
<td>1</td>
<td>Music Appreciation</td>
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<tr>
<td>MUS 102</td>
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<td>Music Fundamentals</td>
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<tr>
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<td>Intro to Philosophy</td>
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<tr>
<td>PHI 105</td>
<td>1</td>
<td>Introduction to Ethics</td>
</tr>
<tr>
<td>REL 101</td>
<td>1</td>
<td>Survey of World Religions</td>
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### Degrees and Diplomas

Total AS Degree Requirements 64 Credits
**PROGRAMS AVAILABLE**

### Social and Behavioral Sciences/Humanities

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
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<tbody>
<tr>
<td>AG801</td>
<td>Agricultural Economics</td>
<td>3</td>
</tr>
<tr>
<td>ANT 100</td>
<td>Introduction to Anthropology</td>
<td>3</td>
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<tr>
<td>ANT 105</td>
<td>Cultural Anthropology</td>
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<tr>
<td>ART 101</td>
<td>Art Appreciation</td>
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<tr>
<td>ART 184</td>
<td>Principles of Photography</td>
<td>3</td>
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<tr>
<td>ASL 151</td>
<td>American Sign Language I</td>
<td>3</td>
</tr>
<tr>
<td>ASL 181</td>
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<tr>
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<td>ASL 291</td>
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<td>ART 101</td>
<td>Intro to Theatre</td>
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<td>EON 120</td>
<td>Principles of Macroeconomics</td>
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<td>Principles of Microeconomics</td>
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<td>Elementary Arabic I</td>
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<td>FLA 141</td>
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<td>FLA 142</td>
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<td>Intermediate Chinese I</td>
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<td>FLG 142</td>
<td>Elementary German II</td>
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<td>FLG 142</td>
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<td>FLF 142</td>
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<tr>
<td>GEO 111</td>
<td>Intro to Geography</td>
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### Math or Sciences

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<td>Environmental Science</td>
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<td>ENV 116</td>
<td>Environmental Science Lab</td>
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<tr>
<td>BIO 138</td>
<td>Field Ecology</td>
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<tr>
<td>BIO 156</td>
<td>Human Biology w/Lab</td>
<td>3</td>
</tr>
<tr>
<td>BIO 175</td>
<td>Health Science Microbiology</td>
<td>3</td>
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<tr>
<td>BIO 185</td>
<td>Health Science Anatomy</td>
<td>3</td>
</tr>
<tr>
<td>BIO 194</td>
<td>Health Science Physiology</td>
<td>3</td>
</tr>
<tr>
<td>BIO 104</td>
<td>Introductory Biology w/Lab</td>
<td>3</td>
</tr>
<tr>
<td>BIO 112</td>
<td>General Biology I</td>
<td>3</td>
</tr>
<tr>
<td>BIO 115</td>
<td>General Biology II</td>
<td>3</td>
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<tr>
<td>BIO 187</td>
<td>Microbiology w/Lab</td>
<td>3</td>
</tr>
<tr>
<td>BIO 164</td>
<td>Essentials Anatomy/Physiology</td>
<td>3</td>
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<tr>
<td>BIO 169</td>
<td>Anatomy &amp; Physiology I</td>
<td>3</td>
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<tr>
<td>BIO 175</td>
<td>Anatomy &amp; Physiology II</td>
<td>3</td>
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<tr>
<td>BUS 211</td>
<td>Business Statistics (OR MAT 17 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>
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<tr>
<td>CHM 122</td>
<td>Intro to General Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHM 145</td>
<td>Intro to Organic/Biochemistry</td>
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<td>CHM 165</td>
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<td>CHM 175</td>
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### Distributed Requirement

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<tr>
<td>CHM 273</td>
<td>Organic Chemistry I</td>
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<tr>
<td>CHM 275</td>
<td>Organic Chemistry II</td>
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<tr>
<td>ELT 106</td>
<td>Basic Math for Electronics</td>
<td>3</td>
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<tr>
<td>MAT 108</td>
<td>Finite Math</td>
<td>3</td>
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<tr>
<td>MAT 118</td>
<td>Math for Elementary Teachers</td>
<td>3</td>
</tr>
<tr>
<td>BUS 211</td>
<td>Business Statistics (OR MAT 17 Statistics)</td>
<td>3</td>
</tr>
<tr>
<td>PHY 106</td>
<td>Survey of Physics</td>
<td>3</td>
</tr>
<tr>
<td>PHY 122</td>
<td>Intro to General Chemistry</td>
<td>3</td>
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<tr>
<td>PHY 123</td>
<td>Intro to Organic/Biochemistry</td>
<td>3</td>
</tr>
<tr>
<td>PHY 124</td>
<td>General/Inorganic Chemistry I</td>
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</tr>
<tr>
<td>PHY 125</td>
<td>General/Inorganic Chemistry II</td>
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### Electives

<table>
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<tr>
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<tbody>
<tr>
<td>GEO 125</td>
<td>Regional Geography of the Dev World</td>
<td>3</td>
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<tr>
<td>GEO 124</td>
<td>Reg Geography of the Non West World</td>
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</tr>
<tr>
<td>HIS 112</td>
<td>Western Civ. to Ancient to Early Modern</td>
<td>3</td>
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<tr>
<td>HIS 113</td>
<td>Western Civ. Early Modern to Present</td>
<td>3</td>
</tr>
<tr>
<td>HIS 150</td>
<td>US History since 1877</td>
<td>3</td>
</tr>
<tr>
<td>HUM 116</td>
<td>Encounters in Humanities</td>
<td>3</td>
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<tr>
<td>HUM 121</td>
<td>America in the Movies</td>
<td>3</td>
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<tr>
<td>LIT 101</td>
<td>Intro to Literature</td>
<td>3</td>
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<tr>
<td>LIT 111</td>
<td>American Literature since 1800</td>
<td>3</td>
</tr>
<tr>
<td>LIT 113</td>
<td>Contemporary Literature</td>
<td>3</td>
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<tr>
<td>LIT 116</td>
<td>Science Fiction</td>
<td>3</td>
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<td>LIT 117</td>
<td>Detective Fiction</td>
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<td>LIT 121</td>
<td>Humor in Literature</td>
<td>3</td>
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<tr>
<td>LIT 122</td>
<td>African American Literature</td>
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<tr>
<td>LIT 123</td>
<td>Women Writers</td>
<td>3</td>
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<tr>
<td>MUS 100</td>
<td>Music Appreciation</td>
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<td>PH 101</td>
<td>Intro to Philosophy</td>
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<td>PH 111</td>
<td>Introduction to Logic</td>
<td>3</td>
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<td>Introduction to Ethics</td>
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<td>POL 111</td>
<td>American National Government</td>
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<tr>
<td>POL 112</td>
<td>American State &amp; Local Government</td>
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<td>POL 121</td>
<td>International Relations</td>
<td>3</td>
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<tr>
<td>POL 125</td>
<td>Comparative Gov't &amp; Politics</td>
<td>3</td>
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<tr>
<td>PSY 102</td>
<td>Human and Work Relations</td>
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<tr>
<td>PSY 103</td>
<td>Human Sexuality</td>
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<tr>
<td>REL 101</td>
<td>Survey of World Religions</td>
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<tr>
<td>SOC 100</td>
<td>Intro to Sociology</td>
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<tr>
<td>SOC 115</td>
<td>Social Problems</td>
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<td>SOC 120</td>
<td>Marriage &amp; Family</td>
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<tr>
<td>SOC 200</td>
<td>Minority Group Relations</td>
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### Degrees and Diplomas

**ASEP - General Motors**

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

**Location:** Ankeny

**Program Entry Requirements**

Complete an application, satisfy the assessment requirement, aptitude and ability tests 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 each year.

**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**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ATG 312</td>
<td>GM Specialized Electronics Training</td>
<td>3</td>
</tr>
<tr>
<td>ATG 317</td>
<td>GM Shop Fund and Minor Service</td>
<td>3</td>
</tr>
<tr>
<td>ATG 318</td>
<td>GM Steering/Suspension/Brakes</td>
<td>3</td>
</tr>
<tr>
<td>ATG 322</td>
<td>Technical Internship I</td>
<td>3</td>
</tr>
<tr>
<td>ATG 323</td>
<td>GM Auto Air Conditioning Systems</td>
<td>3</td>
</tr>
<tr>
<td>ATG 327</td>
<td>Minor Service/Repair-GM Engines</td>
<td>3</td>
</tr>
<tr>
<td>ATG 328</td>
<td>Diagnosis/Repair-GM Electrical Systems</td>
<td>3</td>
</tr>
<tr>
<td>ATG 330</td>
<td>Technical Internship II</td>
<td>3</td>
</tr>
<tr>
<td>ATG 333</td>
<td>Major Service Procedures/GM Engines</td>
<td>3</td>
</tr>
<tr>
<td>ATG 336</td>
<td>GM Carb and Fuel Induction Systems</td>
<td>3</td>
</tr>
<tr>
<td>ATG 337</td>
<td>GM Tune-Up Proc and Emission Control</td>
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<tr>
<td>ATG 340</td>
<td>Technical Internship III</td>
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<tr>
<td>ATG 344</td>
<td>GM Manual Drivetrains</td>
<td>3</td>
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<tr>
<td>ATG 345</td>
<td>GM Automatic Drivetrains</td>
<td>3</td>
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<tr>
<td>ATG 350</td>
<td>Technical Internship IV</td>
<td>3</td>
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<tr>
<td>ATG 354</td>
<td>Advanced GM Motors Systems</td>
<td>3</td>
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<tr>
<td>AUT 109</td>
<td>Auto Measurement and Tools</td>
<td>3</td>
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<tr>
<td>BUS 102</td>
<td>Intro to Business</td>
<td>3</td>
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<tr>
<td>COM 703</td>
<td>Communication Skills</td>
<td>3</td>
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<tr>
<td>MAT 772</td>
<td>Applied Math</td>
<td>3</td>
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<td>PHY 710</td>
<td>Technical Physics</td>
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<tr>
<td>PSY 102</td>
<td>Human and Work Relations</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total credits required to complete this program:** 73

**VISIT US ONLINE:** www.DMACC.edu
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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ATF 312</td>
<td>Ford Automotive Electronics</td>
<td>5</td>
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<tr>
<td>ATF 317</td>
<td>Ford Shop Fund and Minor Service</td>
<td>3</td>
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<tr>
<td>ATF 280</td>
<td>Ford Steering/Suspension/Brakes</td>
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<td>ATF 290</td>
<td>Adv Ford Suspension/Brakes</td>
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<tr>
<td>ATF 320</td>
<td>Technical Internship I</td>
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</tr>
<tr>
<td>ATF 326</td>
<td>Ford Auto AC Systems</td>
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</tr>
<tr>
<td>ATF 328</td>
<td>Diagnosis/Repair Ford Elec Systems</td>
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<td>ATF 330</td>
<td>Technical Internship II</td>
<td>3</td>
</tr>
<tr>
<td>ATF 333</td>
<td>Ford Engine Diagnosis/Repair</td>
<td>4</td>
</tr>
<tr>
<td>ATF 336</td>
<td>Ford Fuel Systems &amp; Injection</td>
<td>3</td>
</tr>
<tr>
<td>ATF 337</td>
<td>Ford Tune-Up Proc and Emission Control</td>
<td>4</td>
</tr>
<tr>
<td>ATF 340</td>
<td>Technical Internship III</td>
<td>3</td>
</tr>
<tr>
<td>ATF 344</td>
<td>Ford Driveline and 4X4 Diagnosis and Repair</td>
<td>2</td>
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<tr>
<td>ATF 345</td>
<td>Ford Manual Transmissions</td>
<td>2</td>
</tr>
<tr>
<td>ATF 346</td>
<td>Ford Transmissions and Transaxdes</td>
<td>4</td>
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<tr>
<td>ATF 350</td>
<td>Technical Internship IV</td>
<td>3</td>
</tr>
<tr>
<td>ATF 354</td>
<td>Ford Advanced Engine Controls, Electronics</td>
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<tr>
<td>BUS 102</td>
<td>Intro to Business</td>
<td>3</td>
</tr>
<tr>
<td>COM 703</td>
<td>Communication Skills</td>
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<tr>
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<td>Technical Physics</td>
<td>3</td>
</tr>
<tr>
<td>PSY 102</td>
<td>Human and Work Relations</td>
<td>3</td>
</tr>
</tbody>
</table>

Total credits required to complete this program 73

Accounting & Bookkeeping

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

Locations: Boone, Urban

Selected courses in this program are offered at other campuses.

Program Entry Requirements

- Complete an application, satisfy the assessment requirement and attend any required information/registration session.
- Successful completion of ADM 105 Intro to Keyboarding or keyboarding skills of 25 NWPM is strongly recommended.
- Students start fall term.

Graduation Requirements

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

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 and Carroll; 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**
- ACC 131 Principles of Accounting I 4
- CSC 110 Intro to Computers 3
- ECN 120 Principles of Microeconomics 3
- ENG 105 Composition I 3
- 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 2**
- ACC 132 Principles of Accounting II 4
- ENG 106 Composition II 3
- CIS 125 Intro to Program Logic w/lang 3
- ACC 311 Computer Accounting 3
- ACC 161 Payroll Accounting Opt 1 3
- ACC 191 Financial Analysis Opt 1 3
- CIS 402 COBOL Opt 2 3
- CIS 604 Visual Basic Opt 2 3
- CIS 161 C++ Opt 2 3
- 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 3**
- ACC 231 Intermediate Accounting I 4
- ECN 130 Principles of Microeconomics 3
- SPC 101 Fundamentals of Oral Communication 3
- CIS 402 COBOL Opt 2 3
- CIS 604 Visual Basic Opt 2 3
- CIS 161 C++ Opt 2 3
- 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**
- ACC 261 Income Tax Accounting 3
- ACC 272 Accounting Information Systems 4
- ACC 361 Accounting Spreadsheets 3
- CIS 413 COBOL II Opt 3 4
- BCA 113 Computer Network Literacy Opt 3 3
- 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

**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**
- ACC 131 Principles of Accounting I 4
- CSC 110 Intro to Computers 3
- ECN 130 Principles of Microeconomics 3
- ENG 105 Composition I 3
- 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**
- ACC 132 Principles of Accounting II 4
- ACC 191 Financial Analysis 3
- ACC 311 Computer Accounting 3
- ACC 161 Payroll Accounting 3
- ENG 106 Composition II 3
- CIS 402 COBOL II 4
- CIS 161 C++ 3
- 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**
- ACC 231 Intermediate Accounting I 4
- ACC 222 Cost Accounting 3
- ECN 130 Principles of Microeconomics 3
- SPC 101 Fundamentals of Oral Communication 3
- 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.
### PROGRAMS AVAILABLE

#### Accounting Specialist

The Accounting Specialist program prepares you for an accounting career. You will be able to identify, analyze, summarize, communicate, record and interpret business transactions and financial statements. You will learn commercial and customized accounting software and spreadsheets and you will apply the skills via intensive accounting applications.

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

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

**Locations:** Boone, Urban

Selected courses in this program are offered at other campuses.

#### Program Entry Requirements

- Complete an application, satisfy the assessment requirement and attend any required information/registration session.
- Successful completion of 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>
<thead>
<tr>
<th>Course</th>
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<td>ACC 131</td>
<td>Principles of Accounting I</td>
<td>4</td>
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<tr>
<td>ACC 124</td>
<td>Accounting Professionalism</td>
<td>3</td>
</tr>
<tr>
<td>CSC 110</td>
<td>Intro to Computers</td>
<td>3</td>
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<tr>
<td>ENG 105</td>
<td>Composition I</td>
<td>Opt 1 3</td>
</tr>
<tr>
<td>ADM 157</td>
<td>Business English</td>
<td>Opt 1 3</td>
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<tr>
<td>Any AA/AS degree Core MAT or BUS course</td>
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#### Term 2--Select 1 Course from Option 2

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<td>ACC311</td>
<td>Computer Accounting</td>
<td>3</td>
</tr>
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<td>ACC161</td>
<td>Payroll Accounting</td>
<td>3</td>
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<tr>
<td>ACC191</td>
<td>Financial Analysis</td>
<td>3</td>
</tr>
<tr>
<td>ENG106</td>
<td>Composition II</td>
<td>Opt 2 3</td>
</tr>
</tbody>
</table>

### Administrative Assistant

Today’s business offices have a need for highly-skilled employees who possess the skills and confidence necessary to handle a wide variety of office tasks. The Administrative Assistant degree provides a strong foundation in office skills, including the technological aspects, and combines 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</th>
<th>Title</th>
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<tbody>
<tr>
<td>BUS 112</td>
<td>Business Math</td>
<td>3</td>
</tr>
<tr>
<td>MGT 145</td>
<td>Human Relations in Business</td>
<td>3</td>
</tr>
<tr>
<td>ADM 157</td>
<td>Business English</td>
<td>3</td>
</tr>
<tr>
<td>BCA 133</td>
<td>Word Processing Skill Development I</td>
<td>4</td>
</tr>
<tr>
<td>ADM 131</td>
<td>Office Calculators</td>
<td>1</td>
</tr>
<tr>
<td>BCA 212</td>
<td>Intro to Computer Business Applications</td>
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#### Term 2

<table>
<thead>
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<th>Course</th>
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<td>SDV 153</td>
<td>Pre Employment Strategies</td>
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<tr>
<td>ADM 162</td>
<td>Office Procedures</td>
<td>3</td>
</tr>
<tr>
<td>ADM 154</td>
<td>Business Communication</td>
<td>3</td>
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</tbody>
</table>
Aging Services Management

The Aging Services Management program provides students with the opportunity to develop the knowledge and skills needed to perform the duties of a health care administrator in long-term care facilities and residential care facilities; director in assisted living and adult day care programs; or management with adult services agencies. An administrator or director may be responsible for planning, organizing, staffing, directing and budgeting of a facility or agency that works with the older adult population. Students in this program will explore specific administration areas such as management, services, financial, legal regulations and human relations.

There are four tracks for students to select a career path. The Aging Services Management programs provide classes on the web, TV, and weekends to meet the needs of the nontraditional student.

Students completing the AS degree will have the option of seeking employment in a health-care-related field, or transferring to a four-year college or university.

Location: Ankeny

Selected courses in this program are offered at other campuses.

Program Entry Requirements

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

**Required Courses**

**Complete AS degree Core Requirements**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ADM 164</td>
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<td>BCA 111</td>
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<td>BCA 250</td>
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<td>ADM 937</td>
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<tr>
<td>Any BUS course (except adjunct)</td>
<td>Opt 4</td>
</tr>
<tr>
<td>Any BCA, CSC, CIS or NET course (except adjunct)</td>
<td>Opt 4</td>
</tr>
<tr>
<td>Any ECN course (except adjunct)</td>
<td>Opt 4</td>
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<tr>
<td>Any FIN course (except adjunct)</td>
<td>Opt 4</td>
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<tr>
<td>Any MKT course (except adjunct)</td>
<td>Opt 4</td>
</tr>
<tr>
<td>Any ADM, MTR, MAP course (except adjunct)</td>
<td>Opt 4</td>
</tr>
</tbody>
</table>

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

**Graduation Requirements**

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

**Long-Term Care Administration Track**

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

**IMPORTANT NOTE:** Students are strongly advised to contact one of the staff members in Aging Services Management in Bldg. 9, Room 3 on the Ankeny Campus or call 515-964-6814 or 515-964-6282 regarding additional important information to meet state licensure requirements for nursing home administrator.

**Required Courses**

**Complete AS degree Core Requirements**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ASM 278</td>
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<tr>
<td>ASM 279</td>
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<td>ASM 280</td>
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<td>SOC 225</td>
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<td>SOC 226</td>
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**Practicum:**

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<td>ASM 255</td>
<td>2</td>
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<tr>
<td>ASM 257</td>
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**Option Courses—Select a Minimum of 10 Credits from Option 1**

<table>
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<th>Course</th>
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<tbody>
<tr>
<td>ACC 131</td>
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<td>ACC 111</td>
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<tr>
<td>ASM 238</td>
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<td>ASM 239</td>
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<tr>
<td>ASM 274</td>
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</table>

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

**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.

**Required Courses**

**Complete AS degree Core Requirements**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ASM 278</td>
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<tr>
<td>ASM 279</td>
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<td>ASM 280</td>
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<td>ASM 282</td>
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<tr>
<td>ASM 283</td>
<td>2</td>
</tr>
<tr>
<td>SOC 225</td>
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</table>
PROGRAMS AVAILABLE

**Degrees and Diplomas**

**Agri-Business Agronomy,**
**Agri-Business Animal Science,**
**Agri-Business Farm Management**
& **Agri-Business Sales/Service Certificates** (see Certificate Section starting on page 77)

**Airbrush Art** (see Certificate Section page 78)

**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
Programs Available

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

Term 2
- MLW 444 Advanced Equipment Techniques 3
- MLW 445 Millimeter Cabinet Techniques 3
- MLW 446 Millwork Techniques 4
- MLW 447 Introduction to Application 3
- COM 703 Communication Skills 3

Term 3
- MLW 448 Advanced Millwork Applications I 5
- MLW 449 Advanced Millwork Applications II 5

Total credits required to complete this program 43

Architectural Technologies

The Architectural Technologies program is designed to develop the proper manual and computer skills and knowledge required for satisfactory entrance into the field of architectural drafting and detailing.

Graduates are employed by architects, structural, mechanical and electrical engineers, contractors, subcontractors and building equipment and material suppliers. Students visit a construction site to observe actual construction practices and architectural offices to experience their future work environment.

Location: Ankeny

Selected courses offered at Urban campus

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

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

Term 3–Select 1 Course from Option 1
- ARC 128 Architectural Drafting III 5
- ARC 169 Materials & Assemblies III 3
- ARC 180 Building Codes 2
- ARC 181 Construction Documents Technology 2
- MAT 773 Applied Math II 3
- MGT 145 Human Relations in Business Opt 1 3
- PSY 111 Intro to Psychology Opt 1 3
- PSY 102 Human & Work Relations Opt 1 3
- SOC 110 Introduction to Sociology Opt 1 3

Total credits required to complete the diploma 48

Additional Courses Required to Complete this Program
- HIS 112 Western Civ: Ancient to Early Modern 4
- HIS 113 Western Civ: Modern to Present 4
- ENG 108 Comp II: Technical Writing 3
- BCA 113 Computer Network Literacy 3
- CAD 162 Introduction to Multimedia 3

Total credits required to complete the AAS degree 65

Auto Collision Technology

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

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

Location: Ankeny

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

Graduation Requirements
To earn an Automotive Collision Technology diploma or AAS degree, a student must complete all course work as prescribed and maintain a 2.0 grade-point average.
Programs Available

Auto Collision - Diploma

Required Courses
- 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
- 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 and Work Relations Opt 1 3
- PSY 111 Introduction to Psychology Opt 1 3
- SOC 110 Introduction to Sociology Opt 1 3
- BUS 135 Managing Entrepreneurial Venture 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 Mechanics Technology Associate of Applied Science (AAS) degree program is a comprehensive training program designed to cover all aspects of automotive repair. Graduates with an AAS degree find employment in dealerships, independent service facilities, corporate repair facilities and automotive parts establishments. They are employed as automotive technicians, insurance claims adjusters, automotive instructors and repair technicians in related fields.

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

Location: Ankeny, selected courses offered at 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
- AUT 109 Auto Measurement and Tools 3
- AUT 834 Automotive Fuel Systems 4
- AUT603 Basic Automotive Electricity 3
- AUT652 Advanced Automotive Electricity 3
- AUT704 Auto Heating and AC 4
- AUT163 Automotive Engine Repair 3
- AUT844 Automotive Electronic Engine Controls 6
- AUT823 Advanced Automotive Tune-Up 4
- AUT870 Automotive Service Management 2
- AUT173 Advanced Automotive Engine Repair 3
- COM703 Communication Skills 3
- MAT772 Applied Math 3
- PHY710 Technical Physics 3

Total credits required to complete the 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
- AUT 109 Auto Measurement and Tools 3
- AUT 242 Basic Automotive Power Train 6
- AUT 503 Automotive Brake Systems 3
- AUT 404 Basic Suspension & Steering 4
- AUT 243 Advanced Automotive Power Train 6
- AUT 535 Advanced Auto Brakes & Alignment 5
- COM 703 Communication Skills 3
- HSC 102 Emergency Care 1
PROGRAMS AVAILABLE

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Credit</th>
<th>Option</th>
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<tr>
<td>PSY 111</td>
<td>Introduction to Psychology</td>
<td>3</td>
<td>Opt 1</td>
</tr>
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<td>PSY 102</td>
<td>Human and Work Relations</td>
<td>3</td>
<td>Opt 1</td>
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<tr>
<td>SOC110</td>
<td>Introduction to Sociology</td>
<td>3</td>
<td>Opt 1</td>
</tr>
</tbody>
</table>

Total credits required for Chassis & Power Train diploma 34

Automotive Maintenance & Light Repair Technology 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

- AUT109 Auto Measurement and Tools 3
- AUT603 Basic Automotive Electricity 3
- AUT652 Advanced Automotive Electricity 3
- AUT704 Auto Heating & AC 4
- AUT163 Automotive Engine Repair 3
- AUT870 Automotive Service Management 2
- AUT503 Automotive Brake Systems 3
- AUT404 Basic Suspension & Steering 4
- AUT535 Advanced Auto Brakes & Alignment 5
- COM703 Communication Skills 3
- HSC102 Emergency Care 1
- MAT772 Applied Math 3
- MGT145 Human Relations in Business 3
- PSY111 Introduction to Psychology 3
- PSY102 Human and Work Relations 3
- SOC110 Introduction to Sociology 3

Total credits required for Auto Maintenance & Light Repair diploma 40

Automotive Mechanics Technology - AAS degree

Required Courses--Select 1 Course from Option 1

- AUT109 Auto Measurement and Tools 3
- AUT834 Automotive Fuel Systems 4
- AUT603 Basic Automotive Electricity 3
- AUT652 Advanced Automotive Electricity 3
- AUT704 Auto Heating & AC 4
- AUT163 Automotive Engine Repair 3
- AUT844 Auto Electronic Engine Controls 6
- AUT823 Advanced Automotive Tune-Up 4
- AUT870 Automotive Service Management 2
- AUT173 Advanced Automotive Engine Repair 3
- AUT242 Basic Automotive Power Train 6
- AUT503 Automotive Brake Systems 3
- AUT404 Basic Suspension & Steering 4
- AUT243 Advanced Automotive Power Train 6
- AUT535 Advanced Auto Brakes & Alignment 5
- HSC102 Emergency Care 1
- COM703 Communication Skills 3
- MAT772 Applied Math 3
- PHY710 Technical Physics 3

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

Required Courses

- BIO 104 Introductory Biology w/Lab 3
- BIO 100 Opportunities in Biology 1
- ENG 105 Composition I 3
- CHM 122 Intro to General Chemistry 4
- CSC 110 Introduction to Computers 3
- BIO 112 General Biology I 4
Building Maintenance Certificate
(see Certificate Section page 78)

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
- CON 333 Materials/Construction Theory 5
- CON 334 Construction Techniques 7
- CON 336 Care/Use of Hand/Power Tools 1
- CON 337 Construction Blueprint Reading 1
- CON 338 Materials Takeoff 1
- HSC 102 Emergency Care 1
- MAT 772 Applied Math 3

Term 2
- CON 346 Concrete Systems & Forming 4
- CON 341 Construction Drafting & Design 2
- CON 342 Interior Trim Practices 3
- CON 480 Construction Procedure/Application I 5
- COM 703 Communication Skills 3

Term 3
- CON 481 Construction Procedure/Application II 5
- CON 482 Construction Procedure/Application III 5

Total credits required to complete this program 46

Option Courses—Select 3 Credits From Options 1 and 6 Credits from Option 2

Option 1
- AA/AS Core Humanities Opt 1 3
- AA/AS Core Social and Behavioral Sciences Opt 2 6

Total minimum credits required to complete this program 64

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.

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 Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 131</td>
<td>Principles of Accounting I</td>
<td>4</td>
</tr>
<tr>
<td>ACC 132</td>
<td>Principles of Accounting II</td>
<td>4</td>
</tr>
<tr>
<td>BUS 102</td>
<td>Intro to Business</td>
<td>3</td>
</tr>
<tr>
<td>BUS 220</td>
<td>Intro to International Business</td>
<td>3</td>
</tr>
<tr>
<td>BUS 185</td>
<td>Business Law I</td>
<td>3</td>
</tr>
<tr>
<td>CSC 110</td>
<td>Intro to Computers</td>
<td>3</td>
</tr>
<tr>
<td>ECN 120</td>
<td>Principles of Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>ECN 130</td>
<td>Principles of Microeconomics</td>
<td>3</td>
</tr>
</tbody>
</table>

Total 54

Required courses and options and maintain a 2.0 grade-point average.

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:

   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
**PROGRAMS AVAILABLE**

2. General Business Option Course Plan—Select 3 Courses from Option 1

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIN 121 Personal Finance</td>
<td>3</td>
</tr>
<tr>
<td>FIN 101 Principles of Banking</td>
<td>3</td>
</tr>
<tr>
<td>FIN 180 Introduction to Investments</td>
<td>3</td>
</tr>
<tr>
<td>BUS 260 Intro to Insurance</td>
<td>3</td>
</tr>
<tr>
<td>BUS 240 Virtual Business Firm</td>
<td>3</td>
</tr>
<tr>
<td>BUS 135 Managing Entrepreneurial Venture</td>
<td>3</td>
</tr>
<tr>
<td>BUS 186 Business Law II</td>
<td>3</td>
</tr>
<tr>
<td>BUS 231 Quan Methods/Bus Decision Making</td>
<td>3</td>
</tr>
<tr>
<td>MGT 101 Principles of Management</td>
<td>3</td>
</tr>
<tr>
<td>MGT 248 Systems &amp; Info Management</td>
<td>3</td>
</tr>
<tr>
<td>MKT 110 Principles of Marketing</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
<td>1</td>
</tr>
</tbody>
</table>

**Total minimum credits required for the General Business Plan** 64

3. Business Computer Plan–Complete Both Courses from Option 1 and Select 1 Course from Option 2

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 125 Intro to Programming Logic w/lang</td>
<td>3</td>
</tr>
<tr>
<td>CIS 402 COBOL</td>
<td>3</td>
</tr>
<tr>
<td>CIS 207 Fund of Web Programming</td>
<td>3</td>
</tr>
<tr>
<td>CIS 413 COBOL II</td>
<td>4</td>
</tr>
<tr>
<td>CIS 604 Visual BASIC</td>
<td>3</td>
</tr>
<tr>
<td>CIS 612 Advanced Visual BASIC</td>
<td>3</td>
</tr>
<tr>
<td>BCA 113 Computer Network Literacy</td>
<td>3</td>
</tr>
<tr>
<td>CIS 421 COBOL - Intermediate</td>
<td>4</td>
</tr>
<tr>
<td>CIS 161 C++</td>
<td>3</td>
</tr>
<tr>
<td>CIS 303 Introduction to Data Base</td>
<td>3</td>
</tr>
<tr>
<td>CIS 332 Data Base and SQL</td>
<td>3</td>
</tr>
<tr>
<td>CIS 338 SQL/Oracle</td>
<td>3</td>
</tr>
<tr>
<td>CIS 346 Data Base Design</td>
<td>3</td>
</tr>
<tr>
<td>BCA 213 Inter. Computer Business Applications</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
<td>1</td>
</tr>
</tbody>
</table>

**Total minimum credits required for the Business Computer Option Plan** 64

**Total minimum credits required for this program using any plan** 64

**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**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 131 Principles of Accounting I</td>
<td>4</td>
</tr>
<tr>
<td>BUS 102 Intro to Business</td>
<td>3</td>
</tr>
<tr>
<td>CIS 125 Intro to Programming Logic w/lang</td>
<td>3</td>
</tr>
<tr>
<td>CIS 402 COBOL</td>
<td>3</td>
</tr>
<tr>
<td>CSC 110 Intro to Computers</td>
<td>3</td>
</tr>
<tr>
<td>CIS 604 Visual BASIC</td>
<td>3</td>
</tr>
<tr>
<td>BCA 113 Computer Network Literacy</td>
<td>3</td>
</tr>
<tr>
<td>CIS 303 Introduction to Data Base</td>
<td>3</td>
</tr>
<tr>
<td>CIS 332 Data Base and SQL</td>
<td>3</td>
</tr>
<tr>
<td>CIS 505 Structured Systems Analysis</td>
<td>4</td>
</tr>
<tr>
<td>MGT 248 Systems &amp; Information Management</td>
<td>3</td>
</tr>
<tr>
<td>Any AA/AS Degree Core MAT or BUS course</td>
<td>3–4</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 105 Composition I</td>
<td>3</td>
</tr>
<tr>
<td>COM 703 Communication Skills</td>
<td>3</td>
</tr>
<tr>
<td>SPC 101 Fund of Oral Communication</td>
<td>3</td>
</tr>
<tr>
<td>Any AA/AS Core SPC</td>
<td>2</td>
</tr>
<tr>
<td>MGT 145 Human Relations in Business</td>
<td>3</td>
</tr>
<tr>
<td>PSY 111 Introduction to Psychology</td>
<td>3</td>
</tr>
<tr>
<td>SOC 110 Intro to Sociology</td>
<td>3</td>
</tr>
<tr>
<td>ACC 311 Computer Accounting</td>
<td>4</td>
</tr>
<tr>
<td>BUS 150 E-Commerce on the Web</td>
<td>4</td>
</tr>
<tr>
<td>CIS 207 Fund of Web Programming</td>
<td>4</td>
</tr>
<tr>
<td>CIS 240 E-Commerce Website II</td>
<td>4</td>
</tr>
<tr>
<td>ADM 105 Intro to Keyboarding</td>
<td>4</td>
</tr>
<tr>
<td>CIS 152 Data Structures</td>
<td>4</td>
</tr>
<tr>
<td>CIS 413 COBOL II</td>
<td>4</td>
</tr>
<tr>
<td>CIS 171 Java</td>
<td>3</td>
</tr>
<tr>
<td>CIS 182 JSP and Servlets</td>
<td>3</td>
</tr>
<tr>
<td>CIS 215 Server Side Web Programming</td>
<td>3</td>
</tr>
<tr>
<td>CIS 169 C#</td>
<td>3</td>
</tr>
<tr>
<td>CIS 204 Intro to Website Development</td>
<td>3</td>
</tr>
<tr>
<td>CIS 247 Intro to XML</td>
<td>3</td>
</tr>
<tr>
<td>SDV 153 Pre-Employment Strategies</td>
<td>2</td>
</tr>
<tr>
<td>CIS 612 Advanced Visual BASIC</td>
<td>3</td>
</tr>
<tr>
<td>CIS 435 COBOL on the World Wide Web</td>
<td>3</td>
</tr>
<tr>
<td>CIS 161 C++</td>
<td>3</td>
</tr>
<tr>
<td>CIS 583 Assembler</td>
<td>4</td>
</tr>
<tr>
<td>CIS 164 Advanced C++</td>
<td>3</td>
</tr>
<tr>
<td>CIS 338 SQL/Oracle</td>
<td>3</td>
</tr>
<tr>
<td>CIS 346 Data Base Design</td>
<td>3</td>
</tr>
<tr>
<td>ENG 108 Comp II: Technical Writing</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total credits required to complete AAS degree** 65

**VISIT US ONLINE:** www.DMACC.edu
CAP - Chrysler

The Chrysler Automotive Program (CAP), cosponsored by DMACC and Daimler Chrysler Company, is a two-year automotive program designed to upgrade the technical competence and professional level of the incoming Daimler Chrysler dealership technician. The curriculum, designed by Daimler Chrysler 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 Daimler Chrysler as a participant. In addition, all program participants must be employed by a participating Chrysler 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
- ATC 356 Advanced Chrysler Systems 5
- ATC 360 Technical Internship V 2
- 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

Caterpillar Technology

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

Location: Ankeny

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

Graduation Requirements
To earn a Caterpillar Technology AAS degree, a student must complete all course work as prescribed and maintain a 2.0 grade-point average.

Required Courses
- 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
- CAT 430 Caterpillar Fuel Systems 4
- CAT 431 Caterpillar Failure Analysis 2
- CAT 432 Caterpillar LS/PC Hydraulics 2
- CAT 433 Caterpillar Service Information System 2
- DSL 155 Advanced Electricity 4
- CAT 434 Caterpillar Internship 4
- CAT 435 Caterpillar Multi-Media 2
- AUT 140 Welding for Automotive Mechanics 2

Option Courses—Select 1 Course from Each Option
- COM 703 Communication Skills Opt 1 3
- ENG 105 Composition I Opt 1 3
- MAT 141 Finite Math Opt 2 4
- MAT 772 Applied Math Opt 2 3
- 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 710 Technical Physics Opt 4 3
- PHY 106 Survey of Physics Opt 4 4

Total credits required to complete AAS degree 80

Chemical Dependency Counseling
(see Certificate Section page 78)

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
PROGRAMS AVAILABLE

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 173 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 CET 305
- CET307 Field Orientation 2

AND 1 of the following courses:
- MGT145 Human Relations in Business 3

OR
- PSY11 Intro to Psychology 3

Option Courses—Select Both Option 1 Courses, OR Both Option 2 Courses, AND 1 Course from Option 3
- COM 703 Communication Skills Opt 1 3
- ENG 105 Composition I Opt 1 3
- ENG 105 Composition I Opt 2 3
- ENG 108 Comp II: Technical Writing Opt 2 3
- MGT 145 Human Relations in Business Opt 3 3
- PSY 111 Intro to Psychology Opt 3 3
- PSY 102 Human and Work Relations Opt 3 3

Total credits required to complete AAS degree 72

Recommended Electives (not required for the AAS degree)
- CAD 119 Intro to Computer Aided Drafting
- SPC 101 Fund of Oral Communication
- MAT 130 Trigonometry
- SRV 215 Intro to Land Information Systems

Commercial Horticulture

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

In addition to the required and option courses listed, there are elective courses that may be taken for additional credit. Those courses are AGH 160 Irrigation Systems, AGH 241 Sports Turf.

Location: Ankeny

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

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

Required Courses
- AGA 157 Soil Fertility* 1
- AGA 154 Fundamentals of Soil Science* 3
- AGH 159 Landscape Drafting 2
- AGH 221 Principles of Horticulture 3
- AGH 142 Construction, Safety & Maintenance 3
- AGH 123 Woody Plant Materials 3
- AGH 132 Introduction to Greenhouse 3
- AGH 111 Intro to Turfgrass Management* 2
- AGH 154 Residential Landscape Design I 3
- AGH 805 Horticulture Internship I 2
- AGH 213 Plant Propagation I 3
- AGH 155 Landscape Design II 2
- AGH 251 Insects and Diseases 2
- AGH 120 Herbaceous Plant Materials 3
- AGH 283 Pesticide Application Certification* 2
- SDV 220 Pre-Employment Strategies 2
- AGH 281 Arboriculture 3
- AGH 292 Garden Center Management 3
- AGH 815 Horticulture Internship II 2
- AAS Degree Core science course 3

For the Turf Maintenance Emphasis, the following course is required
- AGH 211 Advanced Turfgrass Management II* 3

For the Greenhouse Production Emphasis, the following course is required
- AGH 133 Greenhouse Production Techniques 3

Option Courses Either Plan—Select 1 Course from Option 1, 2 and 3
- MAT 141 Finite Mathematics Opt 1 4
- MAT 772 Applied Math* Opt 1 3
### PROGRAMS AVAILABLE

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<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>MGT 145</td>
<td>Human Relations in Business</td>
<td>3</td>
</tr>
<tr>
<td>PSY 111</td>
<td>Introduction to Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSY 102</td>
<td>Human and Work Relations</td>
<td>3</td>
</tr>
</tbody>
</table>

**Either Plan - Select 2 Courses from Option 4**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 111</td>
<td>Intro to Accounting</td>
<td>4</td>
</tr>
<tr>
<td>MKT 140</td>
<td>Selling</td>
<td>3</td>
</tr>
<tr>
<td>CSC 110</td>
<td>Intro to Computers</td>
<td>3</td>
</tr>
</tbody>
</table>

**Either Plan - Select 1 Course from Option 5**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGH 262</td>
<td>Fruit and Vegetable Science</td>
<td>3</td>
</tr>
<tr>
<td>AGH 272</td>
<td>Nursery Production I</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total minimum credits required for the Greenhouse Production emphasis** 71

**Total minimum credits required for the Turf Maintenance emphasis** 71

In addition to the courses required for this degree, students may take the following courses to enhance their background or for personal enrichment:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGH 160</td>
<td>Irrigation Systems*</td>
<td>2</td>
</tr>
<tr>
<td>AGH 241</td>
<td>Sports Turf*</td>
<td>2</td>
</tr>
</tbody>
</table>

*Courses marked with * are required for the Turf Maintenance Certificate*

### Computer-Aided Design Technology

Computer-Aided Design (CAD) Technology prepares students for a career in a variety of design 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 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>Credit Hours</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>
</tbody>
</table>

**Term 2**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<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>

**Term 3**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAT 773</td>
<td>Applied Math</td>
<td>3</td>
</tr>
<tr>
<td>CAD 242</td>
<td>Manufacturing Interfaces</td>
<td>3</td>
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</tbody>
</table>

**Term 4**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</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>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAD 148</td>
<td>Introduction to Finite Elem 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.

**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>Credit Hours</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>
</tbody>
</table>
PROGRAMS AVAILABLE

POL 171* Intro to Public Administration 3
SOC240 Criminology 3
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

| CRJ 130 | Criminal Law | Opt 1 3 |
| CRJ 137 | Juvenile Law | Opt 1 3 |
| CRJ 109 | Theories of Interviewing | 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 932 | Internship | 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 | Ethics in Criminal Justice | Opt 1 3 |

Total minimum credits required to complete the AA degree 75

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

*Criminology 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 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.

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 230 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
**Programs Available**

**Data Entry I and Data Specialist Certificates** (see Certificate Section page 79)

**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.

Criminal background checks will be completed on each student. Criminal convictions or documented history of abuse may delay or prevent students from participating in clinical education experiences. Students unable to participate in clinical education will be unable to complete the Dental Assistant program.

**Location: Ankeny**

**Program Entry Requirements**

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Keyboard skills of 35 WPM with no more than 5 errors is strongly recommended. High school biology is strongly recommended. Submit proof of high school graduation or GED prior to enrollment. Students start fall term.

**Graduation Requirements**

To earn a Dental Assistant diploma, a student must complete all 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>DEA 253</td>
<td>Dental Science I</td>
<td>4</td>
</tr>
<tr>
<td>DEA 256</td>
<td>Dental Anatomy</td>
<td>2</td>
</tr>
<tr>
<td>DEA 424</td>
<td>Dental Materials Lab</td>
<td>1</td>
</tr>
<tr>
<td>DEA 507</td>
<td>Principles of Dental Assisting</td>
<td>6</td>
</tr>
<tr>
<td>DHY 221</td>
<td>Dental Materials</td>
<td>2</td>
</tr>
<tr>
<td>DHY 161</td>
<td>Oral Radiology</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>DEA 321</td>
<td>Dental Radiography II</td>
<td>2</td>
</tr>
<tr>
<td>DEA 591</td>
<td>Dental Assisting Seminar</td>
<td>1</td>
</tr>
<tr>
<td>DEA 576</td>
<td>Dental Assisting Clinic I</td>
<td>3</td>
</tr>
<tr>
<td>DEA 263</td>
<td>Dental Science II</td>
<td>2</td>
</tr>
<tr>
<td>DEA 615</td>
<td>Clinical Dental Assisting</td>
<td>5</td>
</tr>
<tr>
<td>DEA 702</td>
<td>Dental Office Procedures</td>
<td>2</td>
</tr>
<tr>
<td>ENG 105</td>
<td>Composition I</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>DEA 297</td>
<td>Ethics/Jurisprudence Seminar</td>
<td>1</td>
</tr>
<tr>
<td>DEA 577</td>
<td>Dental Assisting Clinic II</td>
<td>4</td>
</tr>
<tr>
<td>PSY 102</td>
<td>Human &amp; Work Relations</td>
<td>3</td>
</tr>
<tr>
<td>SPC 101</td>
<td>Fund of Oral Communication</td>
<td>3</td>
</tr>
</tbody>
</table>

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**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHM 132</td>
<td>Intro to Organic/Biochemistry</td>
<td>4</td>
</tr>
<tr>
<td>DHY 170</td>
<td>Principles of Dental Hygiene</td>
<td>2</td>
</tr>
<tr>
<td>DHY 171</td>
<td>Principles of Dental Hygiene Practicum</td>
<td>3</td>
</tr>
<tr>
<td>DHY 121</td>
<td>Oral Histology and Embryology</td>
<td>2</td>
</tr>
<tr>
<td>DHY 114</td>
<td>Dental Anatomy Anatomical Sciences</td>
<td>4</td>
</tr>
<tr>
<td>DHY 161</td>
<td>Dental Radiography</td>
<td>3</td>
</tr>
</tbody>
</table>


**Programs Available**

**Term 2—Select the Option 1 Course or both Option 2 Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>DHY 181</td>
<td>Dental Hygiene I</td>
<td>2</td>
</tr>
<tr>
<td>DHY 182</td>
<td>Clinical Dental Hygiene I</td>
<td>4</td>
</tr>
<tr>
<td>DHY 164</td>
<td>Oral Radiography II</td>
<td>2</td>
</tr>
<tr>
<td>DHY 141</td>
<td>General and Oral Pathology</td>
<td>3</td>
</tr>
<tr>
<td>DHY 232</td>
<td>Nutrition &amp; Preventative Dentistry</td>
<td>Opt 1</td>
</tr>
<tr>
<td>HCM 236</td>
<td>Human Nutrition</td>
<td>Opt 2</td>
</tr>
<tr>
<td>DHY 234</td>
<td>Nutrition/Dental Counseling</td>
<td>Opt 2</td>
</tr>
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</table>

**Term 3**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>DHY 281</td>
<td>Dental Hygiene II</td>
<td>2</td>
</tr>
<tr>
<td>DHY 282</td>
<td>Clinical Dental Hygiene II</td>
<td>2</td>
</tr>
<tr>
<td>DHY 211</td>
<td>Periodontology</td>
<td>2</td>
</tr>
<tr>
<td>DHY 133</td>
<td>Pharmacology</td>
<td>3</td>
</tr>
<tr>
<td>PSY 111</td>
<td>Intro to Psychology</td>
<td>3</td>
</tr>
</tbody>
</table>

**Term 4**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>DHY 221</td>
<td>Dental Materials</td>
<td>2</td>
</tr>
<tr>
<td>DHY 223</td>
<td>Dental Materials Lab</td>
<td>1</td>
</tr>
<tr>
<td>DHY 261</td>
<td>Dental Health Education</td>
<td>3</td>
</tr>
<tr>
<td>DHY 291</td>
<td>Dental Hygiene III</td>
<td>2</td>
</tr>
<tr>
<td>DHY 292</td>
<td>Clinical Dental Hygiene III</td>
<td>5</td>
</tr>
<tr>
<td>SOC 110</td>
<td>Introduction to Sociology</td>
<td>3</td>
</tr>
</tbody>
</table>

**Term 5—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>DHY 251</td>
<td>Community Oral Health</td>
<td>3</td>
</tr>
<tr>
<td>DHY 301</td>
<td>Dental Hygiene IV</td>
<td>2</td>
</tr>
<tr>
<td>DHY 302</td>
<td>Clinical Dental Hygiene IV</td>
<td>5</td>
</tr>
<tr>
<td>ENG 105</td>
<td>Composition I</td>
<td>3</td>
</tr>
<tr>
<td>SPC 101</td>
<td>Fund of Oral Communication</td>
<td>Opt 3</td>
</tr>
<tr>
<td>SPC 126</td>
<td>Interpersonal &amp; Small Group Communication</td>
<td>Opt 3</td>
</tr>
</tbody>
</table>

**Total credits required to complete this program** 77

**Diemaking** (See Tool & Diemaking)

**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**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>DSL 356</td>
<td>Diesel Engines I</td>
<td>6</td>
</tr>
<tr>
<td>DSL 366</td>
<td>Diesel Engines II</td>
<td>6</td>
</tr>
<tr>
<td>DSL 546</td>
<td>Power Trains I</td>
<td>6</td>
</tr>
<tr>
<td>DSL 605</td>
<td>Hydraulics and Brakes</td>
<td>5</td>
</tr>
<tr>
<td>DSL 145</td>
<td>Basic Electricity</td>
<td>5</td>
</tr>
<tr>
<td>DSL 733</td>
<td>Air Conditioning</td>
<td>3</td>
</tr>
<tr>
<td>DSL 830</td>
<td>Operation and Maintenance</td>
<td>5</td>
</tr>
</tbody>
</table>

**Select 1 Course from Each Option**

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

**Total credits required to complete the AAS degree** 80

**Dietary Manager**

(see Certificate Section page 79)

**E-Commerce Design**

(see Certificate Section page 79)

**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
PROGRAMS AVAILABLE

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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECE173</td>
<td>Early Childhood Development</td>
<td>3</td>
</tr>
<tr>
<td>ECE101</td>
<td>Intro to Early Childhood Education</td>
<td>1</td>
</tr>
<tr>
<td>ECE242</td>
<td>Early Childhood Guidance</td>
<td>2</td>
</tr>
<tr>
<td>ECE147</td>
<td>Assessment Planning - Young Children</td>
<td>1</td>
</tr>
<tr>
<td>ECE148</td>
<td>Group Exp. for Early Childhood Programs</td>
<td>2</td>
</tr>
<tr>
<td>ECE149</td>
<td>Curriculum - Preschool Children</td>
<td>3</td>
</tr>
<tr>
<td>ECE130</td>
<td>Emergency Care</td>
<td>1</td>
</tr>
<tr>
<td>ECE265</td>
<td>Student Participation I</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>16</strong></td>
</tr>
</tbody>
</table>

Required Courses 2nd Semester

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECE133</td>
<td>Child Health, Safety &amp; Nutrition</td>
<td>3</td>
</tr>
<tr>
<td>ECE220</td>
<td>Infant/Toddler Care &amp; Education</td>
<td>3</td>
</tr>
<tr>
<td>ECE121</td>
<td>Professional Relationships</td>
<td>2</td>
</tr>
<tr>
<td>ECE266</td>
<td>Student Participation II</td>
<td>3</td>
</tr>
<tr>
<td>ECE281</td>
<td>Practicum</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td><strong>Option Courses—Select 1 Course from Each Option</strong></td>
<td></td>
</tr>
<tr>
<td>ENG105</td>
<td>Composition I</td>
<td>Opt 1</td>
</tr>
<tr>
<td>COM703</td>
<td>Communication Skills</td>
<td>Opt 1</td>
</tr>
<tr>
<td>ADM157</td>
<td>Business English</td>
<td>Opt 1</td>
</tr>
<tr>
<td>SOC110</td>
<td>Introduction to Sociology</td>
<td>Opt 2</td>
</tr>
<tr>
<td>PSY111</td>
<td>Intro to Psychology</td>
<td>Opt 2</td>
</tr>
<tr>
<td>PSY102</td>
<td>Human and Work Relations</td>
<td>Opt 2</td>
</tr>
<tr>
<td>MGT145</td>
<td>Human Relations in Business</td>
<td>Opt 2</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>19</strong></td>
</tr>
</tbody>
</table>

Total credits required to complete this program **35**

Degrees and Diplomas

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.

Students who intend to transfer to a four-year institution should contact the Early Childhood Education program chair or program counselor to obtain information about articulation agreements.

DHS criminal history record checks will be completed on each student. Criminal convictions or documented history of abuse will prevent students from participating in practicum and participation experiences. Students unable to complete these classes will not receive a degree in Early Childhood Education.

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

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

Graduation Requirements
To earn an Early Childhood Education AS Degree, a student must complete the standard core requirements for the degree plus the Early Childhood Education program required courses and options and maintain a 2.0 grade-point average.

Recommended Course of Study
A recommended course of study, listed below, has been created to ensure that each student completes the program in the minimal amount of time required. However, the course of study can be tailored to meet the specific needs of each student.

Required Courses 1st Semester

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECE173</td>
<td>Early Childhood Development</td>
<td>3</td>
</tr>
<tr>
<td>ECE101</td>
<td>Intro to Early Childhood Education</td>
<td>1</td>
</tr>
<tr>
<td>ECE242</td>
<td>Early Childhood Guidance</td>
<td>2</td>
</tr>
<tr>
<td>ECE147</td>
<td>Assessment Planning - Young Children</td>
<td>1</td>
</tr>
<tr>
<td>ECE148</td>
<td>Group Exp. for Early Childhood Programs</td>
<td>2</td>
</tr>
<tr>
<td>ECE149</td>
<td>Curriculum - Preschool Children</td>
<td>3</td>
</tr>
<tr>
<td>ECE130</td>
<td>Emergency Care</td>
<td>1</td>
</tr>
<tr>
<td>ECE265</td>
<td>Student Participation I</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>16</strong></td>
</tr>
</tbody>
</table>

Required Courses 2nd Semester

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECE133</td>
<td>Child Health, Safety &amp; Nutrition</td>
<td>3</td>
</tr>
<tr>
<td>ECE220</td>
<td>Infant/Toddler Care &amp; Education</td>
<td>3</td>
</tr>
<tr>
<td>ECE121</td>
<td>Professional Relationships</td>
<td>2</td>
</tr>
<tr>
<td>ECE266</td>
<td>Student Participation II</td>
<td>3</td>
</tr>
<tr>
<td>ECE281</td>
<td>Early Childhood Education Practicum</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>13</strong></td>
</tr>
</tbody>
</table>
PROGRAMS AVAILABLE

Required Courses for Remaining Semesters

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Additional AS Degree Core Requirements</td>
<td>28</td>
</tr>
<tr>
<td>ECE290* Early Childhood Program Administrators</td>
<td>3</td>
</tr>
<tr>
<td>ECE267 Early Childhood Assoc Practicum</td>
<td>3</td>
</tr>
<tr>
<td>Elective courses</td>
<td>2</td>
</tr>
</tbody>
</table>

* ECE 290 is only offered in the spring semester

Total minimum credits required to complete this program 65

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

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAT 772 Applied Math</td>
<td>3</td>
</tr>
<tr>
<td>CON 337 Construction Blueprint Reading</td>
<td>1</td>
</tr>
<tr>
<td>ELT 303 Principles of Electricity</td>
<td>3</td>
</tr>
<tr>
<td>ELT 158 NEC® Residential</td>
<td>3</td>
</tr>
<tr>
<td>ELT 159 NEC® Residential Lab</td>
<td>3</td>
</tr>
</tbody>
</table>

Term 2

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELT 172 NEC® Commercial/Industrial</td>
<td>3</td>
</tr>
<tr>
<td>ELT 173 NEC® Commercial/Industrial Lab</td>
<td>4</td>
</tr>
<tr>
<td>ELT 134 Motor Controls</td>
<td>3</td>
</tr>
<tr>
<td>COM 703 Communication Skills</td>
<td>3</td>
</tr>
<tr>
<td>CSC 110 Introduction to Computers</td>
<td>3</td>
</tr>
</tbody>
</table>

Term 3

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELE 141 Advanced Motor Controls</td>
<td>3</td>
</tr>
<tr>
<td>ELT 174 Electrical Grounding</td>
<td>2</td>
</tr>
<tr>
<td>ELT 119 Programmable Logic Controllers</td>
<td>3</td>
</tr>
<tr>
<td>MGT 145 Human Relations in Business</td>
<td>3</td>
</tr>
</tbody>
</table>

Total credits required to complete this program 40

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.
3. Complete the required COMPASS testing, obtaining a satisfactory score in algebra (60 or higher) or ACT scores with a math sub score of 19 or higher, or
4. Successful completion of CSC 110 Intro to Computers or equivalent; or approval of the program counselor

Students start fall term.

Graduation Requirements

To earn an Electronics, Robotics 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

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELT 385 Electric Circuit Analysis I</td>
<td>4</td>
</tr>
<tr>
<td>ELT 386 Electric Circuit Analysis I Lab</td>
<td>2</td>
</tr>
<tr>
<td>ELT 389 Fabrication Techniques</td>
<td>3</td>
</tr>
<tr>
<td>ELT 108 Math for Electronics &amp; Computers</td>
<td>4</td>
</tr>
<tr>
<td>ENG 105 Composition I</td>
<td>1 Opt 1</td>
</tr>
<tr>
<td>COM 703 Communication Skills</td>
<td>1 Opt 1</td>
</tr>
</tbody>
</table>

Term 2—Select 1 Course from Option 2

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELT 325 Digital Electronics</td>
<td>3</td>
</tr>
<tr>
<td>ELT 326 Digital Electronics Lab</td>
<td>3</td>
</tr>
<tr>
<td>ELT 387 Electronic Circuit Analysis II</td>
<td>3</td>
</tr>
<tr>
<td>ELT 388 Elec. Circuit Analysis II Lab</td>
<td>3</td>
</tr>
<tr>
<td>ELT 181 Adv. Math for Electronics Technicians</td>
<td>1</td>
</tr>
<tr>
<td>MGT 145 Human Relations in Business</td>
<td>2 Opt 3</td>
</tr>
<tr>
<td>PSY 111 Intro to Psychology</td>
<td>2 Opt 3</td>
</tr>
<tr>
<td>PSY 102 Human &amp; Work Relations</td>
<td>2 Opt 3</td>
</tr>
<tr>
<td>SOC 110 Introduction to Sociology</td>
<td>2 Opt 3</td>
</tr>
</tbody>
</table>

Term 3

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 130 Computer Programming</td>
<td>3</td>
</tr>
<tr>
<td>ELT 134 Motor Controls</td>
<td>3</td>
</tr>
<tr>
<td>ELT 126 Industrial Electronics</td>
<td>2</td>
</tr>
<tr>
<td>ELT 143 Mechanisms</td>
<td>3</td>
</tr>
</tbody>
</table>

Term 4

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELE 611 Microprocessors</td>
<td>2</td>
</tr>
<tr>
<td>ELE 612 Microprocessors Lab</td>
<td>3</td>
</tr>
<tr>
<td>NET 213 CISCO Networking</td>
<td>4</td>
</tr>
<tr>
<td>ELT 119 Programmable Logic Controllers</td>
<td>3</td>
</tr>
<tr>
<td>ELT 721 Robotics</td>
<td>2</td>
</tr>
<tr>
<td>ECN 120 Principles of Macroeconomics</td>
<td>3</td>
</tr>
</tbody>
</table>

Term 5

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELT 791 Hydraulics and Pneumatics</td>
<td>3</td>
</tr>
<tr>
<td>ELT 792 Hydraulics and Pneumatics Lab</td>
<td>2</td>
</tr>
<tr>
<td>ELT 643 Process Control Instrument</td>
<td>3</td>
</tr>
<tr>
<td>ELT 644 Process Control Instrument Lab</td>
<td>2</td>
</tr>
<tr>
<td>ELT 725 Introduction to FMS Cell</td>
<td>2</td>
</tr>
<tr>
<td>ELT 125 Advanced PLC</td>
<td>3</td>
</tr>
<tr>
<td>ELT 870 Electronic Capstone Project</td>
<td>3</td>
</tr>
</tbody>
</table>

Total credits required to complete this program 78
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 (60 or higher) or ACT scores with a math sub score of 19 or higher, or
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 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>ELT 385</td>
<td>Electronic Circuit Analysis I</td>
<td>4</td>
</tr>
<tr>
<td>ELT 386</td>
<td>Electronic Circuit Analysis I Lab</td>
<td>2</td>
</tr>
<tr>
<td>ELT 389</td>
<td>Fabrication Techniques</td>
<td>3</td>
</tr>
<tr>
<td>ELT 108</td>
<td>Math for Electronics &amp; Computers</td>
<td>4</td>
</tr>
<tr>
<td>ENG 105</td>
<td>Composition I</td>
<td>Opt 1</td>
</tr>
<tr>
<td>COM 703</td>
<td>Communication Skills</td>
<td>Opt 1</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELT 325</td>
<td>Digital Electronics</td>
<td>3</td>
</tr>
<tr>
<td>ELT 326</td>
<td>Digital Electronics Lab</td>
<td>3</td>
</tr>
<tr>
<td>ELT 387</td>
<td>Electronic Circuit Analysis II</td>
<td>3</td>
</tr>
<tr>
<td>ELT 388</td>
<td>Electronic Circuit Analysis II Lab</td>
<td>3</td>
</tr>
<tr>
<td>ELT 181</td>
<td>Adv Math for Electronics Technicians</td>
<td>1</td>
</tr>
<tr>
<td>MGT 145</td>
<td>Human Relations in Business</td>
<td>Opt 2</td>
</tr>
<tr>
<td>PSY 111</td>
<td>Introduction to Psychology</td>
<td>Opt 2</td>
</tr>
</tbody>
</table>

Emergency Medical Tech Basic & Entrepreneurship Certificates

(see Certificate Section page 80)

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**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 311</td>
<td>Computer Accounting</td>
<td>3</td>
</tr>
<tr>
<td>BUS 112</td>
<td>Business Math</td>
<td>3</td>
</tr>
<tr>
<td>BUS 220</td>
<td>Intro to International Business</td>
<td>3</td>
</tr>
<tr>
<td>BUS 135</td>
<td>Managing Entrepreneurial Venture</td>
<td>3</td>
</tr>
<tr>
<td>BUS 131</td>
<td>Small Business Management Strategies</td>
<td>3</td>
</tr>
<tr>
<td>BUS 138</td>
<td>Small Business Marketing</td>
<td>3</td>
</tr>
<tr>
<td>BUS 141</td>
<td>Small Business Start-Up</td>
<td>3</td>
</tr>
<tr>
<td>BUS 150</td>
<td>E-Commerce on the Web</td>
<td>3</td>
</tr>
<tr>
<td>BUS 181</td>
<td>Basic Law for Entrepreneur</td>
<td>2</td>
</tr>
</tbody>
</table>
Degrees and Diplomas

Option Courses--Select 1 Course From Each Option

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
BUS 135  Managing Entrepreneurial Venture  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 210  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 67

Required Courses--Fashion/Design Diploma

APP 260  Fashion Analysis & Design  3
INT 124  Interior Design Analysis  3
APP 110  Visual Merchandising/Design  2
APP 211  Textiles  3
MKT 110  Principles of Marketing  3
MKT 140  Selling  3
MKT 147  Leadership Development  3
MGT 800  Business Internship I  6
MGT 802  Business Internship Seminar I  2
MGT 194  Relationship Strategies in Business  2
SDV 153  Pre Employment Strategies  2

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
CIS 210  Intro to Computers  Opt 4 3

Total credits required to complete the diploma 44

Visits us online: www.DMACC.edu
Fire Specialist (see Certificate Section page 80)

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

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.

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

Option Courses–Select 1 Course from Each Option
- MAT 130 Trigonometry Opt 1 3
- MAT 157 Statistics Opt 1 4
- PHY 106 Survey of Physics Opt 2 4
- PHY 162 College Physics I Opt 2 4

Health Emphasis

Required Courses
- BIO 112 General Biology I 4
- PEH 141 First Aid 2
- MAT 157 Statistics 4
- MKT 110 Principles of Marketing 3
- PSY 121 Developmental Psychology 3
PROGRAMS AVAILABLE

PSY 261  Human Sexuality  3
Any AS degree Core Humanities  6
Any AS degree Core Social Sciences  3
Elective  2

Sports Management Emphasis

Required Courses
ACC 131  Principles of Accounting I  4
PEH 255  Principles - Sports Management  3
MAT 141  Finite Math  4
MGT 101  Principles of Management  3
MKT 110  Principles of Marketing  3
SOC 110  Introduction to Sociology  3
Any AS Degree Core Humanities  3
Elective  2

Option Courses—Select 1 Course From Option 3
PSY 111  Introduction to Psychology  Opt 3  3
PSY 121  Developmental Psychology  Opt 3  3

Recommended Electives
AGH 241  Sports Turf  2
JOU 165  Principles of Advertising  3
MKT 199  Sports/Entertainment Marketing  3
PEC 110  Coaching, Ethics, Tech & Theory  1
PEH 110  Personal Wellness  2
PEC 161  Sports Officiating  3
PEH 262  Wellness Programming/Planning/Organization  3
PEH 264  Fitness Testing/Programming  3

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

Graphic Design (previously Commercial Art)

The Graphic Design program prepares students for a career in graphic communications. Skills emphasized stress the ability to successfully design and produce a wide variety of materials for use in this challenging field. 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
GRD 401  Graphic Design Orientation  3
GRD 403  Communication Design I  3
GRD 404  Typography II  3
GRD 405  Typography I  3
GRD 407  Production Art I  3
GRD 410  Illustration I  3
GRD 411  Communication Design II  3
GRD 415  Production Art II  3
GRD 421  Internship Preparation  2
GRD 424  Graphic Design Internship I  3
GRD 426  Communication Design III  3
GRD 430  Production Art III  3
GRD 436  Portfolio Preparation I  3
GRD 437  Communication Design IV  3
GRD 440  Production Art IV  3
GRD 444  Portfolio Preparation II  3
GRD 450  Computer Graphics  4
GRD 463  Electronic Photo Editing  3
GRD 301  Intro to Desktop Publishing  3

Option Courses—Select 2 Courses from Option 1
GRD 414  Illustration II  Opt 1  3
GRD 419  Lettering and Sign Art  Opt 1  2
GRD 425  Graphic Design Internship II  Opt 1  3
GRD 428  Illustration III  Opt 1  3
GRD 449  Airbrush I  Opt 1  4
GRD 451  Airbrush II  Opt 1  4
GRD 462  Computer Graphics II  Opt 1  4
GRT 400  Intro to Printing Methods  Opt 1  4
GRT 401  Intro to Graphic Communication  Opt 1  3
GRT 416  Desktop Publishing II  Opt 1  3
GRT 425  Electronic Image Control  Opt 1  4
ART 185  Advanced Photography  Opt 1  3
ART 292  Studio Photography  Opt 1  3
MKT 150  Principles of Advertising  Opt 1  3

Option Courses—Select 1 Course from Each Option
AAS degree Core Communications  Opt 2  3
AAS degree Core Social and Behavioral Sciences/Humanities (ART 184 recommended)  Opt 3  3
AAS degree Core Mathematics or Sciences  Opt 4  3
AAS degree Core Distributed Requirement  Opt 5  3

Total minimum credits required to complete this program  73

Graphic 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</th>
<th>Description</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 I</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</th>
<th>Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GRT 410</td>
<td>Printing Methods I</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 I</td>
<td>4</td>
</tr>
<tr>
<td>GRT 416</td>
<td>Desktop Publishing II</td>
<td>3</td>
</tr>
<tr>
<td>AAS Core Social &amp; Behavioral Sciences/Humanities</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MGT 145 or PSY 102 or ART 184 recommended</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Term 3**

*Students who chose an emphasis in Printing Technologies should select Option 1.
*Students who chose an emphasis in Digital Publishing should select Option 2.
*All students must choose one course from the Option 4 course list.

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GRT 420</td>
<td>Advanced Printing Methods</td>
<td>Opt 1</td>
</tr>
<tr>
<td>GRT 427</td>
<td>Specialty Printing Methods</td>
<td>Opt 1</td>
</tr>
<tr>
<td>GRT 425</td>
<td>Electronic Image Control</td>
<td>Opt 2</td>
</tr>
<tr>
<td>GRT 426</td>
<td>Digital Publishing III</td>
<td>Opt 2</td>
</tr>
<tr>
<td>AAS Core Math &amp; Sciences (MAT 772 or BUS 112 recommended)</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

*Option 4 Course (see list of courses below)*

**Total credits required to complete the diploma**

**Term 4**

*Students must successfully complete all GRT courses in terms 1, 2 and 3 before enrolling in term 4 courses.

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**Degrees and Diplomas**

*Students who chose a printing technologies emphasis in term 3 should select GRT 453.
*Students who chose a digital publishing emphasis in term should select GRT 932 for 4 credits.
*All students must select 1 Course from the Option 4 Course List (see list of courses below).

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GRT 453</td>
<td>Printing Methods Capstone</td>
<td>Opt 3</td>
</tr>
<tr>
<td>GRT 932</td>
<td>Internship (variable credit)</td>
<td>Opt 3</td>
</tr>
<tr>
<td>GRT 431</td>
<td>Electronic Prepress II</td>
<td>4</td>
</tr>
<tr>
<td>GRT 932</td>
<td>Internship (variable credit)</td>
<td>3</td>
</tr>
<tr>
<td>AAS Core Distributed Requirement</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

*Option 4 Course (see list of courses below)*

**Option 4 Course List:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART 184</td>
<td>Principles of Photography</td>
<td>Opt 4</td>
</tr>
<tr>
<td>ART 186</td>
<td>Principles of Digital Photography</td>
<td>Opt 4</td>
</tr>
<tr>
<td>MKT 110</td>
<td>Principles of Marketing</td>
<td>Opt 4</td>
</tr>
<tr>
<td>MKT 140</td>
<td>Selling</td>
<td>Opt 4</td>
</tr>
<tr>
<td>MKT 150</td>
<td>Principles of Advertising</td>
<td>Opt 4</td>
</tr>
<tr>
<td>MGT 130</td>
<td>Principles of Supervision</td>
<td>Opt 4</td>
</tr>
<tr>
<td>JOU 125</td>
<td>Newspaper Production</td>
<td>Opt 4</td>
</tr>
<tr>
<td>GRD 403</td>
<td>Communication Design I</td>
<td>Opt 4</td>
</tr>
<tr>
<td>GRD 405</td>
<td>Typography I</td>
<td>Opt 4</td>
</tr>
<tr>
<td>GRD 462</td>
<td>Computer Graphics II</td>
<td>Opt 4</td>
</tr>
<tr>
<td>ADM 259</td>
<td>Professional Development</td>
<td>Opt 4</td>
</tr>
<tr>
<td>CIS 207</td>
<td>Fund of Web Programming</td>
<td>Opt 4</td>
</tr>
<tr>
<td>BCA 213</td>
<td>Inter Computer Business Appl</td>
<td>Opt 4</td>
</tr>
<tr>
<td>CIS 204</td>
<td>Intro to Website Development</td>
<td>Opt 4</td>
</tr>
</tbody>
</table>

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

64

**Graphic Sales & Customer Service Certificate** (see Certificate Section page 80)

**Greenhouse Production** (see Certificate Section page 80)

**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.
PROGRAMS AVAILABLE

Term 1
HCR 307 Fundamentals of Refrigeration 5
HCR 260 HVAC Trade Skills I 3
HCR 404 Electricity 5
MAT 772 Applied Math 3

Term 2—Select 1 Course from Option 1
HCR 253 Residential Heating and AC 5
HCR 440 Electrical Controls and Circuits 5
HCR 515 Sheet Metal Fabrication 3
ENG 105 Composition I Opt 1 3
COM 703 Communication Skills Opt 1 3

Term 3
HCR 256 Applied Heating and AC 5
HCR 932 Internship 4

Total credits required to complete the diploma 41

Term 4
HCR 270 Advanced Heating and AC 5
HCR 506 Air Distribution 3
HCR 717 Blueprint Reading 3
PHY 710 Technical Physics 3

Term 5—Select 1 Course from Option 2
HCR 290 Commercial HVAC and Refrigeration 5
HCR 840 Computer Load Calculations 3
HCM 104 Sanitation and Equipment Lab 1
HCM 144 Food Preparation I Lab 3
MKT 140 Selling 3
BCA 212 Intro to Computer Business Appl 3

Term 3

* Students seeking a restaurant management emphasis should select the option 1 courses.
* Students seeking a hotel management emphasis should select the option 2 course.

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, marketing, purchasing, hotel services, menu planning and hotel administration. These courses are management designed and offer the student practical knowledge of either the restaurant management industry or the hotel management industry, depending on the student's chosen emphasis.

Terms 1, 2 & 3 must be completed before entry is allowed into terms 4 & 5 to receive the AAS degree. Students planning on transferring to a four-year college should see an advisor or the program chair before registration.

Location: Ankeny

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

Graduation Requirements
To earn a Hotel and Restaurant Management AAS degree, a student must complete all course work as prescribed and maintain a 2.0 grade-point average.

Required Courses

Term 2—Select 1 Course from Option 1
BUS 112 Business Math 3
HCM 143 Food Preparation I 3
HCM 104 Sanitation and Equipment Lab 1
HCM 144 Food Preparation I Lab 3
MKT 140 Selling 3
BCA 212 Intro to Computer Business Appl 3

* Students seeking a restaurant management emphasis should select the option 1 courses.
* Students seeking a hotel management emphasis should select the option 2 course.

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, marketing, purchasing, hotel services, menu planning and hotel administration. These courses are management designed and offer the student practical knowledge of either the restaurant management industry or the hotel management industry, depending on the student's chosen emphasis.

Terms 1, 2 & 3 must be completed before entry is allowed into terms 4 & 5 to receive the AAS degree. Students planning on transferring to a four-year college should see an advisor or the program chair before registration.

Location: Ankeny

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

Graduation Requirements
To earn a Hotel and Restaurant Management AAS degree, a student must complete all course work as prescribed and maintain a 2.0 grade-point average.

Required Courses

Term 1—Select 1 Course from Option 1
HCM 100 Sanitation and Safety 2
HCM 200 Dining Room Service 2
HCM 320 Intro to Hospitality Industry 2
MGT 145 Human Relations in Business 3
ADM 131 Office Calculators 1
ADM 105 Intro to Keyboarding 1
COM 703 Communication Skills Opt 1 3

Any ENG course designated as Core Opt 1 3
**Programs Available**

**Term 2—Select 1 Course from Option 2**
- HCM 143 Food Preparation I 3
- HCM 104 Sanitation and Equipment Lab 1
- HCM 144 Food Preparation I Lab 3
- MKT 140 Selling 3
- BCA 212 Intro Computer Business Appl 3
- BUS 112 Business Math Opt 2 3
- Any MAT course designated as Core Opt 2 3

**Term 3**
- SDV 153 Pre-Employment Strategies 2
- HCM 510 Work Experience 3
  *Students seeking a restaurant management emphasis should select the option 3 courses.*
- HCM 152 Food Preparation II Opt 3 2
- HCM 153 Food Preparation II Lab Opt 3 2
  *Students seeking a hotel management emphasis should select the option 4 course.*
- MKT 110 Principles of Marketing Opt 4 3

**Term 4**
- Terms 1, 2, 3 must be completed before enrolling in terms 4 & 5.
- All students must take the following courses.
  - ACCT 111 Intro to Accounting 3
  - BUS 135 Managing Entrepreneurial Venture 3
  - HCM 250 Purchasing (lec) 2
  *Students seeking a restaurant management emphasis should select the option 5 courses.*
- HCM 210 Dining Management (lec) Opt 5 2
- HCM 167 Culinary Skill Development Opt 5 3
  *Students seeking a hotel management emphasis should select option 6 courses.*
- HCM 604 Hotel Services Internship Opt 6 5
- HCM 600 Intro to Lodging Operations Opt 6 2

**Term 5**
- All students must take the following two courses
  - HCM 231 Nutrition 2
  - HCM 240 Menu Planning * Design (lec) 2
  *All students must select one course from option 7.*
- SPC 101 Fundamentals of Oral Communication Opt 7 3
- Any SPC course designated as Core Opt 7 3
  *Students seeking a restaurant management emphasis should select the option 8 course.*
- HCM 300 Beverage Management Opt 8 2
  *Students seeking a hotel management emphasis should select the option 9 course.*
- HCM 605 Hotel Administration Opt 9 2
  *All students must select one course from the option 10 courses.*
- BUS 102 Intro to Business Opt 10 3
- BUS 185 Business Law I Opt 10 3
- MGT 130 Principles of Supervision Opt 10 3
- MGT 101 Principles of Management Opt 10 3

**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**
- HSV 109 Introduction to Human Services 3
- HSV 230 Community Organization 3
- HSV 220 Survey Mental Health Treatment 3
- HSV 130 Interviewing/Interpersonal Relations 3
- HSV 286 Intervention Theories/Practice I 3
- HSV 287 Intervention Theories/Practice II 3
- HSV 802 Field Experience 3
- HSV 185 Discrimination and Diversity 3
- PSY 121 Developmental Psychology 3
- PSY 241 Abnormal Psychology 3

**Option Courses—Select 2 Courses from Option 1 and 1 Course from Option 2**
- ANT 100 Introduction to Anthropology Opt 1 3
- PHI 105 Introduction to Ethics Opt 1 3
- POL 112 American State & Local Government Opt 1 3
- HSV 135 Counseling with Women Opt 1 3
- HSV 813 Pract: Chemical Depend Counseling I Opt 1 3
- HSV 814 Pract: Chemical Depend Counseling II Opt 1 3
- HSV 255 Addictive Disease Concepts Opt 1 3
- SOC 120 Marriage and Family Opt 1 3
- SOC 200 Minority Group Relations Relations Opt 1 3
- SOC 230 Juvenile Delinquency Opt 1 3
- SOC 240 Criminology Opt 1 3
- SOC 225 Social Gerontology/Applications Opt 1 4
- PSY 111 Introduction to Psychology Opt 1 3
- PSY 251 Social Psychology Opt 1 3
- PSY 102 Human and Work Relations Opt 1 3
- PSY 291 Principles of Behavior Modification Opt 1 3
- PSY 261 Human Sexuality Opt 1 3
- PSY 281 Educational Psychology Opt 1 3
- SOC 110 Introduction to Sociology Opt 2 3
- SOC 115 Social Issues Opt 2 3

**Complete Remaining AS degree Core Requirements** 28

**Total minimum credits required to complete this program** 64

**Degrees and Diplomas**
**Industrial Electro-Mechanical Technology**

The Industrial Electro-Mechanical Technology program prepares students for a career as a maintenance technician in industrial manufacturing. At the completion of the program, students should be able to troubleshoot and repair industrial equipment ranging from basic mechanical equipment and electrical motor controls to the more complex systems used in manufacturing environments.

**Locations:** Ankeny, Newton
Selected courses in this program are offered at other campuses.

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

**Graduation Requirements**
To earn an Industrial Electro-Mechanical Technology AAS degree, a student must complete all course work as prescribed and maintain a 2.0 grade-point average.

**Term 1**
- MAT 772 Applied Math 3
- MFG 121 Machine Trade Printreading I 2
- CSC 110 Introduction to Computers 3
- MFG 276 Hand & Bench Machine Tools 1
- CON 336 Care/Use of Hand/Power Tools 1
- EIT 303 Principles of Electricity 3

**Term 2—Select 1 Course from Option 1**
- MAT 773 Applied Math II 3
- COM 703 Communication Skills 3
- MFG 507 Total Quality Management 3
- IND 146 Mechanical Power Transmission I 3
- EIT 134 Motor Controls 3

**Term 3**
- IND 147 Mechanical Power Transmission II 4
- MFG 250 Engine Lathe Theory 1
- MFG 251 Engine Lathe Operations Lab 2
- MFG 260 Mill Operations Theory 1
- MFG 261 Mill Operations Lab 2

**Term 4**
- ELE 141 Advanced Motor Controls 3
- BMA 177 Industrial Plumbing & Pipefitting 3
- EIT 119 Programmable Logic Controllers 3
- EIT 791 Hydraulics & Pneumatics 3
- EIT 792 Hydraulics & Pneumatics Lab 2

**Term 5**
- IND 144 Pump Overhaul and Repair 4
- MFG 172 Related Welding-Industrial Maintenance 3
- MFG 528 PM & Diagnosing Mech/Elec Systems 3
- MGT 145 Human Relations in Business 3
- CAD 119 Intro to Computer Aided Drafting 3

Total minimum credits required to complete this program 68

**Information Technology/Network Administrator**

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 (60 or higher) or ACT scores with a math sub score of 19 or higher, or
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**
- EIT 108 Math for Electronics & Computers 4
- NET 144 Digital & Computer Electronics 3
- NET 213 CISCO Networking 4
- MGT 145 Human Relations in Business Opt 1 3
- PSY 102 Human & Work Relations Opt 1 3
- 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.
PROGRAMS AVAILABLE

For MCSE Specialization students must complete the following:

**Term 4–Required Courses**

- NET 333 Imp Network Windows Infras 3
- NET 664 MS Windows Professional/Server 5
- NET 343 Windows Directory Services 3
- Courses from the Option Course List 2

**Term 5**

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 We 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 Prof/Server 5
- NET 343 Windows Directory Service 3
- NET 412 Linux System Administration 3
- NET 435 Linux Programming for Admin. 3
- NET 512 Linux Enterprise Admin I 3
- CIS 210 Web Development I 3
- CIS 178 Java Programming I 2

**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
- CIS 211 Web Development II 3
- NET 422 Linux System Programming 3
- NET 432 Linux Network Security 3
- NET 434 Linux Systems and Certification 3
- NET 436 Linux Network Programming 3
- CIS 179 Java Programming II 2
- NET 532 Linux Enterprise Administration II 3

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

**Interior Design Consultant**

(see Certificate Section page 81)

**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
   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

**NOTE:** Students will need computer skills to be successful in the program. If students do not have these skills, completion of CSC 110 or BCA 212 is strongly recommended.

Students start any term; however, close contact with an academic advisor is recommended for planning, because many courses are only offered once per year.
Graduation Requirements
To earn an Interpretation and Translation AS degree, a student must complete the standard core requirements for the degree, plus the Interpretation and Translation required courses and options, maintain a 2.0 grade-point average and receive a grade of “C” or above in all ITR course work.

Required Courses
Complete AS degree Core Requirements 28
ITR 101 Introduction to Interpretation and Translation 3
ITR 102 Tools for the Interpreter and Translator 3
ITR 111 Fundamentals of Interpretation 3
ITR 115 Fundamentals of Translation 3
ITR 910 Emphasis Seminar 3
ITR 120 Ethics for the Interpreter/Translator 1
In addition to the required courses, students are required to select one of the following Emphasis Options:

Judicial Interpretation/Translation Emphasis
(17 credits)
PRL 103 Introduction to Law 3
ITR 128 Legal Terminology & Sight Translation 3
ITR 130 Judiciary Interpreting I 3
ITR 132 Judiciary Interpreting II 3
ITR 137 Judiciary Translation 3
ITR 800 Judiciary Interpreting/Translation Internship 2
Electives 3
Students in the Judiciary Interpreting/Translation Emphasis are encouraged to take POL 111 or POL 112 as part of their core requirements, and PRL 112 as their elective choice.

Healthcare Interpreting/Translation Emphasis
(17 credits)
BIO 156 Human Biology w/Lab 3
ITR 150 Healthcare Interpreting I 3
ITR 152 Healthcare Interpreting II 3
ITR 155 Healthcare Terminology & Sight Translation 3
ITR 158 Healthcare Translation 3
ITR 810 Healthcare Interpreting & Translation Internship 2
Electives 3
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
PROGRAMS AVAILABLE

BUS 135 Managing Entrepreneurial Venture
BUS 186 Business Law II
HIS 201 Iowa History

Legal Assistant Certificate (see Certificate Section page 81)

Legal Assistant

Legal Assistants perform a variety of legal tasks under the supervision of an attorney. Legal Assistants are also known as Paralegals. They work for attorneys in private practice, state agencies and public service organizations. Legal assistants work with the attorney in virtually every area of legal practice. They do not give advice or represent clients since that would be the actual practice of law.

Our objective is to educate students to become legal assistants who are capable of performing a variety of legal tasks. Graduates of the program should be able to provide a broad spectrum of services needed by attorneys. This objective is met by providing intensive and practical instruction by attorneys with experience and expertise in their fields of instruction. This program is approved by the American Bar Association.

Students in the program complete general education core requirements and legal specialty courses. Course offerings include torts and litigation, family law, business law, probate and income tax. All students complete an internship, under the supervision of an attorney, during which they use the skills and apply the knowledge gained in the classroom. Interested applicants who hold a prior college degree may seek the Legal Assistant Certificate.

A program chairperson and a program counselor are available to assist students with educational and career planning.

Graduates of the Legal Assistant program are employed in private law firms, the courts, public agencies and legal departments of large companies. Additionally, some students work in law-related jobs such as investigation, collections and bank trust departments.

Location: Urban

Program Entry Requirements

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

IMPORTANT NOTE: Students entering the program need satisfactory computer skills. BCA 212 Intro Computer Business Applications is highly recommended as a developmental course.

Graduation Requirements

To earn a Legal Assistant 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

Complete AS degree Core Requirements 28

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<td>PRL 131</td>
<td>Torts &amp; Litigation I</td>
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<td>PRL 141</td>
<td>Business &amp; Corporate Law I</td>
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<td>Legal Internship &amp; Ethics</td>
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<td>PRL 112</td>
<td>Legal Research and Writing I</td>
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<tr>
<td>PRL 113</td>
<td>Legal Research and Writing II</td>
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Option Courses—Select 15 Credits From Option 1

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<tr>
<td>PRL 161</td>
<td>Family Law</td>
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<td>PRL 142</td>
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<tr>
<td>PRL 151</td>
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</tbody>
</table>

Elective Courses

Electives 2

Total credits required to complete this program 64

Legal Assistant Certificate (see Certificate Section page 81)

Long-Term Care Administrator (see Certificate Section page 81)

Machinist Technology (see Tool & Diemaking)

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 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.
PROGRAMS AVAILABLE

Required Courses
- MGT 130 Principles of Supervision 3
- MGT 101 Introduction to Management 3
- MKT 145 Sales Management 3
- MGT 128 Organizational Behavior 3
- MGT 170 Human Resource Management 3
- MGT 802 Business Internship Seminar I 2
- MGT 800 Business Internship I 6
- MGT 194 Relationship Strategies in Business 2
- MGT 147 Leadership Development 3
- MKT 110 Principles of Marketing 3
- MKT 140 Selling 3
- MFG 507 Total Quality Management 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
- 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 135 Managing Entrepreneurial Venture 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

Total minimum credits required to complete this program 66

Management Certificate
(see Certificate Section page 82)

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

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 588 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 any 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
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
MFG 507 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 today. 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.

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 110 Visual Merchandising/Design 2
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
PROGRAMS AVAILABLE

**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 135** Managing Entrepreneurial Venture  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

Total minimum credits required to complete this program  67

**Medical Administrative Assistant**

The Medical Administrative Assistant 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 administrative assistant 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 administrative assistant 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 Administrative Assistant 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. Submit evidence of typing skill of 40 WPM for a five-minute timing. Students start fall term.

**Graduation Requirements**

To earn a Medical Administrative Assistant 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 119** Medical Computer Applications  3
**BCA 212** Intro Computer Business Applications  3
**MTR 120** Medical Transcription I  3

**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** Medical Transcription III  3

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

**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 (AAMA). 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 AAMA Certified Medical Assistant examination.

**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. 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

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<td>MAP 129</td>
<td>Medical Terminology</td>
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<td>MAP 225</td>
<td>Medical Laboratory Procedures I</td>
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<td>MAP 347</td>
<td>Medical Office Procedures I</td>
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<td>MAP 110</td>
<td>Medical Office Management I</td>
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<td>MAP 423</td>
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<td>ENG 105</td>
<td>Composition I Opt 1</td>
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<td>MAP 250</td>
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<td>MAP 118</td>
<td>Medical Office Management II</td>
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<td>MAP 228</td>
<td>Medical Laboratory Procedures II</td>
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<td>MAP 252</td>
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<td>MAP 130</td>
<td>Transcription</td>
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<tr>
<td>MAP 624</td>
<td>Practicum</td>
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Total credits required to complete this program 48

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

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<td>Intro to General Chemistry</td>
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</tr>
<tr>
<td>MIT 121</td>
<td>Lab Fundamentals &amp; Urinalysis</td>
<td>2</td>
</tr>
<tr>
<td>MIT 132</td>
<td>Beginning Hematology</td>
<td>2</td>
</tr>
<tr>
<td>MIT 112</td>
<td>Principles of Phlebotomy</td>
<td>2</td>
</tr>
<tr>
<td>PSY 111</td>
<td>Intro to Psychology</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>BIO 732</td>
<td>Health Science Microbiology</td>
<td>4</td>
</tr>
<tr>
<td>CHM 132</td>
<td>Intro to Organic/Biochemistry</td>
<td>4</td>
</tr>
<tr>
<td>ENG 105</td>
<td>Composition I Opt 1</td>
<td>3</td>
</tr>
<tr>
<td>MIT 232</td>
<td>Advanced Hematology &amp; Coagulation</td>
<td>5</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>MIT 261</td>
<td>Immunohematology</td>
<td>5</td>
</tr>
<tr>
<td>MIT 270</td>
<td>Immunology &amp; Serology</td>
<td>2</td>
</tr>
<tr>
<td>SPC 101</td>
<td>Fund of Oral Communication</td>
<td>3</td>
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</tbody>
</table>

Term 4

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>MIT 242</td>
<td>Clinical Chemistry</td>
<td>8</td>
</tr>
<tr>
<td>MIT 251</td>
<td>Clinical Microbiology</td>
<td>6</td>
</tr>
</tbody>
</table>

Term 5

<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MIT 282</td>
<td>Clinical Laboratory Practicum</td>
<td>12</td>
</tr>
<tr>
<td>MIT 290</td>
<td>Clinical Seminar and Review</td>
<td>2</td>
</tr>
</tbody>
</table>

Total credits required to complete this program 72

Medical Transcriptionist

(see Certificate Section page 82)

Microcomputers

(see Certificate Section page 82)

Mortuary Science

Advanced Standing

The Mortuary Science program will prepare students who have earned a minimum of an Associate Degree to work within the funeral service profession. The Mortuary Science program is a field of human and community services that prepares an individual to become a mortuary science practitioner or funeral director.


The Aims and Purposes of the Mortuary Science program at DMACC are:
1. To enlarge the background and knowledge of students about the funeral service profession.
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 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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 111</td>
<td>Principles of Accounting</td>
<td>Opt 1</td>
</tr>
<tr>
<td>ACC 131</td>
<td>Principles of Accounting</td>
<td>Opt 4</td>
</tr>
<tr>
<td>BIO 733</td>
<td>Health Science Anatomy</td>
<td>Opt 2</td>
</tr>
<tr>
<td>BIO 164</td>
<td>Essential Anatomy &amp; Physiology</td>
<td>Opt 2</td>
</tr>
<tr>
<td>BUS 185</td>
<td>Business Law I</td>
<td>3</td>
</tr>
<tr>
<td>MOR 305</td>
<td>History of Funeral Service</td>
<td>2</td>
</tr>
<tr>
<td>MOR 310</td>
<td>Pathology for Mortuary Science</td>
<td>3</td>
</tr>
<tr>
<td>MOR 315</td>
<td>Funeral Law</td>
<td>3</td>
</tr>
<tr>
<td>MOR 320</td>
<td>Thanatology</td>
<td>3</td>
</tr>
<tr>
<td>MOR 325</td>
<td>Funeral Directing</td>
<td>3</td>
</tr>
<tr>
<td>MOR 330</td>
<td>Funeral Merchandising</td>
<td>3</td>
</tr>
<tr>
<td>MOR 335</td>
<td>Embalming I</td>
<td>3</td>
</tr>
<tr>
<td>MOR 336</td>
<td>Embalming I Clinical</td>
<td>1</td>
</tr>
<tr>
<td>MOR 340</td>
<td>Embalming II</td>
<td>3</td>
</tr>
<tr>
<td>MOR 341</td>
<td>Embalming II Clinical</td>
<td>1</td>
</tr>
<tr>
<td>MOR 345</td>
<td>Restorative Art</td>
<td>3</td>
</tr>
<tr>
<td>MOR 346</td>
<td>Restorative Art Lab</td>
<td>1</td>
</tr>
<tr>
<td>MOR 350</td>
<td>Funeral Home Operations</td>
<td>2</td>
</tr>
<tr>
<td>MOR 941</td>
<td>Practicum®</td>
<td>4</td>
</tr>
<tr>
<td>MOR 360</td>
<td>Thanatochemistry</td>
<td>2</td>
</tr>
<tr>
<td>MOR 365</td>
<td>Survey of Infectious Disease</td>
<td>2</td>
</tr>
</tbody>
</table>

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 web site (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 you intend to practice. In Iowa, call 515-281-4287.

Nurse Aide (see Certificate Section page 82)

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

Program Entry Requirements
1. Complete an application.
2. Attend required information session, registration meeting and a nursing program orientation.
3. Provide proof of completion of an approved Practical Nursing Program 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 required COMPASS testing, obtaining satisfactory scores in reading (81 or above) and math (44 or above) or ACT of 19 or above in reading and math subscores.
6. Completion of 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
7. Provide proof of high school graduation or GED completion.

Graduation Requirements
To earn an Associate Degree Nursing AAS degree, a student must complete all course work as prescribed and have a grade of “C” or above in all ASDN 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 a previous term.

Prerequisites

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 733</td>
<td>Health Science Anatomy</td>
<td>3</td>
</tr>
<tr>
<td>BIO 734</td>
<td>Health Science Physiology</td>
<td>3</td>
</tr>
<tr>
<td>ENG 105</td>
<td>Composition I</td>
<td>3</td>
</tr>
<tr>
<td>PSCY 111</td>
<td>Introduction to Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSY 121</td>
<td>Developmental Psychology</td>
<td>3</td>
</tr>
</tbody>
</table>
Nursing Program

Practical 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 preventative care for individuals of all ages, primarily in a structured care setting such as hospitals, long-term facilities and a variety of community-based health care settings.

After successful completion of Terms 1 and 2, the student is eligible to take the National Council Licensure Exam for Practical Nurse Licensure (NCLEX–PN).

Upon 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.

Practical Nursing starts:
Ankeny, Boone—Fall and Spring Terms; Carroll, Newton—Fall Term Only; Urban—Part-time, Fall Term only in even years

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.

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 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.

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 a previous term.

Continuation in the Associate Degree program requires successful completion of Terms 1 and 2 of the Practical Nursing curriculum.

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
PROGRAMS AVAILABLE

Term 2

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG105</td>
<td>Composition I</td>
<td>3</td>
</tr>
<tr>
<td>PNN605</td>
<td>Nursing Practice II</td>
<td>5</td>
</tr>
<tr>
<td>PNN606</td>
<td>Nursing Practice III</td>
<td>5</td>
</tr>
<tr>
<td>PNN351</td>
<td>Practical Nursing Roles</td>
<td>1</td>
</tr>
</tbody>
</table>

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 a previous term.

Continuation in the Associate Degree program requires successful completion of Terms 1 and 2 of the Practical Nursing curriculum.

Students must complete Terms 1 and 2 prior to enrolling in ADN courses.

Term 3—Select 1 Course from Option 1

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPC 126</td>
<td>Interpersonal and Small Group Comm.</td>
<td>3</td>
</tr>
<tr>
<td>BIO 732</td>
<td>Health Science Microbiology</td>
<td>Opt 1</td>
</tr>
<tr>
<td>BIO 187</td>
<td>Microbiology w/lab</td>
<td>Opt 1</td>
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</tbody>
</table>

Term 4

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADN 611</td>
<td>Professional Nursing Practice</td>
<td>2</td>
</tr>
<tr>
<td>ADN 416</td>
<td>Family Health Nursing</td>
<td>5</td>
</tr>
<tr>
<td>ADN 474</td>
<td>Mental Health Nursing</td>
<td>5</td>
</tr>
<tr>
<td>SOC 110</td>
<td>Introduction to Sociology</td>
<td>3</td>
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</table>

Term 5—Select 1 Course From Option 2

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ADN 551</td>
<td>Adult Nursing</td>
<td>7</td>
</tr>
<tr>
<td>ADN 821</td>
<td>Nursing Seminar</td>
<td>3</td>
</tr>
<tr>
<td>HUM 116</td>
<td>Encounters in Humanities</td>
<td>Opt 2</td>
</tr>
<tr>
<td>LIT 101</td>
<td>Introduction to Literature</td>
<td>Opt 2</td>
</tr>
<tr>
<td>PHI 101</td>
<td>Introduction to Philosophy</td>
<td>Opt 2</td>
</tr>
<tr>
<td>PHI 110</td>
<td>Introduction to Logic</td>
<td>Opt 2</td>
</tr>
<tr>
<td>PHI 105</td>
<td>Ethical Problems</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 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

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 112</td>
<td>Business Math</td>
<td>3</td>
</tr>
<tr>
<td>MGT 145</td>
<td>Human Relations in Business</td>
<td>3</td>
</tr>
<tr>
<td>ADM 157</td>
<td>Business English</td>
<td>3</td>
</tr>
<tr>
<td>BCA 133</td>
<td>Word Processing Skill Development I</td>
<td>4</td>
</tr>
<tr>
<td>ADM 131</td>
<td>Office Calculators</td>
<td>1</td>
</tr>
<tr>
<td>BCA 212</td>
<td>Intro Computer Business Appl</td>
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</table>

Term 2

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>SDV 153</td>
<td>Pre-Employment Strategies</td>
<td>2</td>
</tr>
<tr>
<td>ADM 162</td>
<td>Office Procedures</td>
<td>3</td>
</tr>
<tr>
<td>ADM 154</td>
<td>Business Communication</td>
<td>3</td>
</tr>
<tr>
<td>ADM 259</td>
<td>Professional Development</td>
<td>3</td>
</tr>
</tbody>
</table>

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

Professional Emphasis Option

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCA 137</td>
<td>Word Processing Skill Development II</td>
<td>3</td>
</tr>
<tr>
<td>ADM 265</td>
<td>Supervised Practical Experience</td>
<td>2</td>
</tr>
<tr>
<td>ADM 917</td>
<td>Prof Office Careers Seminar</td>
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</tr>
</tbody>
</table>

Information Processing Emphasis Option

<table>
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<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCA 137</td>
<td>Word Processing Skill Development II</td>
<td>3</td>
</tr>
<tr>
<td>BCA 213</td>
<td>Intermediate Computer Business Appl</td>
<td>3</td>
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</table>

Office Management Emphasis Option

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>BCA 113</td>
<td>Computer Network Literacy</td>
<td>3</td>
</tr>
<tr>
<td>MGT 115</td>
<td>Administrative Management</td>
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</table>

Bookkeeping Emphasis Option

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 111</td>
<td>Intro to Accounting</td>
<td>3</td>
</tr>
<tr>
<td>BCA 213</td>
<td>Intermediate Computer Business Appl</td>
<td>3</td>
</tr>
</tbody>
</table>

Legal Emphasis Option

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 185</td>
<td>Business Law I</td>
<td>3</td>
</tr>
<tr>
<td>ADM 208</td>
<td>Legal Terminology</td>
<td>3</td>
</tr>
</tbody>
</table>

Data Entry Emphasis Option

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADM 138</td>
<td>Data Entry</td>
<td>3</td>
</tr>
<tr>
<td>BCA 213</td>
<td>Intermediate Computer Business Appl</td>
<td>3</td>
</tr>
</tbody>
</table>

Total credits required to complete the diploma: 34

Office Specialist (see Certificate Section page 83)

Phlebotomy (see Certificate Section page 83)

Printing Technologies (see Certificate Section page 79)

Production Art (see Certificate Section page 83)
**Programs Available**

**Respiratory Therapy**

The Respiratory Therapy program provides students the opportunity to learn the dynamic profession of respiratory care. Respiratory care is an allied medical specialty involved in the diagnosis, treatment and prevention of diseases and conditions that affect the respiratory and cardiovascular systems. Respiratory therapists work closely with physicians to plan, provide and evaluate direct care to persons with pulmonary and cardiovascular diseases.

The curriculum includes a variety of supervised clinical practicum experience in local health care facilities. Graduates will acquire the knowledge, skills and attitudes needed to begin successful careers in respiratory care.

Graduates of the program receive an Associate of Applied Science (AAS) degree. The program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP) and graduates are eligible for all credentialing examinations currently offered by the National Board of Respiratory Care (NBRC) and licensure by the Iowa Department of Public Health.

Employment opportunities are found in hospitals, clinics, physicians' offices, home health care agencies, equipment and supply sales and rehabilitation and continuing care.

Criminal background checks will be done and results shared with cooperating agencies, who may delay or deny placement for clinical/practicum courses. This will affect successful program completion.

**Location: Ankeny**

**Program Entry Requirements**

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Meet with a Respiratory Therapy faculty advisor. Students must also:

- Submit to Admissions office evidence of high school graduation or GED prior to enrollment.
- Submit to Admissions office evidence of grade “C” or above in two semesters of high school 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 “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**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>RCP 100</td>
<td>Intro to Respiratory Care</td>
<td>3</td>
</tr>
<tr>
<td>RCP 240</td>
<td>Respiratory Therapeutics</td>
<td>4</td>
</tr>
<tr>
<td>RCP 250</td>
<td>Cardio/Pulmonary Therapeutics</td>
<td>4</td>
</tr>
<tr>
<td>CHM 122</td>
<td>Introduction to General Chemistry</td>
<td>4</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>RCP 360</td>
<td>Cardio/Pulmonary Renal Pathophysiology</td>
<td>5</td>
</tr>
<tr>
<td>RCP 400</td>
<td>Respiratory Therapy Pharmacology</td>
<td>3</td>
</tr>
<tr>
<td>RCP 700</td>
<td>Respiratory Therapy Practicum I</td>
<td>4</td>
</tr>
<tr>
<td>BIO 734</td>
<td>Health Science Physiology</td>
<td>Opt 1</td>
</tr>
<tr>
<td>BIO 164</td>
<td>Essentials Anatomy &amp; Physiology</td>
<td>Opt 1</td>
</tr>
</tbody>
</table>

Degrees and Diplomas

**Term 3—Select 1 Course from Option 2**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
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</tr>
</thead>
<tbody>
<tr>
<td>RCP 600</td>
<td>Neonatal/Pediatric Respiratory Therapy</td>
<td>3</td>
</tr>
<tr>
<td>RCP 705</td>
<td>Respiratory Therapy Practicum II</td>
<td>5</td>
</tr>
<tr>
<td>ENG 105</td>
<td>Composition I</td>
<td>Opt 2</td>
</tr>
<tr>
<td>COM 703</td>
<td>Communication Skills</td>
<td>Opt 2</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>RCP 500</td>
<td>Advanced Respiratory Therapy</td>
<td>5</td>
</tr>
<tr>
<td>RCP 710</td>
<td>Respiratory Therapy Practicum III</td>
<td>6</td>
</tr>
<tr>
<td>BIO 732</td>
<td>Health Science Microbiology</td>
<td>Opt 3</td>
</tr>
<tr>
<td>BIO 187</td>
<td>Microbiology w/lab</td>
<td>Opt 3</td>
</tr>
</tbody>
</table>

**Term 5—Select 1 Course from Option 4**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>RCP 410</td>
<td>Cardio/Pulmonary Diagnostics</td>
<td>3</td>
</tr>
<tr>
<td>RCP 715</td>
<td>Respiratory Therapy Practicum IV</td>
<td>7</td>
</tr>
<tr>
<td>PSY 111</td>
<td>Intro to Psychology</td>
<td>Opt 4</td>
</tr>
<tr>
<td>PSY 102</td>
<td>Human and Work Relations</td>
<td>Opt 4</td>
</tr>
<tr>
<td>SOC 110</td>
<td>Introduction to Sociology</td>
<td>Opt 4</td>
</tr>
<tr>
<td>MGT 145</td>
<td>Human Relations in Business</td>
<td>Opt 4</td>
</tr>
</tbody>
</table>

**Term 6**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>RCP 800</td>
<td>Respiratory Therapy Mgmt &amp; Ethics</td>
<td>3</td>
</tr>
<tr>
<td>RCP 720</td>
<td>Respiratory Therapy Practicum V</td>
<td>5</td>
</tr>
</tbody>
</table>

Total credits required to complete this program 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 a paid internship with leading retail companies.

Students completing the Retailing program can transfer all of their credits into any of DMACC’s two-year Marketing or Management programs.

**Location: Ankeny**

Selected courses in this program are offered at other campuses.

**Program Entry Requirements**

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

**Graduation Requirements**

To earn a Retailing diploma, a student must complete all course work as prescribed and maintain a 2.0 grade-point average.

**Required Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGT 140</td>
<td>Selling</td>
<td>3</td>
</tr>
<tr>
<td>MKT 150</td>
<td>Principles of Advertising</td>
<td>3</td>
</tr>
<tr>
<td>MKT 160</td>
<td>Principles of Retailing</td>
<td>3</td>
</tr>
<tr>
<td>MKT 165</td>
<td>Retail Management II</td>
<td>3</td>
</tr>
<tr>
<td>APP 110</td>
<td>Visual Merchandising/Design</td>
<td>2</td>
</tr>
<tr>
<td>MGT 800</td>
<td>Business Internship I</td>
<td>6</td>
</tr>
<tr>
<td>MGT 802</td>
<td>Business Internship Seminar I</td>
<td>2</td>
</tr>
<tr>
<td>MGT 194</td>
<td>Relationship Strategies in Business</td>
<td>2</td>
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</tbody>
</table>
## Programs Available

### MGT 147 Leadership Development 3

### SDV 153 Pre-Employment Strategies 2

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

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 105</td>
<td>Composition I</td>
<td>Opt 1 3</td>
</tr>
<tr>
<td>COM 703</td>
<td>Communication Skills</td>
<td>Opt 1 3</td>
</tr>
<tr>
<td>MKT 110</td>
<td>Principles of Marketing</td>
<td>Opt 2 3</td>
</tr>
<tr>
<td>MKT 120</td>
<td>E-Marketing</td>
<td>Opt 2 3</td>
</tr>
<tr>
<td>BUS 102</td>
<td>Intro to Business</td>
<td>Opt 2 3</td>
</tr>
<tr>
<td>BUS 135</td>
<td>Managing Entrepreneurial Venture</td>
<td>Opt 2 3</td>
</tr>
<tr>
<td>MGT145</td>
<td>Human Relations in Business</td>
<td>Opt 3 3</td>
</tr>
<tr>
<td>PSY111</td>
<td>Introduction to Psychology</td>
<td>Opt 3 3</td>
</tr>
<tr>
<td>BUS112</td>
<td>Business Math</td>
<td>Opt 4 3</td>
</tr>
<tr>
<td>MAT141</td>
<td>Finite Math</td>
<td>Opt 4 4</td>
</tr>
</tbody>
</table>

**Total credits required to complete this program** 41

### Retailing Certificate
(see Certificate Section page 83)

### Sales
(see Certificate Section page 83)

### 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>
<th>Description</th>
<th>Credits</th>
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<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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<tr>
<td>MGT 802</td>
<td>Business Internship Seminar I</td>
<td>2</td>
</tr>
<tr>
<td>MGT 194</td>
<td>Relationship Strategies in Business</td>
<td>2</td>
</tr>
<tr>
<td>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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</table>

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

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</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>
</tbody>
</table>

**Total credits required to complete this program** 39

### Security and Safety Specialist
(see Certificate Section page 83)

### Supervision
(see Certificate Section page 84)

### 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 any required information 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 Human Biology w/Lab).

* One year of high school chemistry or equivalent (DMACC Academic Achievement Center Chemistry I & II or CHM 122 Intro to General Chemistry) is recommended.

* Students must earn a grade-point of 2.0 (C) or better in all Surgical Technology courses.

* 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.

**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.

* Students must earn a grade-point of 2.0 (C) or better in all Surgical Technology courses.
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**
- SUR 130 Intro to Surgical Technology 2
- BIO 733 Health Science Anatomy 3
- SUR 140 Fundamentals of Surgical Technology I 5
- MAP 129 Medical Terminology 1

Select 1 Course from Each Option
- MAT 772 Applied Math Opt 1 3
- BUS 112 Business Math Opt 1 3
- ENG 105 Composition I Opt 2 3
- COM 703 Communication Skills Opt 2 3

**Term 2**
- SUR 142 Fundamentals of Surgical Technology II 5
- BIO 732 Health Science Microbiology 4
- SUR 805 Clinical Practicum I 5
- SUR 200 Surgical Procedures/Techniques 3

Select 1 Course from Option 3
- MGT 145 Human Relations in Business Opt 3 3
- PSY 111 Introduction to Psychology Opt 3 3
- PSY 102 Human and Work Relations Opt 3 3
- SOC 110 Introduction to Sociology Opt 3 3

**Term 3**
- SUR 202 Adv Surgical Procedures/Techniques 3
- SUR 810 Clinical Practicum II 5

Total credits required to complete this diploma 45

**Technical Management**
(see Certificate Section page 84)

**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**
- ELT 106 Basic Math for Electronics 3
- ELT 368 DC & AC Fundamentals 3
- ELT 369 DC & AC Fundamentals Lab 3
- TEL 210 Telecommunications I 3
- TEL 213 Introduction to Telephony Lab 3

**Term 2**
- CSC 110 Intro to Computers 3
- ADM 105 Intro to Keyboarding 1
- TEL 220 Telecommunications II 4
- TEL 223 Telecom Transport Lab 3
- TEL 232 Data Communications 3

**Term 3**
- SDV 212 Coop Career Seminar 1
- SDV 227 Coop Career Experience VI 6

**Term 4**
- BUS 102 Intro to Business 3
- TEL 240 Telecommunications Management 3
- TEL 243 Internetworking Lab 3

Select 1 course from Option 1 Courses
Any BCA, CIS, ELT, NET or CSC course 3

Select 1 course from Option 2 Courses
(MGT 145, PSY 111, PSY 102, SOC 110) 3

Total credits required to complete this program 64

**Telecommunications Certificate**
(see Certificate Section page 84)

**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 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.

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.

All Students Must Complete the Following AAS Degree Requirements:

**Required Courses**
- MAT 772 Applied Math 3
- MAT 773 Applied Math II 3

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

**Machinist Technology Diploma**
Students Who Choose the Machinist Technology Diploma Option Must Complete the Following Courses:
- MFG 276 Hand & Bench Machine Tools 1
- MFG 250 Engine Lathe Theory 1
- MFG 251 Engine Lathe Operations Lab 2
- MFG 260 Mill Operations Theory 1
- MFG 261 Milling Operations Lab I 2
- MFG 252 Engine Lathe Theory II 2
- MFG 253 Engine Lathe Operations Lab II 3
- MFG 273 Mill Operations II 2
- MFG 274 Mill Operations Lab II 3
- MFG 121 Machine Trade Printreading I 2
- MFG 132 Machine Trade Printreading II 3
- MFG 105 Machine Shop Measuring 3
- MFG 290 Heat Treatments 1
- MFG 270 Grinders Theory 1
- MFG 271 Grinders Lab 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

**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:

**Required Courses**
- CAD 119 Intro to Computer Aided Drafting 3
- CAD 139 Intro to CAD/CAM 3
- MFG 402 Basic Diemaking Theory 4
- MFG 403 Basic Diemaking Lab 6
- MFG 411 Progressive Die Design 3
- MFG 412 Advanced Diemaking Theory 4
- MFG 413 Advanced Diemaking Lab 6
- MFG 452 Moldmaking 3
- MFG 381 EDM Fundamentals 3
- MFG 140 Geometric Dimensioning/Tolerance 1

**Plus AAS Degree Core Requirements** 12

**Total credits required to complete Diemaking diploma** 48

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

**Plus the Requirements for Both Diplomas** 72

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

**Turf Maintenance** (see Certificate Section page 84)

**Veterinary Technology**
Veterinary technicians provide professional technical support to veterinarians, biomedical researchers and other scientists. As a veterinary technician, you will care for hospitalized animal patients; assist the doctor in surgery; perform physical exams, lab work and technical procedures (blood draws, IV placement); take health histories and X-rays; give and monitor anesthesia; provide client education; and perform reception duties. There will be opportunities to work with a variety of animals including dogs, cats, horses, cows, pigs, sheep, birds, snakes, guinea pigs, hamsters and rats. Most Veterinary Technician graduates find work in small-mixed- or large animal practices. Other opportunities exist in humane societies, animal shelters, zoos, specialty veterinary practices, pet shops, biological research labs, animal control agencies, veterinary teaching hospitals, and state and federal agencies.

An Associate of Applied Science (AAS) degree will be awarded to those students who successfully complete the Veterinary Technology curriculum. This program is accredited. Students who have successfully completed the program will have the opportunity to sit for the Veterinary Technician National Examination (RVT) and the state qualifying exam.

**Location: Ankeny**

**Program Entry Requirements**
1. Complete an application, satisfy the assessment requirement and attend any required information/registration session.
2. COMPASS Exam: DMACC requires assessment of all new full-time students (12 credit hours or more Fall and Spring semesters, 8 credit hours or more Summer semester). This assessment provides information about students’ academic skills in reading, writing and mathematics. Assessment information is then used in course selection and schedule planning.

VISIT US ONLINE: www.DMACC.edu
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. 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.

4. 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.

Required Courses
- AGS 319 Animal Nutrition 3
- AGV 120 Veterinary Medical Terminology 1
- AGV 139 Intro Veterinary Pharmacology 1
- AGV 124 Intro to Veterinary Technology 1
- AGS 128 Domestic Animal Physiology 3
- AGV 160 Anesthesia & Surgical Assistance 3
- AGV 133 Veterinary Clinic Pathology I 3
- AGV 178 Adv. Veterinary Anatomy & Physiology II 3
- AGV 134 Veterinary Clinical Pathology II 3
- AGV 166 Veterinary Nursing Care 3
- AGS 245 Introduction to Animal Diseases 1
- AGV 164 Clinical Mgmt of Domestic Species 2
- AGV 165 Clinical Mgmt of Lab & Exotic Species 2
- AGV 141 Advanced Veterinary Pharmacology 1
- AGV 172 Large Animal Medicine and Surgery 3
- AGV 180 Veterinary Radiology 2
- AGV 802 Veterinary Assistant Internship 1
- AGV 803 Veterinary Technician Internship 3
- ECN 120 Principles of Macroeconomics 3
- SPC 101 Fundamentals of Oral Communication 3
- ADM 162 Office Procedures 3
- BCA 133 Word Processing Skills Development I 4

Option Courses—Select 1 Course from Each Option
- BIO 156 Human Biology w/Lab 1 3
- BIO 112 General Biology I 1 4
- CHM 105 Survey of Chemistry 2 3
- CHM 122 Intro to General Chemistry 2 4
- ENG 105 Composition I 3 3
- COM 703 Communication Skills 3 3
- Any AAS degree Core MAT course 43–5
- MAT 772 Applied Math 4 3

Total credits required to complete this program 68

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 shielded 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) 2
- 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, Gas Metal Arc, Gas Tungsten Arc, Oxy-acetylene, Pipewelding, Shielded Metal Arc and Structural Welding (see Certificate Section page 85).

Woodworking
(see For more informations see Architectural Millwork)
# PROGRAMS AVAILABLE

## Certificates of Specialization

### Accounting Certificate I

The Accounting Certificate I prepares the student for an entry-level position in the field of accounting. Upon completion, the successful candidate will be able to distinguish, analyze, summarize, communicate and record business transactions.

Employment opportunities are currently found in commercial businesses, government offices, public accounting firms and similar enterprises.

#### Required Courses

<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>CSC 110</td>
<td>Intro to Computers</td>
<td>3</td>
</tr>
<tr>
<td>ADM 138</td>
<td>Data Entry</td>
<td>3</td>
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</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</tr>
</thead>
<tbody>
<tr>
<td>ACC 131</td>
<td>Principles of Accounting I</td>
<td>Opt 1   4</td>
</tr>
<tr>
<td>ACC 111</td>
<td>Intro to Accounting</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>
<tr>
<td>ADM 157</td>
<td>Business English</td>
<td>Opt 2   3</td>
</tr>
<tr>
<td>MGT 145</td>
<td>Human Relations in Business</td>
<td>Opt 2   3</td>
</tr>
<tr>
<td>SPC 101</td>
<td>Fundamentals of Oral Communication</td>
<td>Opt 2   3</td>
</tr>
<tr>
<td>SPC 126</td>
<td>Interpersonal &amp; Small Group Comm.</td>
<td>Opt 2   3</td>
</tr>
<tr>
<td>SDV 153</td>
<td>Pre-Employment Strategies</td>
<td>Opt 3   2</td>
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<tr>
<td>ACC 124</td>
<td>Accounting Professionalism</td>
<td>Opt 3   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

<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>
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</tr>
<tr>
<td>ACC 161</td>
<td>Payroll Accounting</td>
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</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 131</td>
<td>Principles of Accounting I</td>
<td>Opt 1   4</td>
</tr>
<tr>
<td>ACC 132</td>
<td>Principles of Accounting II</td>
<td>Opt 1   4</td>
</tr>
<tr>
<td>BCS 164</td>
<td>Basic Databases</td>
<td>Opt 2   1</td>
</tr>
<tr>
<td>BCA 212</td>
<td>Intro Computer Business Appl.</td>
<td>Opt 2   3</td>
</tr>
<tr>
<td>ACC 191</td>
<td>Financial Analysis</td>
<td>Opt 3   3</td>
</tr>
<tr>
<td>ACC 251</td>
<td>Gov't &amp; Nonprofit Accounting</td>
<td>Opt 3   3</td>
</tr>
<tr>
<td>ACC 192</td>
<td>Accounting Procedures/Mgt.</td>
<td>Opt 3   4</td>
</tr>
<tr>
<td>BCA 213</td>
<td>Intermediate Computer Business Appl</td>
<td>Opt 3  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.

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

If you plan to work in a residential care facility it is recommended that you also take the following courses: SOC 110 Introduction to Sociology and PSY 111 Introduction to Psychology.

#### Required Courses

<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</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>
<tr>
<td>ASM 257</td>
<td>Capstone</td>
<td>2</td>
</tr>
<tr>
<td>ASM 256</td>
<td>Agency Experience</td>
<td>2</td>
</tr>
<tr>
<td>ASM 239</td>
<td>Information Systems in Health Care</td>
<td>2</td>
</tr>
<tr>
<td>ASM 274</td>
<td>Law and Ethics in Health Care</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Option Courses—Select 1 Course from Option 1

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 111</td>
<td>Intro to Accounting</td>
<td>Opt 1   3</td>
</tr>
<tr>
<td>ACC 131</td>
<td>Principles of Accounting I</td>
<td>Opt 1   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.

### Agri-Business - 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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGA 381</td>
<td>Crop Scouting</td>
<td>3</td>
</tr>
<tr>
<td>AGA 114</td>
<td>Principles of Agronomy</td>
<td>3</td>
</tr>
<tr>
<td>AGA 157</td>
<td>Soils Fertility</td>
<td>1</td>
</tr>
<tr>
<td>AGB 235</td>
<td>Intro to Agricultural Markets</td>
<td>3</td>
</tr>
<tr>
<td>AGP 333</td>
<td>Precision Agriculture Applications</td>
<td>3</td>
</tr>
<tr>
<td>AGA 154</td>
<td>Fundamentals of Soil Science</td>
<td>3</td>
</tr>
<tr>
<td>AGA 211</td>
<td>Grain and Forage Crops</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Option Courses—Select 1 Course from Option 1

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGA 284</td>
<td>Pesticide Application Certification</td>
<td>Opt 1   3</td>
</tr>
<tr>
<td>AGB 802</td>
<td>Agribusiness Internship I</td>
<td>Opt 1   2</td>
</tr>
<tr>
<td>AGA 222</td>
<td>Grain Management</td>
<td>Opt 1   2</td>
</tr>
</tbody>
</table>

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

These credits are applicable to the AAS degree in Agri-Business.
Agri-Business - 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 Agri-Business.

Agri-Business - 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 Agri-Business.

Agri-Business - 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
AGB 331  Agribusiness Management  3

Agribusiness Counseling

This certificate is designed for individuals with an Associate in Arts or Associate in Science Degree, a Bachelor’s Degree or Graduate Degree who wish to update or develop skills in chemical dependency. For those who do not have a degree, this certificate may be completed as part of the two-year Associate in Science degree in Human Services.

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.

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

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 105</td>
<td>Composition I</td>
<td>3</td>
</tr>
<tr>
<td>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 813</td>
<td>Practicum: Chemical Dependency Counsel I</td>
<td>3</td>
</tr>
<tr>
<td>HSV 814</td>
<td>Practicum: Chemical Dependency Counsel II</td>
<td>3</td>
</tr>
<tr>
<td>HSV 255</td>
<td>Addictive Disease Concepts</td>
<td>3</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 156</td>
<td>Human Biology w/Lab</td>
<td>Opt 1 3</td>
</tr>
<tr>
<td>PSY 121</td>
<td>Developmental Psychology</td>
<td>Opt 1 3</td>
</tr>
<tr>
<td>PSY 241</td>
<td>Abnormal Psychology</td>
<td>Opt 1 3</td>
</tr>
<tr>
<td>SOC 115</td>
<td>Social Problems</td>
<td>Opt 2 3</td>
</tr>
<tr>
<td>SPC 101</td>
<td>Fundamentals of Oral Communication</td>
<td>Opt 2 3</td>
</tr>
</tbody>
</table>

**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

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCA 133</td>
<td>Word Processing Skill Dev I</td>
<td>4</td>
</tr>
<tr>
<td>BCA 137</td>
<td>Word Processing Skill Dev II</td>
<td>3</td>
</tr>
<tr>
<td>BCA 212</td>
<td>Intro Computer Business Applications</td>
<td>3</td>
</tr>
<tr>
<td>BCA 213</td>
<td>Intermediate Computer Business Applications</td>
<td>3</td>
</tr>
<tr>
<td>BCA 113</td>
<td>Computer Network Literacy</td>
<td>3</td>
</tr>
</tbody>
</table>

**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

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 131</td>
<td>Principles of Accounting I</td>
<td>4</td>
</tr>
<tr>
<td>CIS 125</td>
<td>Intro to Programming Logic w/lanug</td>
<td>3</td>
</tr>
<tr>
<td>CIS 402</td>
<td>COBOL</td>
<td>3</td>
</tr>
<tr>
<td>CSC 110</td>
<td>Intro to Computers</td>
<td>3</td>
</tr>
<tr>
<td>CIS 421</td>
<td>COBOL - Intermediate</td>
<td>4</td>
</tr>
<tr>
<td>CIS 505</td>
<td>Structure Systems Analysis</td>
<td>4</td>
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</tbody>
</table>

**Option Courses—Select a Minimum of 6 Credits**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 604</td>
<td>Visual BASIC</td>
<td>Opt 1 3</td>
</tr>
<tr>
<td>CIS 612</td>
<td>Advanced Visual BASIC</td>
<td>Opt 1 3</td>
</tr>
<tr>
<td>BCA 113</td>
<td>Computer Network Literacy</td>
<td>Opt 1 3</td>
</tr>
<tr>
<td>CIS 593</td>
<td>Mainframe Operations</td>
<td>Opt 1 4</td>
</tr>
<tr>
<td>CIS 431</td>
<td>COBOL - Advanced</td>
<td>Opt 1 3</td>
</tr>
<tr>
<td>CIS 435</td>
<td>COBOL on the World Wide Web</td>
<td>Opt 1 3</td>
</tr>
<tr>
<td>CIS 161</td>
<td>C++</td>
<td>Opt 1 3</td>
</tr>
<tr>
<td>CIS 583</td>
<td>Assembler</td>
<td>Opt 1 4</td>
</tr>
<tr>
<td>CIS 164</td>
<td>Advanced C++</td>
<td>Opt 1 3</td>
</tr>
<tr>
<td>CIS 303</td>
<td>Introduction to Data Base</td>
<td>Opt 1 3</td>
</tr>
<tr>
<td>CIS 332</td>
<td>Data Base and SQL</td>
<td>Opt 1 3</td>
</tr>
<tr>
<td>CIS 338</td>
<td>SQL/Oracle</td>
<td>Opt 1 3</td>
</tr>
<tr>
<td>CIS 346</td>
<td>Data Base Design</td>
<td>Opt 1 3</td>
</tr>
</tbody>
</table>

**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

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDV 153</td>
<td>Pre-Employment Strategies</td>
<td>2</td>
</tr>
<tr>
<td>MGT 145</td>
<td>Human Relations in Business</td>
<td>3</td>
</tr>
<tr>
<td>ADM 138</td>
<td>Data Entry</td>
<td>3</td>
</tr>
</tbody>
</table>

**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

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSC 110</td>
<td>Intro to Computers</td>
<td>3</td>
</tr>
<tr>
<td>CIS 125</td>
<td>Intro to Programming Logic w/lanug</td>
<td>3</td>
</tr>
<tr>
<td>CIS 402</td>
<td>COBOL</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>3</td>
</tr>
<tr>
<td>CIS 346</td>
<td>Data Base Design</td>
<td>3</td>
</tr>
</tbody>
</table>

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

The majority of these courses are applicable to the AAS degree in Computer Programming.

### Dietary Manager Specialist

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 health care facilities. All students must attend a Dietary Manager Specialist orientation.
PROGRAMS AVAILABLE

Certificates of Specialization

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-B’s.

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 135 Managing Entrepreneurial Venture 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

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
APP260 Fashion Analysis & Design 3
APP110 Visual Merchandising & Design 2
APP211 Textiles 3
MKT160 Principles of Retailing 3
MKT140 Selling 3

Total credits required to complete this certificate 14
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.
PROGRAMS AVAILABLE

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.

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 115 Business English 3
- ADM 154 Business Communication 3
- BCA 133 Word Processing Skill Development I 4
- BCA 137 Word Processing Skill Development II 3
- BCA 212 Intro to Computer Business Appl 3
- BCA 213 Intermediate Computer Business Applications 3

Total credits required to complete this certificate 19

These credits are applicable to the AS degree in Administrative Assistant.

Interior Design Consultant
The Interior Design Consultant certificate is designed for currently employed individuals who have an interest in adding specialized training in interior home products to their credentials. The focus of the Interior Design Consultant certificate is to provide training needed at the wholesale or retail levels in interior home product sales, marketing or customer service.

Required Courses
- MKT 140 Selling 3
- INT 124 Interior Design Analysis 3
- INT 125 Interior Design Planning 3
- APP 110 Visual Merchandising & Design 2
- APP 211 Textiles 3

Total credits required to complete this certificate 21

These credits are applicable to the AAS degree in Interior Design.

Interpretation & Translation - Generalist
The Interpretation & Translation Generalist certificate is a vocational credential for preparing functionally bilingual students for entry-level employment as general, nonspecialized interpreters or translators. Upon completion, students should be able to provide basic interpreting and translation services between English and their other language(s) in nonspecialized contexts. The program is designed for students who wish to add general interpreting and translation skills to their current set of job skills.

Certificate students complete basic courses in interpretation and translation, as well as ethics. All students complete an internship under the supervision of a professional interpreter/translator, during which time they use the skills and apply the knowledge gained in the classroom. Credits earned for the Interpretation and Translation Generalist certificate can also be applied to the Healthcare Interpretation and Translation A.S. and Certificate programs, or to the Judicial Interpretation and Translation A.S. and Certificate programs.

A program chairperson and a program counselor are available to assist students with education and career planning.

Employment opportunities for general Interpretation and Translation interpreters and translators are currently found in all industries and businesses where nonspecialized interpretation and translation services are needed. There are also many volunteer opportunities.

NOTE: Interpretation and translation employment in specialized areas, including legal, medical, social services, education fields and many businesses require additional specialized training and/or certification. Students interested in these fields should consider the Judicial Interpretation and Translation A.S. or Certificate programs or the Healthcare Interpretation and Translation Certificate programs.

Location: Urban
Program Entry Requirements:
1. Complete an application.
2. Attend any required information/orientation or a program conference.
3. Provide evidence of proficiency in English with one of the following:

VISIT US ONLINE: www.DMACC.edu
PROGRAMS AVAILABLE

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 2 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.

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITR 101</td>
<td>Intro to Interpretation &amp; Translation</td>
<td>3</td>
</tr>
<tr>
<td>ITR 102</td>
<td>Tools for the Interpreter &amp; Translator</td>
<td>3</td>
</tr>
<tr>
<td>ITR 111</td>
<td>Fundamentals of Interpretation</td>
<td>3</td>
</tr>
<tr>
<td>ITR 115</td>
<td>Fundamentals of Translation</td>
<td>3</td>
</tr>
<tr>
<td>ITR 120</td>
<td>Ethics for the Interpreter/Translator</td>
<td>1</td>
</tr>
<tr>
<td>ITR 805</td>
<td>Generalist I/T Internship</td>
<td>2</td>
</tr>
</tbody>
</table>

Total credits required to complete this certificate: 15

These credits (except ITR 805) are applicable to the AS degree in Interpretation & Translation.

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. Credits earned for the Interpretation and Translation Healthcare certificate can also be applied to the Judiciary Interpretation and Translation AS and certificate programs, or to the Interpretation and Translation Generalist certificate programs.

A program chairperson and a program counselor are available to assist students with education and career planning.

Employment opportunities are currently found in healthcare facilities where specific interpretation and translation related to healthcare services are needed. There are also many volunteer opportunities.

NOTE: Interpretation and translation employment in specialized areas, including legal, medical, social services, education fields and many businesses requires additional specialized training and/or certification. Students interested in legal interpretation and translation should consider the Judiciary Interpretation and Translation AS degree or Certificate programs.

Certificates of Specialization

Certification 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.

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITR 101</td>
<td>Intro to Interpretation &amp; Translation</td>
<td>3</td>
</tr>
<tr>
<td>ITR 102</td>
<td>Tools for the Interpreter &amp; Translator</td>
<td>3</td>
</tr>
<tr>
<td>ITR 111</td>
<td>Fundamentals of Interpretation</td>
<td>3</td>
</tr>
<tr>
<td>ITR 115</td>
<td>Fundamentals of Translation</td>
<td>3</td>
</tr>
<tr>
<td>ITR 120</td>
<td>Ethics for the Interpreter/Translator</td>
<td>1</td>
</tr>
<tr>
<td>ITR 805</td>
<td>Generalist I/T Internship</td>
<td>2</td>
</tr>
</tbody>
</table>

Total credits required to complete this certificate: 15

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

Interpretation & Translation - Judiciary

The Interpretation & Translation Judiciary Certificate is for functionally bilingual students with a Bachelor’s degree, Associate in Science or Associate in Arts degree who wish to work as judiciary interpreters or translators. Upon completion, students should be able to provide basic interpreting and translation services between English and their other language(s) in judiciary contexts. The program is designed for students who wish to add judiciary interpreting and translation skills to their current set of job skills.

Certificate students complete basic courses in interpretation and translation, as well as ethics. All students complete an internship under the supervision of a professional interpreter/translator, during which time they use the skills and apply the knowledge gained in the classroom. Credits earned for the
PROGRAMS AVAILABLE

Interpretation and Translation Judiciary certificate can also be applied to the Interpretation and Translation Healthcare certificate, or to the Interpretation and Translation Generalist certificate program.

A program chairperson and a program counselor are available to assist students with education and career planning.

Employment opportunities for Interpretation and Translation Judiciary interpreters and translators are found in law enforcement agencies, law offices and courts where interpretation and translation services are needed. There are also many volunteer opportunities.

NOTE: Interpretation and translation employment in specialized areas, including legal, medical, social services, education fields and many businesses requires additional specialized training and/or certification. Students interested in healthcare interpretation and translation should consider the Healthcare Interpretation and Translation AS or Certificate programs.

Location: Urban

Program Entry Requirements:
1. Complete an application.
2. Attend any required information/orientation or a program conference.
3. Provide evidence of completion of a Bachelor’s degree, Associate in Science degree, or Associate in Arts degree.
4. Provide evidence of proficiency in English with one of the following:
   a. ACT score on the English subtest of 19 or above
   b. Minimum COMPASS score of 70
   c. Completion of ENG 105 with a grade of “C” or better
   d. TOEFL score of 173 on the computer test or 500 on the paper test
   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 is spoken
   b. Two years of college study with a minimum GPA of 2.0 or equivalent at an institution in a country where the 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

<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 910</td>
<td>Emphasis Seminar</td>
<td>3</td>
</tr>
<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>Legal 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 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

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 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 154</td>
<td>Residential Landscape Design</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 155</td>
<td>Landscape Design II</td>
<td>2</td>
</tr>
<tr>
<td>AGH 142</td>
<td>Construction, Safety &amp; Maintenance</td>
<td>2</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>
<td>3</td>
</tr>
</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 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>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 Code</th>
<th>Course 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

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 includes verification of a four-year degree. Students are required to submit their official college transcripts to the DMACC Admissions Office.

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</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>
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</tbody>
</table>

Practicum

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASM 251</td>
<td>Governance of NF/SNF</td>
<td>2</td>
</tr>
<tr>
<td>ASM 252</td>
<td>Governance of Supported Living</td>
<td>2</td>
</tr>
<tr>
<td>ASM 253</td>
<td>LTC Practicum: Psychosocial Needs</td>
<td>2</td>
</tr>
<tr>
<td>ASM 254</td>
<td>LTC Practicum: Physical Needs</td>
<td>2</td>
</tr>
<tr>
<td>ASM 255</td>
<td>LTC Practicum: Administration</td>
<td>2</td>
</tr>
<tr>
<td>ASM 257</td>
<td>ASM Capstone</td>
<td>2</td>
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</tbody>
</table>

Total credits required to complete this certificate 40

Option Courses—Select 10 Credits from Option 1

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 111</td>
<td>Intro to Accounting</td>
<td>Opt 1</td>
</tr>
<tr>
<td>ACC 131</td>
<td>Principles of Accounting I</td>
<td>Opt 1</td>
</tr>
<tr>
<td>ASM 238</td>
<td>Financial Management in AS</td>
<td>Opt 1</td>
</tr>
<tr>
<td>ASM 239</td>
<td>Information Systems in Health Care</td>
<td>Opt 2</td>
</tr>
<tr>
<td>ASM 274</td>
<td>Law and Ethics in Health Care</td>
<td>Opt 1</td>
</tr>
</tbody>
</table>

Management

The purpose of the Management certificate is to provide the currently employed person in business with broad knowledge of the principles of management and business functions. Human relations and communication skills necessary for recognition and appointment to successive levels of management are also provided. This certificate is also beneficial to people currently employed in management who wish to upgrade and improve chances for further promotion.

Required Courses

<table>
<thead>
<tr>
<th>Course 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>Principles of Management</td>
<td>3</td>
</tr>
<tr>
<td>BUS 102</td>
<td>Intro to Business</td>
<td>3</td>
</tr>
<tr>
<td>BUS 185</td>
<td>Business Law I</td>
<td>3</td>
</tr>
<tr>
<td>CSC 110</td>
<td>Intro to Computers</td>
<td>3</td>
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</tbody>
</table>

Option Courses—Select 1 Course from Each Option

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 150</td>
<td>E-commerce on the Web</td>
<td>Opt 1</td>
</tr>
<tr>
<td>MKT 145</td>
<td>Sales Management</td>
<td>Opt 1</td>
</tr>
<tr>
<td>MGT 115</td>
<td>Administrative Management</td>
<td>Opt 1</td>
</tr>
<tr>
<td>MKT 115</td>
<td>Business-to-Business Marketing</td>
<td>Opt 1</td>
</tr>
<tr>
<td>MKT 160</td>
<td>Principles of Retailing</td>
<td>Opt 1</td>
</tr>
<tr>
<td>BUS 135</td>
<td>Managing Entrepreneurial Venture</td>
<td>Opt 1</td>
</tr>
</tbody>
</table>

Total credits required to complete this certificate 30

These credits are also applicable to the AAS degree in Management and the AAS degree in Marketing.

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.

Term 1

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADM 157</td>
<td>Business English</td>
<td>3</td>
</tr>
<tr>
<td>MAP 119</td>
<td>Medical Computer Applications</td>
<td>3</td>
</tr>
<tr>
<td>HSC 120</td>
<td>Medical Terminology I</td>
<td>3</td>
</tr>
<tr>
<td>MTR 120</td>
<td>Medical Transcription I</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>HSC 121</td>
<td>Medical Terminology II</td>
<td>3</td>
</tr>
<tr>
<td>MTR 121</td>
<td>Medical Transcription II</td>
<td>3</td>
</tr>
</tbody>
</table>

Term 3

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAP 32</td>
<td>Human Body · Health and Disease</td>
<td>3</td>
</tr>
<tr>
<td>MTR 122</td>
<td>Medical Transcription III</td>
<td>3</td>
</tr>
</tbody>
</table>

Total credits required to complete this certificate 24

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.

Required Courses

<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>3</td>
</tr>
<tr>
<td>CIS 125</td>
<td>Intro to Programming Logic w/lang</td>
<td>3</td>
</tr>
<tr>
<td>CIS 402</td>
<td>COBOL</td>
<td>3</td>
</tr>
<tr>
<td>CSC 110</td>
<td>Intro to Computers</td>
<td>3</td>
</tr>
<tr>
<td>BCA 113</td>
<td>Computer Network Literacy</td>
<td>3</td>
</tr>
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</table>

Option Courses—Select a Minimum of 6 Credits

<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>Opt 1</td>
</tr>
<tr>
<td>ACC 132</td>
<td>Principles of Accounting II</td>
<td>Opt 1</td>
</tr>
<tr>
<td>ACC 311</td>
<td>Computer Accounting</td>
<td>Opt 1</td>
</tr>
<tr>
<td>ACC 361</td>
<td>Accounting Spreadsheets</td>
<td>Opt 1</td>
</tr>
<tr>
<td>CIS 413</td>
<td>COBOL II</td>
<td>Opt 1</td>
</tr>
<tr>
<td>CIS 604</td>
<td>Visual BASIC</td>
<td>Opt 1</td>
</tr>
</tbody>
</table>

These credits are also applicable to the AAS degree in Management and the AAS degree in Marketing.
### 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 with 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 3
- CIS 303 Introduction to Data Base 3
- CIS 505 Structured Systems Analysis 4
- NET 612 Fundamentals of Network Security 3
- NET 715 Database Security & Auditing 3
- NET 730 Computer Forensics & Investigation 3

**Total credits required to complete this certificate** 19

### 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. 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 1
- HSC 172 Nurse Aide 75 Hours 3
- HSC 182 Advanced Nurse Aide 3

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

- HSC 183 CCDI Dementia Illness Training 1
- MAP 129 Medical Terminology 1

**Total credits required to complete this certificate** 8

### 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 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

**Total credits required to complete this certificate** 17

### 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.

**Required Courses**

- MIT 122 Principles of Phlebotomy 2
- PHB 280 Phlebotomy Clinical 2

**Total credits required to complete this certificate** 4

### Printing Technologies

The Printing Technologies certificate is designed for students in the Graphic Technologies program who wish to specialize in their degree, or for individuals with prior printing experience who are looking to update their skills or are seeking advancement in the graphics/printing industry. The program will provide up-to-date technical information regarding tools, equipment and processes.

The curriculum and instruction are geared to provide both lecture and laboratory settings that will build upon the individual’s prior knowledge and experience. Instruction and practical experience will be provided in offset, flexography, screen printing. Job planning, cost estimating and finishing methods will also be covered.

**Required Courses**

- GRT 400 Intro to Printing Methods 4
- GRT 401 Intro to Graphic Communications 3
- GRT 409 Project Planning & Management 3
- GRT 410 Printing Methods I 4
- GRT 420 Printing Methods II 4
- GRT 427 Specialty Printing Methods 4

**Total credits required to complete this certificate** 22

These credits are applicable to the AAS degree in Graphic Technologies.
PROGRAMS AVAILABLE

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
GRD 407 Production Art I 3
GRD 415 Production Art II 3

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
MKT 160 Principles of Retailing 3
MKT 140 Selling 3
APP 110 Visual Merchandising/Design 2
MGT 147 Leadership Development 3

Total credits required to complete this certificate 11
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
MKT 140 Selling 3
MKT 110 Principles of Marketing 3
MGT 194 Relationship Strategies in Business 2
MGT 147 Leadership Development 3

Option Courses–Select 1 Course from Each Option
ENG 105 Composition I Opt 1 3
COM 703 Communication Skills Opt 1 3
MKT 145 Human Relations in Business Opt 2 3
PSY 111 Introduction to Psychology Opt 3 3

Total credits required to complete this certificate 18
These credits are applicable to the diploma in Sales & Management, the AAS degree in Management and the AAS degree in Marketing.

Security and Safety Specialist
The Security & Safety Specialist certificate prepares the student for a career in the field of security and/or safety. Upon graduation, the student will understand the basic principles and practices of physical security, defense systems and fire safety. Fire behavior and devices and systems installed and utilized to support fire service as well as regulatory standards governing the field of security will be discussed. The interdisciplinary courses of safety, fire and criminal justice will give the student a more marketable background.

Required Courses
CRJ132 Constitutional Law 3
CRJ204 Introduction to Security 3

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
ELT368 DC & AC Fundamentals 3
ELT369 DC & AC Fundamentals Lab 3
TEL210 Telecommunications I 3
TEL213 Introduction to Telephony Lab 3
CSC110 Intro to Computers 3
ADM105 Intro to Keyboarding I 1
TEL220 Telecommunications II 4
TEL222 Telecommunications Outside Plant 4
TEL223 Telecom Transport Lab 3

Total credits required to complete this certificate 27
These credits are applicable to the AAS degree in Telecommunications Technology.

Certificates of Specialization

FIR 230 Fire Behavior and Investigation 3
FIR 152 Fire Protection Systems 3
FIR 212 Emergency Scene Management 3

Total credits required to complete this certificate 15
Selected credits are applicable to the AS degree in Fire Science Technology.

Supervision
The purpose of the Supervision certificate is to provide the person currently employed in business with knowledge of the principles of supervising others and the elements of human relations and communication needed for promotion and success in first line supervision. The certificate is also beneficial to people currently working as supervisors who wish to upgrade their credentials.

Required Courses
MGT 130 Principles of Supervision 3
MGT 101 Introduction to Management 3

Option Courses–Select 6 Credits From Option 1, And 1 Course From Option 2, And 1 Course From Option 3
BUS 102 Introduction to Business Opt 1 3
BUS 135 Managing Entrepreneurial Venture Opt 1 3
BUS 150 E-Commerce on the Web Opt 1 3
MKT 145 Sales Management Opt 1 3
MKT 115 Administrative Management Opt 1 3
MKT 800 Business Internship I Opt 1 6
MKT 140 Selling Opt 1 3
MKT 115 Business to Business Marketing Opt 1 3
MKT 160 Principles of Retailing Opt 1 3
ENG 105 Composition I Opt 2 3
COM 703 Communication Skills Opt 2 3
MGT 145 Human Relations in Business Opt 3 3
PSY 111 Introduction to Psychology Opt 3 3

Total credits required to complete this certificate 18
These credits are applicable to the diploma in Sales & Management, the AAS degree in Management and the AAS degree in Marketing.

Telecommunications
PROGRAMS AVAILABLE

**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**

- WEL181 Gas Metal Arc Welding 2

  These credits are applicable to the diploma in Welding.

**Gas Tungsten Arc Welding**

- WEL190 Gas Tungsten Arc Welding 2

  These credits are applicable to the diploma in Welding.

**Blueprint Reading**

- WEL111 Welding Blueprint Reading 3

  These credits are applicable to the diploma in Welding.

**Structural Welding**

- WEL 176 Advanced Arc Welding I (SMAW) 2
- WEL 177 Advanced Arc Welding II (SMAW) 3

**Pipe Welding**

- WEL 303 Pipe Welding (SMAW) 3

**Certificate 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**

**Contact Hours**

- Basic Operations 81.75
- Safe Operational Practices 44.50
- Advanced Operating Procedures 38.00
- Vehicle Maintenance 16.75
- Non-Vehicle Activities 59.00

**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

Adjoint courses may be temporary or experimental and may be used to fulfill elective credit in programs that lead to a degree or diploma. Adjoint 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

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 with or prior to the course.

*An instructor may deny enrollment in or drop a student from a specific course if the course prerequisite has not been met. Adjunct Courses cannot be used to fulfill or substitute for required or option courses in any degree or diploma program.

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COURSE NAME: INTRO TO ACCOUNTING

Course Type: OPEN

An introductory course in accounting fundamentals and procedures. Includes capturing and analyzing business data and financial statement preparation.

COURSE NAME: ACCOUNTING PROFESSIONALISM

Course Type: VOC/Tech

Covers all aspects of accounting career guidance, developing prospective accounting employer views, resume writing, job application forms, employment tests, personal appearance, interviewing, and follow-up. Instructs in meeting protocol according to Roberts Rules of Order. Covers meeting presentation skills and report writing. Discusses the duties of an accounting professional to the community. Reviews office etiquette and common professional courtesy. (9/7)

COURSE NAME: PRINCIPLES OF ACCOUNTING I

Course Type: GENERAL

Introduces the student to the principles of accounting with emphasis placed on the users and uses of accounting information. The double-entry bookkeeping system is presented with a focus on the end result of the accounting cycle, the financial statement.

COURSE NAME: PRINCIPLES OF ACCOUNTING II

Course Type: GENERAL

A continuation of Principles of Accounting I. Introduces accounting procedures related to corporations, manufacturing and branch operations. The course also includes an introduction to capital budgeting, analysis of financial statements and decision-making by managers.

COURSE NAME: PAYROLL ACCOUNTING

Course Type: VOC/Tech

Covers payroll taxes, state and federal withholding taxes, state and federal forms, salary deductions including cafeteria insurance plans and pension plans, and computerized payroll software packages. Prerequisite: ACC31 or ACC110

COURSE NAME: INCOME TAX ACCOUNTING

Course Type: VOC/Tech

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: ACC322

COURSE NAME: GOVT' & NONPROFIT ACCOUNTING

Course Type: OPEN

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: ACC313

COURSE NAME: INTRO TO KEYBOARDING

Course Type: VOC/Tech

An introduction to keyboarding using the Touch Typing System. Includes touch system for the alphabetic keyboard, number, keyboard and ten-key numeric pad. Prerequisite: Successful completion of 11 credits of ACC courses; permission of the department and/or Coreq: ACC850 - ADJUNCT

COURSE NAME: ACCOUNTING CAREER SEMINAR

Course Type: VOC/Tech

Designed to provide in-depth discussion of accounting/bookkeeping/accounting specialist work experiences. Prerequisite: Successful completion of 11 credits of ACC courses Coreq: ACC846

COURSE NAME: TAX ASSISTANCE INSTITUTE

Course Type: VOC/Tech

An opportunity to participate in a volunteer income tax assistance program by applying classroom skills to actual experience. Includes training to provide community service of free tax assistance and preparation of basic tax returns for older, handicapped and low income taxpayers. (P/F) Prerequisite: ACC261

COURSE NAME: ACCOUNTING INTERNSHIP

Course Type: VOC/Tech

An opportunity to gain practical experience through on-the-job training in an approved business or governmental office. May be taken for 3 or 4 credits. (P/F) Prerequisite: Successful completion of 11 credits of ACC courses Coreq: ACC846

COURSE NAME: INTRO TO KEYBOARDING

Course Type: VOC/Tech

Basic instruction on a personal computer to learn the touch system for the alphanumeric keyboard, number keyboard and ten-key numeric pad.
PROFESSIONAL DEVELOPMENT VOC/TECH

ADM525

1 0 2 0 0

SUPERVISED PRACTICAL EXPERIENCE 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. (P/F) Prerequisite: ADM51, BCA133, 212; Corequisite: ADM501

ADM530

1 1 0 0 0

CPS REVIEW SEC. I - ECONOMICS & LAW VOC/TECH

Section I assists students to pass part one of the Certified Professional Secretary Examination by reviewing economic, accounting and business law fundamentals. In addition to 1 hour of credit, students will be awarded 1.5 CEUs.

ADM534

1 0 2 0 0

BUSINESS COMMUNICATIONS 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. Recommend keyboarding skills of at least 25 NWPM. Prerequisite: ADM515, BCA132

ADM535

3 3 0 0 0

BUSINESS ENGLISH VOC/TECH

The fundamentals of proofreading grammar, spelling, punctuation, word usage, capitalization, abbreviations and number usage.

ADM536

3 2 2 0 0

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: ADM515, BCA133

ADM537

3 2 2 0 0

ADMINISTRATIVE OFFICE APPLICATIONS VOC/TECH

This course incorporates simulated office activities into realistic workplace integration. Students use integrated software to complete specialized tasks. Workplace basic skills including interpersonal skills, communication, teamwork, creative thinking and problem-solving will be developed. Prerequisite: ADM515, BCA132

ADM208

3 0 0 0 0

LEGAL TERMINOLOGY VOC/TECH

Provides training in spelling, defining and pronouncing terms common in the legal field.

ADM215

3 0 0 0 0

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 systems, computerized accounting and telephone procedures. Prerequisite: HSCI10, BCA137

ADM219

3 0 0 0 0

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.

ADM265

2 0 0 0 8

SUPERVISED PRACTICAL EXPERIENCE VOC/TECH

Introduces the role of the professional registered nurse, including comprehensive planning, client care management, collaborative relationships and performances of complex skills. Prerequisite: PNN605, 606, 351, ENG105, SPC126, B01072 or B01087

ADM421

1 0 2 0 0

NURSING SEMINAR 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.

ADM453

3 3 0 0 0

AGRI-BUSINESS MANAGEMENT VOC/TECH

A study of the role and organization of several aspects of agribusiness including financial management and control, marketing, operation and resource management in agribusiness.

AGB802

2 0 0 0 8

AGRI-BUSINESS INTERNSHIP I VOC/TECH

Students will have the opportunity to experience an agricultural career through participation in an internship experience. The internship will provide career exploration through a structured evaluation. Prerequisite: AGB105 or AGA114

AGB812

2 0 0 0 8

AGRI-BUSINESS INTERNSHIP II VOC/TECH

Students will have the opportunity to participate in an internship within the agribusiness industry. The internship may provide experiences within the agronomic, animal science, management, sales and service sectors that affect the food, fiber and environmental sciences. Prerequisite: AGB802

AGH101

3 3 0 0 0

AGRICULTURAL ECONOMICS VOC/TECH

A study of economic principles and the application of these principles to the distribution of agricultural supplies.
COURSES DESCRIPTIONS

AGH123
WOODY PLANT MATERIALS
VOC/TECH
The identification, morphology, landscape use and culture of native and non-native woody plants of the Upper Midwest. First 10 weeks emphasis is on deciduous plants, last 5 weeks emphasis is on evergreens. Corequisite: AGH122.

AGH124
INTRODUCTION TO GROUND COVER
VOC/TECH
An introduction to ground cover plants, heating and environmental control systems and watering. Winter and spring commercial pot plants, cut flowers and bedding plant crops will be explored vocationally in the college greenhouses. Prerequisite: AGH121, AGA157, 154

AGH125
GROWING WOODY VEGETABLES
VOC/TECH
Greenhouse maintenance, nutrition, watering, cooling systems and pest control will be developed further in college greenhouse facilities. Summer and fall crops will be grown by students. Prerequisite: AGH122

AGH126
CONSTRUCTION, SAFETY & MAINTENANCE
VOC/TECH
Principles and practices of residential landscape construction. Enumerates processes from initial client contact to installation of plant material and hardcape. Laboratory work involves landscape installation using various landscape materials and techniques.

AGH127
RESIDENTIAL LANDSCAPE DESIGN
VOC/TECH
Fundamentals of landscape design for homes presented. Introduction to principles of landscaping as they apply to residential landscaping. Student is given the opportunity to draw basic residential landscape plans. Prerequisite or Corequisite: AGH125, 125 must be taken concurrently or prior to this course

AGH128
LANDSCAPE DESIGN II
VOC/TECH
Course will include design of residential, commercial, public areas and annual and perennial flower beds. Use of landscape construction materials in design and materials and labor estimates will be developed. Prerequisite: AGH124, 159, 125 Corequisite: AGH129

AGH129
LANDSCAPE DRAFTING
VOC/TECH
Introduction to landscape drafting and associated drafting equipment and materials. Corequisite: AGH123

AGH130
IRRIGATION SYSTEMS
VOC/TECH
A study of the design, installation, use, the maintenance and repair of the different types of irrigation systems used in the production of a wide variety of horticulture crops. Irrigation system components, materials and estimates of installation, maintenance and operation costs will be addressed. Prerequisite: AGA151, 154, AGH141

AGH131
ADVANCED TURFGRASS MANAGEMENT
VOC/TECH
Turf management practices on golf and recreation areas with practical experience in maintaining turf on outdoor campus facilities. Prerequisite: AGH111

AGH132
PRINCIPLES OF HORTICULTURE
VOC/TECH
A course designed to introduce the student to the principles of botany that are basic to plant life. Topics covered include plant cell chemistry, cell structure, functions, photosynthesis, transpiration, animal life.
COURSE DESCRIPTIONS

ANT100 3 3 0 0 0 0 CULTURAL ANTHROPOLOGY CORE
The study of human cultures and their diversity. Those who take this course should develop some understanding not only of the differences 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. While successfully completing Introduction to Anthropology would be helpful, it is not required.

ANT105 3 3 0 0 0 0 CULTURAL ANTHROPOLOGY CORE
A television course in cultural anthropology that presents culture as the expression of human values, behavior and social organization existing in unique and varied forms throughout the world. The course focuses on culture as an adaptive mechanism that provides for the survival of the species.

ANT110 3 3 0 0 0 0 FACES OF CULTURE GENERAL
An adaptive mechanism that provides for the survival of the species.

ANT115 3 3 0 0 0 0 FASHION DESIGN & PROMOTION VOC/TECH
Focus is on researching, analyzing and forecasting fashion trends. Information on emerging fashion trends is commu- nicated through a PowerPoint computer presentation. Use of this information results in creation of a promotional plan to establish fashion leadership. Prerequisite: APP560

APP100 3 3 0 0 0 0 VISUAL MERCHANDISING/DISPLAY VOC/TECH
Includes design/display planning activities, store merchandising and the total merchandise presentation in a store. Emphasis is placed on actual design of window and interior displays by students.

APP110 3 3 0 0 0 0 TEXTILES VOC/TECH
Focus will be on an application-oriented study of natural and manufactured fibers. Popular weaves, technologies used to produce, qualities achieved and costs incurred will be analyzed. Printing and dyeing processes, in addition to the finishes available today, will be studied.

APP120 3 3 0 0 0 0 FASHION COORDINATION VOC/TECH
An introduction to building materials and assemblies through the Construction Specification Institute’s MasterFormat accounting and management system. Prerequisite: ARCH167

APP125 3 3 0 0 0 0 MATERIALS & ASSEMBLIES I VOC/TECH
An introduction to building materials and assemblies through the Construction Specification Institute’s MasterFormat accounting and management system. Prerequisite: ARCH167

APP130 3 3 0 0 0 0 MATERIALS & ASSEMBLIES II VOC/TECH
An introduction to building materials and assemblies through the Construction Specification Institute’s MasterFormat accounting and management system. Prerequisite: ARCH167

APP135 3 3 0 0 0 0 MATERIALS & ASSEMBLIES III VOC/TECH
An introduction to building materials and assemblies through the Construction Specification Institute’s MasterFormat accounting and management system. Prerequisite: ARCH167

APP140 3 3 0 0 0 0 BUILDING CODES VOC/TECH
A look into building codes and their interpretations.

APP150 3 3 0 0 0 0 CONSTRUCTION DOCUMENTS TECHNOLOGY VOC/TECH
An investigation into the Construction Specification Institute’s Construction Documents Technologist certification material and examination.

APP160 3 3 0 0 0 0 ART APPRECIATION CORE
A general survey course that explores in chronological sequence many artists, their lives, styles and media. The student will use art to recognize global cultural diversity and connect to universal human experience as expressed through art.

APP170 3 3 0 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.

APP180 3 3 0 0 0 0 FASHION STUDY TOUR VOC/TECH
The student will participate in a supervised study tour, location to be announced, in which a concentrated time will be spent touring a market center and researching a variety of fashion businesses from manufacturing and marketing to merchandising, promoting and selling apparel. Prerequisite: APP160

APP190 3 3 0 0 0 0 ARCHITECTURAL DRAFTING I VOC/TECH
Practical application of the basic skills of drafting involving the necessary thought process. A complete set of residen- tial drawings will be developed by hand, involving plans, elevations, sections, and details.

APP280 3 3 0 0 0 0 ARCHITECTURAL DRAFTING III VOC/TECH
Drawings will be developed of a small commercial building using Building Information Modeling software. Prerequisite: ARCH127

ART100 3 3 0 0 0 0 ARTS ELEMENTARY SCHOOL
Designed for students in Education and Recreation to assist them with design, construction and planning of multi-art forms and materials for instructional situations.

ART105 3 3 0 0 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.

ART110 3 3 0 0 0 0 LIFE DRAWING VOC/TECH
Drawing and painting a live model. Emphasis on structure, movement and expression.

ART120 3 3 0 0 0 0 PAINTING VOC/TECH
Acrylic painting with emphasis on still life, landscape and individual composition.

ART125 3 3 0 0 0 0 LANDSCAPE PAINTING VOC/TECH
Landscaping design 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.

ART130 3 3 0 0 0 0 ADVANCED PHOTOGRAPHY Voc/tech
Open

ART135 3 3 0 0 0 0 PRINCIPLES OF PHOTOGRAPHY OPEN
Students will learn the basic principles of photography. Topics will include basic camera operation, film develop- ing, darkroom techniques and special effects. The camera will become an instrument to explore and commu- nicate ideas, goals and visions effectively.

ART140 3 3 0 0 0 0 ADVANCED PHOTOGRAPHY OPEN
For students who have mastered basic photographic prin- ciples and processes. Topics will include photographic lighting and filtration, photomontage, documentary photography, advanced darkroom techniques, print finishing and display. Prerequisite: ART135
ART105 PRINCIPLES OF DIGITAL PHOTOGRAPHY OPEN
Students will learn the basic principles of digital photography. Topics will include basic camera operation, composition, metering, computer tips and tricks, and shooting tips and tricks. The digital camera in conjunction with the computer will become instruments to explore visual communication effectively. This course requires an SLR digital camera, minimum 5.0 megapixel, capable of interchangeable lenses.

ART195 DESIGN: EXPLORING ART MEDIA GENERAL
An introduction to basic techniques in media such as papermaking, clay, fibers and soft sculptures. Students will explore a variety of traditional approaches to express a contemporary vision.

ART225 - GENERAL PHOTOGRAPHY OPEN
Whether you shoot film or digital, this hands-on course teaches you everything you need to know to scan, process, manipulate and print high-quality photographs digitally from Adobe Photoshop, the industry-standard software for the digital darkroom.

ART251 - ADJUNCT TRAVEL PHOTOGRAPHY OPEN
Advanced principles of image making, printing and presentation will be explored with spirit and knowledge that is expected to engender an appreciation for photography, travel and the state of Iowa. Prerequisite: ART104

ART262 STUDIO PHOTOGRAPHY VOC/TECH
Students will learn to arrange and compose a photograph in a deliberate process. Students analyze elements in a scene and use artificial light to produce the desired effect. Projects will test for student imagination, creativity, technical skills and willingness to experiment, while improving their photographic expertise. Prerequisite: ART195

ASL151 AMERICAN SIGN LANGUAGE I CORE
This course is designed for students who have no knowledge of American Sign Language. Topics to be introduced include ASL linguistic features, cultural protocols and core vocabulary enabling students to function in basic ASL conversation. A signing/asking questions, introductions and exchanging personal information, discussing family, friends and surroundings.

ASL251 AMERICAN SIGN LANGUAGE III CORE
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: ASL151 or permission of instructor

ASL291 AMERICAN SIGN LANGUAGE IV CORE
This course expands the principles presented in ASL III. This 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: ASL251 or permission of instructor

ASM238 INFORMATION SYSTEMS IN HEALTH CARE OPEN
Emphasis will be placed on the analysis of health care information needs and the development of methods to meet these needs. Fundamental components of computers and computer systems will be examined, including specialized information management systems in health care.

ASM251 GOVERNANCE OF NF/SNF OPEN
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.

ASM252 GOVERNANCE OF SUPPORTED LIVING OPEN
An introduction to the assisted living facility mission, tenant care issues, management, staffing and organization. Includes topics in legislative changes and updates, governance, funding, grant writing, landlord/tenant law, and licensure exam preparation.

ASM253 2009
LTC PRACTICUM: PSYCHOSOCIAL NEEDS OPEN
During this practical experience, the student will investigate the policies, procedures and techniques used to meet the psychosocial needs of individuals 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.

ASM254 2009
LTC PRACTICUM: PHYSICAL NEEDS OPEN
During this practical experience, the student will investigate the policies, procedures and techniques used to meet the physical and environmental needs of clients residing in nursing care facilities. Special emphasis will be placed on the role and responsibilities of the administrator in assuring client physical and environmental needs are met.

ASM255 2009
LTC PRACTICUM: ADMINISTRATION OPEN
During this practical experience, the student will investigate the administrative and business needs of nursing care facilities. Special emphasis will be placed on the administrative style used by the administrator to carry out his/her rules and responsibilities.

ASM256 AGENCY EXPERIENCE OPEN
During this practical experience, the student will investigate a senior services agency. The student will identify the purpose of the business, client needs, financing and techniques to evaluate the service delivery system. In addition, the student will pay special attention to the role and responsibilities of the administrator or manager in the operation of the agency.

ASM257 ASM CAPSTONE OPEN
A capstone is a culminating project that incorporates a student’s learning from both classroom and practical experiences. The capstone should include a project of substantial administrative focus and be adapted to meet the student’s own learning needs. Student will investigate potential capstone projects with instructor.

ASM274 LAW & ETHICS IN HEALTH CARE OPEN
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.

ASM278 MANAGEMENT IN SENIOR CARE SERVICES OPEN
Relates fundamental management principles in the senior care setting. Focuses on management processes and organizational behavior in senior care organizations, healthcare facilities and other senior service agencies.

ASM301 HEALTH CARE HUMAN RESOURCES OPEN
Study of the policies, procedures and the processes in human resource planning. This would include sourcing, developing and maintaining human resources, labor laws, and employee/management rights in health care services settings.

ASM309 HEALTH CARE DELIVERY SYSTEMS OPEN
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.

ASM310 AGING SERVICES OPEN
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.

ASM312 AGING POLICIES & GOV PROGRAMS OPEN
Class examines aging policies and government programs at the federal and state levels. Various agencies, advocacy groups, and funding sources are investigated.

ASM329 ACTIVITIES IN LONG-TERM CARE OPEN
This course is designed to prepare persons to work as activity coordinators in long-term care facilities. The course includes the knowledge and skills necessary to determine facility and resident needs and plans an activity program that will meet these needs. The course has been approved by the Iowa Dept. of Inspections and Appeals.

ASM355 DEATH & Dying OPEN
An examination of death and the dynamics relating to the grief process, its foundational components, its varied characteristics and its impact on the bereaved, with special emphasis upon appropriate resolution and adjustment.

ATC304 CHRYSLER ELECTRICAL/ELECTRONICS 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)

ATC317 SHOP FUNDAMENTALS & MINOR SERVICE 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)

ATC318 BASIC BRAKES VOC/TECH
Instruction in the theory of operation and service procedures of Chrysler brakes. Prerequisite: Admission to CAP- (Chrysler Automotive Program)

ATC320 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. ATC320 A and ATC329 are required the same semester.

ATC320 CHRYSLER ELECTRICAL SYSTEMS REPAIR VOC/TECH
Instruction in the diagnosis, repair and service of electrical and electronic components and accessories used on current Chrysler vehicles. Prerequisite: ATC322, MAT772

ATC329 CHRYSLER STEERING & SUSPENSION VOC/TECH
Instruction in the theory of operation and service procedures of Chrysler steering and suspension systems. Prerequisite: ATC317, 318

ATC330 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: ATC328, 329

ATC335 SERVICE/REPAIR CHRYSLER ENGINES VOC/TECH
Principles and operation of Chrysler engines. Service procedures and engine component repair or replacement will be emphasized. Diagnosis of engine problems will also be covered. Prerequisite: ATC320

ATC356 CHRYSLER FUEL SYSTEMS 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: ATC20.
COURSE DESCRIPTIONS

ATC340  3 0  0  18  VOC/TECH  
Work experience at a sponsoring dealership. The tasks will be consistent with the technician’s ability and previous course work. Prerequisite: ATC335

ATC346  5 3  4  0  0  VOC/TECH  
Diagnostic and service of microprocessor-controlled fuel and injection systems. Oscilloscopes, engine analyzers, digital meters and other high technology instruments will be used. Prerequisite: ATC335, 336

ATC347  3 1  4  0  0  VOC/TECH  
Theory and operation of Chrysler air conditioning systems leading to the diagnosis, service and repair of current models of Chrysler vehicles. Prerequisite: ATC312, 317

ATC350  3 0  0  18  VOC/TECH  
Work experience at a participating dealership. Tasks will be consistent with the technician’s ability and previous course work. Prerequisite: ATC340

ATC354  4 2  4  0  0  VOC/TECH  
Provides an understanding of the principles of operation in manual drivetrains including manual transmissions, transaxles, front and rear differentials, driveshafts and transfer cases. Proper diagnosis, service and repair procedures of these systems are studied and practiced. Prerequisite: ATC350, 346

ATC356  5 3  4  0  0  VOC/TECH  
Advanced Chrysler Systems. Instruction in techniques and procedures required to diagnose and service current vehicles. New systems developed by Chrysler will be included. Prerequisite: ATC346

ATC360  2 0  0  12  VOC/TECH  
Work experience at a participating dealership. Tasks will be consistent with the technician’s ability and previous course work. Prerequisite: ATC350

ATF280  4 1  6  0  0  VOC/TECH  
Ford Steering/Suspension/Brakes. Instruction in the theory of operational 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

ATF290  2 1  2  0  0  VOC/TECH  
Ford Steering/Suspension/Brakes. Instruction in the theory of operational 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, ATF280
## COURSE DESCRIPTIONS

**ATG245**

**GM AUTOMATIC DRIVE TRAINS**
4 2 4 0 0 V/O/TECH
- Provisions an understanding of the principles of operation in automatic transmissions and transaxles. Proper diagnosis, service and repair procedures of these systems are studied and practiced. 
Prerequisite: ATG37, AUT109

**ATG350**

**TECHNICAL INTERNSHIP IV**
3 0 0 0 8 V/O/TECH
- Work experience at a participating dealership. Tasks will be consistent with the technician’s ability and previous course work. 
Prerequisite: ATG340

**ATG364**

**ADVANCED GM MOTORS SYSTEMS**
5 3 4 0 0 V/O/TECH
- Instruction in techniques and procedures required to diagnose and service current vehicles. New systems developed by GM will be included. 
Prerequisite: ATG350

**AUT109**

**AUTO MEASUREMENT & TOOLS**
3 2 2 0 0 V/O/TECH
- This course provides instruction in the correct selection and use of mechanic’s tools and precision measuring devices. 
Shop safety will be emphasized.

**AUT140**

**WELDING FOR AUTOMOTIVE MECHANICS**
2 0 4 0 0 V/O/TECH
- Skills will be developed in oxy-acetylene fusion and brazing 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.

**AUT163**

**AUTOMOTIVE ENGINE REPAIR**
3 2 2 0 0 V/O/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: AUT109

**AUT173**

**ADVANCED AUTO ENGINE REPAIR**
3 1 4 0 0 V/O/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: AUT163

**AUT242**

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

**AUT245**

**ADV. AUTOMOTIVE POWERTRAIN**
6 2 0 0 0 V/O/TECH
- The student will study powertrain and drive line systems. Proper diagnosis procedures, service and repair will be emphasized through hands-on experience. 
Prerequisite: AUT242

**AUT404**

**BASIC SUSPENSION & STEERING**
4 2 4 0 0 V/O/TECH
- Instruction in the theory of operation and service procedures of automotive alignment and suspension systems.

**AUT503**

**AUTOMOTIVE BRAKE SYSTEMS**
3 2 2 0 0 V/O/TECH
- Instruction in the theory of operation and service procedures of automotive braking systems.

**AVM111**

**AVIATION ELECTRICAL SYSTEMS**
4 2 4 0 0 V/O/TECH
- Course covers turbine engine overhaul, repair of turbine engines, installation of turbine engines, troubleshooting of turbine engines.

**AVM141**

**CLEANING/CORROSION CONTROL**
1 0 4 0 0 V/O/TECH
- Course covers fuel metering system of aircraft and will be serviced according to FAA regulations. 
Repair of the system. System components will be repaired and serviced according to FAA regulations.

**AVM172**

**WEATHER & WARNING SYSTEMS**
1 0 4 0 0 V/O/TECH
- This course covers applicable welding procedures associated with metals used to construct aircraft. Proper welding methods for various types of materials will be covered during the course.

**AVM414**

**CONTROL SYSTEMS**
4 2 4 0 0 V/O/TECH
- This course covers fueling systems throughout the airplane of the aircraft. Topics include inspection, service, troubleshooting, repair and replacement of the system components.

**AVM416**

**ENGINE LUBRICATION SYSTEMS**
4 2 4 0 0 V/O/TECH
- This course involves a complete study of the hydraulic and pneumatic systems contained within an aircraft. Components of each area will be reviewed to include identification, installation, repair, inspection, troubleshooting and replacement of the systems.

**AVM418**

**INSTRUMENTS FIRE PROTECTION**
4 2 4 0 0 V/O/TECH
- This course covers fire protection systems and smoke and carbon monoxide detection systems.

**AVM420**

**INSTRUMENTS WELDING**
4 2 4 0 0 V/O/TECH
- This course covers inspection of rotating and stationary components of aircraft and will be serviced according to FAA regulations. 
Repair of the system. System components will be repaired and serviced according to FAA regulations.

**AVM422**

**LANDING GEAR & BRAKE SYSTEMS**
4 2 4 0 0 V/O/TECH
- This course involves a complete study of the hydraulic and pneumatics systems contained within an aircraft. Components of each area will be reviewed to include identification, installation, repair, inspection, troubleshooting and replacement of the systems.

**AVM424**

**INSTRUMENTS WELDING**
4 2 4 0 0 V/O/TECH
- This course covers fire protection systems and smoke and carbon monoxide detection systems.

**AVM426**

**INSTRUMENTS FIRE PROTECTION**
4 2 4 0 0 V/O/TECH
- This course covers fire protection systems and smoke and carbon monoxide detection systems.

**AVM428**

**INSTRUMENTS WELDING**
4 2 4 0 0 V/O/TECH
- This course covers fire protection systems and smoke and carbon monoxide detection systems.

**AVM430**

**INSTRUMENTS FIRE PROTECTION**
4 2 4 0 0 V/O/TECH
- This course covers fire protection systems and smoke and carbon monoxide detection systems.
COURSE DESCRIPTIONS

AVM544 – ADJUNCT  0 3 0 3 0 0 0
AIRCRAFT ENGINES REPRODUCING
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 repairing reciprocating engines.

AVM555 – ADJUNCT  3 1 4 0 0
AIRCRAFT PROPULSER 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.

AVM575 – ADJUNCT  1 0 2 0 0
INDUCTION COOLING EXHAUST
VOC/TECH
This course introduces students to the induction system and engine airflow systems of aircraft. Inspecting, troubleshooting, servicing and repairing engine ice and rain control systems will be covered. Heat exchangers, superchargers, turbine airflow and temperature control systems will also be covered with carburetors and manifolds.

AVM660 – ADJUNCT  2 0 4 0 0
AIRCRAFT ELECTRICAL SYSTEMS
VOC/TECH
This course is a study of electrical systems of the aircraft engine. Units to be covered include troubleshooting, wiring, controls, switches, indicators, protective devices and component repair.

AVM656 – ADJUNCT  3 1 4 0 0
AIRCRAFT IGNITION SYSTEMS
VOC/TECH
This 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: AVM112.

AVM655 – ADJUNCT  2 1 2 0 0
COMMUNICATION & NAVIGATION
VOC/TECH
Basic units will involve study of autopilot systems, servo systems, approach coupling systems, navigation systems, electronic communication systems, antenna systems, static pressure systems, flight instrument systems and all position indicating systems.

AVM618 – ADJUNCT  1 1 0 0 0
FLUID LINES & 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.

AVM790 – ADJUNCT  2 1 2 0 0
AIRCRAFT DRAWINGS
VOC/TECH
A course to develop understanding of aircraft drawings, symbols and system schematics. Blueprint information, graphing, charting and drawing will be topics covered as they relate to aircraft.

BCA111  3 2 2 0 0
COMPUTER NETWORK LITERACY
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: CSCI10.

BCA122  1 0 2 0 0
BASIC WORD PROCESSING
VOC/TECH
Hands-on instruction using Word in the Windows environment. Special features include working with windows, spellers, Thesaurus, merge and sort.

BCA133  4 2 0 0 0
WORD PROCESSING SKILL DEV. I
VOC/TECH
Review of alphabetic 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 WPM for three minutes.

BCA137  3 2 2 0 0
WORD PROCESSING SKILL DEV. II
VOC/TECH
Emphasizes 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: BCA133 or MAP119.

BCA146  1 0 2 0 0
BASIC SPREADSHEETS
VOC/TECH
Orientation to Excel. Topics include spreadsheet layout and terminology, charting, enhancing a worksheet and chart. Designed for beginning users of Excel.

BCA148  1 0 2 0 0
BASIC DATABASES
VOC/TECH
Introduction to Access database management system. Topics include creating, editing, querying, using forms, reports, customizing and managing data and files.

BCA174  1 0 2 0 0
BASIC PRESENTATION SOFTWARE
VOC/TECH
Introduction to presentation software. Topics include creating, editing, querying, using forms, charts, enhancing a presentation with charts, graphs, special effects; converting existing material, printing presentations, speaker’s notes and handouts.

BCA212  3 2 2 0 0
INTRO COMPUTER BUSINESS APPL.
VOC/TECH
The focus of this course is to use computer hardware and software as business productivity tools. Training includes a hands-on introduction to computer applications vital in today’s business and industry. Course covers operating system, email, internet, word processing, spreadsheet, database and presentation applications.

BCA213  3 2 2 0 0
INTERMEDIATE COMPUTER
BUSINESS APPL.
VOC/TECH
Develop a proficiency in decision-making using computer software applications. Producing final documents for real business applications such as file integration, online forms, linked spreadsheets and desktop publishing are emphasized. Prerequisite: BCA212 or CSCI10.

BCA214  3 2 2 0 0
ADV. COMPUTER APPLICATIONS
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: BCA213.

BCA250  3 2 2 0 0
DESKTOP PUBLISHING
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: BCA212 or CSCI10.

BIO100  1 1 0 0 0
OPPORTUNITIES IN BIOLOGY
GENERAL
An exploration of careers and advanced educational opportunities in the biological sciences at the local, state and national levels.

BIO104  3 2 2 0 0
INTRODUCTORY BIOLOGY W/LAB
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 organizational level. Biology, as a experimental science and biotechnology; will be explored through laboratory experience.

BIO112  4 3 2 0 0
GENERAL BIOLOGY I
CORE
First semester of biology for majors. Topics covered include: chemistry of life, cells, bioenergetics, genetics, evolution, viruses, prokaryotes and protists. Prerequisites: H.S. biology and H.S. chemistry or equivalent.

BIO115  4 3 2 0 0
GENERAL BIOLOGY II
CORE
Second semester of biology for majors. Topics covered include fungi, plants, animals and ecology. It is recommended that BIO112 be taken prior to this course. Prerequisite: H.S. biology and H.S. chemistry or equivalent.

BIO138  3 2 2 0 0
FIELD ECOLOGY
CORE
Field and laboratory studies of native plants and animals of Iowa. Emphasis is placed on ecological relationships. Selected field trips are conducted to forest, prairie, marsh and riparian habitats in the local area.

BIO145  3 0 0 0
ECOLOGY OF IOWA
GENERAL
Surveys 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, geology, water resources, forestry, wildlife and environmental concerns. One Saturday field trip.

BIO146  3 0 0 0
GENETICS
OPEN
An introductory genetics course for Biology and Biotechnology majors. Topics covered include DNA and chromosome structure and function; Mendelian genetics; molecular genetics in eucaryotes, prokaryotes and viruses; recombinant DNA technology; gene expression; and the genetic basis of immunity. Prerequisite: BIO112 or BIO1087.

BIO251  3 2 2 0 0
HUMAN BIOLOGY W/LAB
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 or inadequately prepared health science major.

BIO104  5 3 4 0 0
ESSENTIALS ANATOMY/PHYSIOLOGY
CORE
A classic integration of human anatomy and physiology at the cellular level and organ system level. Includes cat dissection. Prerequisite: H.S. biology and H.S. chemistry or equivalent.

BIO168  4 3 2 0 0
ANATOMY & PHYSIOLOGY I
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 interstitial systems, 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 Human Biology or a “C” or better in high school Anatomy within the last five years.

BIO175  4 3 2 0 0
ANATOMY & PHYSIOLOGY II
CORE
Anatomy and Physiology II is a continuation of Anatomy and Physiology I. The following organ systems are covered: the endocrine system, blood and the cardiovascular system, the lymphatic system and immune system, the respiratory system, the urinary system, the digestive system including nutrition and metabolism, 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 Anatomy and Physiology I.

BIO187  4 2 0 0 0
MICROBIOLOGY W/LAB
CORE
A general microbiology course with laboratory designed for the science major. Emphasis is placed on microbial morphology, physiology and microbial genetics as well as virology and basic immunology. Prerequisite: One semester of any college-level biology course.

BIO245  1 1 0 0 0
TOPICS IN BIOTECHNOLOGY
OPEN
An exploration of recent advancements in biotechnology as well as current practices in research and development, manufacturing, quality control/quality assurance and safety. Prerequisite: BIO250.

BIO249  3 0 0 1 2
BIOTECHNOLOGY INTERNSHIP
OPEN
This internship is the final requirement for 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.
### COURSE DESCRIPTIONS

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credit Hours</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS250</td>
<td>CELL &amp; MOLECULAR BIOLOGY</td>
<td>OPEN</td>
<td>Cell and Molecular Biology for Biotechnology majors. Topics covered include immunohistochemistry; recombinant DNA methods and principles; the human genome project; protein analysis and characterization; and chromatography principles and methods. Prerequisite: BI0014, BI12, BI5, BI7.</td>
</tr>
<tr>
<td>BIO260</td>
<td>BIOLOGY OF AGING</td>
<td>GENERAL</td>
<td>This course is designed for individuals planning to work with the elderly population. The course describes changes that occur in body systems due to 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. Prerequisite: H.S. biology or equivalent.</td>
</tr>
<tr>
<td>BUS272</td>
<td>HEALTH SCIENCE MICROBIOLOGY</td>
<td>OPEN</td>
<td>Basic concepts and applications of medical microbiology. Topics include morphology and physiology of microorganisms, pathlogy, 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.</td>
</tr>
<tr>
<td>BUS372</td>
<td>HEALTH SCIENCE ANATOMY</td>
<td>3</td>
<td>Offers the student basic concepts in human anatomical structure with relation to body functions. The course covers all major body systems with emphasis on structure. The accompanying lab will reinforce lecture with cadaver dissection. Prerequisite: H.S. biology and chemistry or equivalent.</td>
</tr>
<tr>
<td>BM105</td>
<td>ROOBER ROOM MAINTENANCE</td>
<td>VOC/TECH</td>
<td>Boiler accessories, fittings, controls, water treatment and fundamentals for beginners.</td>
</tr>
<tr>
<td>BM106</td>
<td>STEAM PLANT OPERATIONS</td>
<td>VOC/TECH</td>
<td>High-pressure steam boilers, operations, controls, burning equipment. Prerequisite: BM105.</td>
</tr>
<tr>
<td>BM117</td>
<td>BASIC PLUMBING</td>
<td>VOC/TECH</td>
<td>Plumbing, plumbing components, plumbing codes and reading blueprints.</td>
</tr>
<tr>
<td>BM118</td>
<td>INDUSTRIAL PLUMBING &amp; PIPEFITTING</td>
<td>3</td>
<td>A course in fundamental plumbing and pipefitting. Topics covered include the properties of torque, the use of torque and the application of torque; the development and use of piping schematic; elementary pipe layout and joint construction with various materials; the purpose, use, construction and operation of valves and pressure control equipment used in manufacturing.</td>
</tr>
<tr>
<td>BUS202</td>
<td>INTRO TO BUSINESS</td>
<td>GENERAL</td>
<td>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.</td>
</tr>
<tr>
<td>BUS203</td>
<td>BUSINESS MATH</td>
<td>OPEN</td>
<td>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.</td>
</tr>
<tr>
<td>BUS204</td>
<td>SMALL BUSINESS MANAGEMENT STRATEGIES</td>
<td>VOC/TECH</td>
<td>Emphasizes human resource concepts and their applications to small business operations. Leadership development, management styles and decision making strategies are stressed.</td>
</tr>
<tr>
<td>BUS205</td>
<td>MANAGING ENTREPRENEURIAL VENTURE</td>
<td>OPEN</td>
<td>Examines introductory business applications and strategies needed to start and operate a small business. Topics include entrepreneurship preparation, idea feasibility, business plan content, introductory marketing, management and finance concepts for small business.</td>
</tr>
<tr>
<td>BUS206</td>
<td>INVESTING IN REAL ASSETS</td>
<td>OPEN</td>
<td>Course analyzes procedures in residential real estate purchases. An examination of residential home, mobile home and condominiums purchasing versus renting is discussed. Additional topics include investments in REITS, Commercial property, undeveloped land, limited partnership, collectibles and gold.</td>
</tr>
<tr>
<td>BUS207</td>
<td>SMALL BUSINESS START-UP</td>
<td>VOC/TECH</td>
<td>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.</td>
</tr>
<tr>
<td>BUS208</td>
<td>E-COMMERCE ON THE WEB</td>
<td>VOC/TECH</td>
<td>This course will introduce the student to the basic elements of electronic commerce. It will focus on business and technical issues faced by a company that enters into the e-commerce marketplace. Topics include products, advertising, resource requirements, third-party options, technical and operational issues.</td>
</tr>
<tr>
<td>BUS209</td>
<td>BUSINESS LAW I</td>
<td>GENERAL</td>
<td>Provides introductory overview of the sources of law of the American legal system, the structure of the court systems, torts, contract law and sales law.</td>
</tr>
<tr>
<td>BUS210</td>
<td>BUSINESS LAW II</td>
<td>GENERAL</td>
<td>Provides an overview of negotiable instruments, debtor/creditor law (collecting judgments), secured transactions, agency relationships, and the right of business formation. Prerequisite: BUS208.</td>
</tr>
<tr>
<td>BUS211</td>
<td>BUSINESS STATISTICS</td>
<td>CORE</td>
<td>Tabular and graphical presentation, measures of central tendency and variability, standard elementary procedures involving the binomial, normal, student's t, chi-squares and f distributions, correlation, regression, analysis of variance and several nonparametric procedures. Same content as MAT105; credit will not be granted for both. Prerequisite: 2 years of H.S. algebra or MAT073 or department permission.</td>
</tr>
<tr>
<td>BUS212</td>
<td>STATISTICAL BUSINESS APPLICATIONS</td>
<td>OPEN</td>
<td>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 changes, simple linear regression analysis, multiple regression analysis, correlation analysis, data analysis, time series analysis, hypothesis testing and computer analysis. Same content as MAT105; credit will not be granted for both. Prerequisite: BUS201 or MAT073.</td>
</tr>
<tr>
<td>BUS213</td>
<td>INVENTING &amp; INVESTING</td>
<td>2</td>
<td>This course will introduce the student to advanced CADD techniques will be covered. Drawings will be created and plotted. Prerequisite: Basic computer literacy.</td>
</tr>
<tr>
<td>BUS214</td>
<td>INTRO TO COMPUTER AIDED DRAFTING</td>
<td>VOC/TECH</td>
<td>This course will introduce the student to computer-aided drafting and design. Computer hardware, software and operating systems will be discussed. Basic two-dimensional CAD drawing creation and editing techniques will be covered. Drawings will be created and plotted. Prerequisite: BUS185 or POL111 or CRJ132 or instructor permission.</td>
</tr>
<tr>
<td>BUS215</td>
<td>LONG-RANGE FINANCIAL PLANNING</td>
<td>OPEN</td>
<td>This course is designed to increase awareness of the need for identifying a desirable 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.</td>
</tr>
<tr>
<td>BUS216</td>
<td>ESTATE PLANNING</td>
<td>OPEN</td>
<td>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.</td>
</tr>
<tr>
<td>BUS217</td>
<td>INTRO INTERNATIONAL BUSINESS</td>
<td>OPEN</td>
<td>The International Business course is designed for students to understand 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.</td>
</tr>
<tr>
<td>BUS218</td>
<td>QUANT METHODS/BUS DECISION-MAKING</td>
<td>GENERAL</td>
<td>An introduction to management research methods that are used in business. Topics include probability, break-even analysis, inventory control, statistics and transportation models. Prerequisite: MAT073 or intermediate algebra or 2 years of high school algebra or department permission.</td>
</tr>
<tr>
<td>BUS219</td>
<td>VIRTUAL BUSINESS FIRM</td>
<td>OPEN</td>
<td>The Virtual Business Firm is a virtual 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 organizational 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 if it were a real business, via a closed worldwide network of virtual business firms. Prerequisite: All Business Administration or Entrepreneurship program required courses or instructor permission.</td>
</tr>
<tr>
<td>BUS220</td>
<td>INVESTING</td>
<td>OPEN</td>
<td>An introduction to managing risks and making the best use of insurance. Various forms of personal and property insurance coverages are introduced. Insurance coverages as they relate to both business operations and personal situations are discussed.</td>
</tr>
<tr>
<td>BUS221</td>
<td>INTRO TO INSURANCE</td>
<td>OPEN</td>
<td>The student will participate in a supervised study tour in which time will be spent touring a government center to view how the government runs, including the history of this country to current legal policies and procedures. Prerequisite or corequisite: BUS35 or PAST151 or CRJ132 or instructor permission.</td>
</tr>
<tr>
<td>CAD109</td>
<td>INTRO TO COMPUTER AIDED DRAFTING</td>
<td>VOC/TECH</td>
<td>This course will introduce the student to computer-aided drafting and design. Computer hardware, software and operating systems will be discussed. Basic two-dimensional CAD drawing creation and editing techniques will be covered. Drawings will be created and plotted. Prerequisite: Basic computer literacy.</td>
</tr>
<tr>
<td>CAD120</td>
<td>INTERMEDIATE CADD-MECHANICAL</td>
<td>VOC/TECH</td>
<td>This course will introduce the student to advanced computer-aided drafting and design applications. Program customization, file manipulation/translation and library creation/usage will be covered. Three-dimensional concepts will be discussed. Prerequisite: CAD109.</td>
</tr>
<tr>
<td>CAD121</td>
<td>INTERMEDIATE CADD-ARCHITECTURAL</td>
<td>VOC/TECH</td>
<td>This course will apply architectural drafting practices to the CAD environment. Two-dimensional plans (including plumbing, HVAC, electrical, etc.) will be developed. Site plans and presentation are some of the topics that will be discussed. Prerequisite: CAD109.</td>
</tr>
<tr>
<td>CAD122</td>
<td>INTRODUCTION TO CAD/CAM</td>
<td>VOC/TECH</td>
<td>The objectives of this course will be to apply computer aided design software and computer aided manufacturing software for numerically controlled (NCX) machine tools.</td>
</tr>
</tbody>
</table>
ENGINEERING VOC/TECH

INTRODUCTION TO COMPUTER-AIDED DESIGN (CAD) 3 2 0 0
This course will introduce students to the basic concepts of CAD and its applications in engineering design. Students will learn the fundamentals of CAD software, including basic drafting, editing, and design processes. Prerequisite: CAT435.
### COURSE DESCRIPTIONS

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
<th>Contact Hours</th>
<th>Lecture</th>
<th>Lab</th>
<th>Clin</th>
<th>Directions</th>
</tr>
</thead>
<tbody>
<tr>
<td>CET235</td>
<td>CONSTRUCTION II</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>Prerequisite: CET173 or department approval</td>
</tr>
<tr>
<td>CET244</td>
<td>MATERIALS II</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>Prerequisite: CET173 or department approval</td>
</tr>
<tr>
<td>CET228</td>
<td>AUTOMATED DESIGN II</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>Prerequisite: CET173 or department approval</td>
</tr>
<tr>
<td>CET283</td>
<td>HIGHWAY DESIGN II</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>Prerequisite: CET173 or department approval</td>
</tr>
<tr>
<td>CET291</td>
<td>STRUCTURAL DESIGN &amp; CONSTRUCTION VOC/TECH</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>Prerequisite: CET173 or department approval</td>
</tr>
<tr>
<td>CET305</td>
<td>FIELD COOP</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>Prerequisite: CET173 or department approval</td>
</tr>
</tbody>
</table>

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**Engineering Courses**

- **CET237**: Field Orientation VOC/TECH 2 0 0 0 0
  - This course is required for students who do not take the Field Coop. It will acquaint a student with field operations.

- **CET285**: Survey of Chemistry 5 2 0 0 0
  - An introduction to chemical topics with little mathematics. Topics include energy, food chemistry, air and water pollution, agricultural chemicals, detergents, and drugs.

- **CET288**: Introduction to General Chemistry 4 3 2 0 0
  - 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: 1 year H.S. algebra or MAT065.

- **CET352**: Intro to Organic/Biochemistry CORE 4 3 2 0 0
  - A continuation of the study of general chemistry and a biochemistry course. Organic topics include the structure of organic molecules, the nature and reactions of functional groups and stereochemistry. Biochemistry topics include carbohydrates, proteins, lipids, nucleic acids, enzymes and metabolism.

- **CET355**: General/Inorganic Chemistry I CORE 4 3 2 0 0
  - A thorough treatment of general chemistry including atomic structure, stoichiometry, chemical bonding, states of matter, solutions, acids and bases, reaction rates, equilibrium, thermodynamics and electrometry. This course is intended for science, engineering, pre-vet, pre-med, pre-dental and pre-pharmacy majors. Prerequisite: 1 yr. H.S. chemistry or CET122 & 2 yrs. H.S. algebra or MAT073.

- **CET357**: General/Inorganic Chemistry II CORE 4 3 2 0 0
  - A continuation of General and Inorganic Chemistry I. Prerequisite: CET355 or equivalent.

- **CET365**: Organic Chemistry I CORE 5 3 4 0 0
  - 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.

- **CET375**: Organic Chemistry II CORE 5 3 4 0 0
  - A continuation of Organic Chemistry I. Prerequisite: CET365 or equivalent.

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**Computer Science Courses**

- **CIS125**: Intro to Programming Logic W/Lang OPEN 3 3 0 0 0
  - This course provides students with a firm foundation in problem-solving methods in computer programming and facilitates the development of good, structured programming skills for solving business problems.

- **CIS130**: Data Structures OPEN 3 3 0 0 0
  - Introduction to computer science that includes material properties, tension, compression, and resistance factor design (LRFD) method. Topics considered include drinking water distribution systems and their needs; earthwork to include quantities, a mass balance approach, estimation of quantities created utilizing GEOPAK that includes determining design cross-section creation, quantity outputs and criteria.

- **CET235**: Structural Design & Construction VOC/TECH 3 3 0 0 0
  - An introduction to chemical topics with little mathematics. Topics include energy, food chemistry, air and water pollution, agricultural chemicals, detergents, and drugs. For students who need one semester of laboratory science.

- **CET172**: Survey of Chemistry 5 2 0 0 0
  - An introduction to chemical topics with little mathematics. Topics include energy, food chemistry, air and water pollution, agricultural chemicals, detergents, and drugs. For students who need one semester of laboratory science.

- **CIS122**: General/Inorganic Chemistry I CORE 4 3 2 0 0
  - A thorough treatment of general chemistry including atomic structure, stoichiometry, chemical bonding, states of matter, solutions, acids and bases, reaction rates, equilibrium, thermodynamics and electrometry. This course is intended for science, engineering, pre-vet, pre-med, pre-dental and pre-pharmacy majors. Prerequisite: 1 yr. H.S. chemistry or CET122 & 2 yrs. H.S. algebra or MAT073.

- **CIS132**: Intro to Organic/Biochemistry CORE 4 3 2 0 0
  - A continuation of the study of general chemistry and a biochemistry course. Organic topics include the structure of organic molecules, the nature and reactions of functional groups and stereochemistry. Biochemistry topics include carbohydrates, proteins, lipids, nucleic acids, enzymes and metabolism.

- **CIS161**: C++ VOC/TECH 3 3 0 0 0
  - 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: CET125 or equivalent.

- **CIS164**: Advanced C++ VOC/TECH 3 3 0 0 0
  - Review and extend the concepts of class hierarchies, encapsulation, inheritance and polymorphism. Explore class libraries, templates, streamable classes and exception handling. Develop code for both DOS and Windows applications. Prerequisite: CET161.

- **CIS169**: Java VOC/TECH 3 3 0 0 0
  - A Java programming language and explore the concepts of object-oriented programming, event handling, user interface programming and graphics techniques. Students will gain practical experience creating and modifying Java applications and applets and embedding Java applets in web pages. Prerequisite: CET125 or equivalent.

- **CIS278**: Java Programming II VOC/TECH 2 2 0 0 0
  - Learn Java programming techniques related to Information Technology Network Administration. Prerequisite: CET125.

- **CIS279**: Java Programming I VOC/TECH 2 2 0 0 0
  - Learn Java programming techniques related to Information Technology Network Administration. Prerequisite: CET178.

- **CS112**: Java Programming I VOC/TECH 3 3 0 0 0
  - 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. Prerequisite: CS111, 207.

- **CS120**: Intro to Website Development VOC/TECH 3 3 0 0 0
  - Introduction to 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 publish/subscribe-oriented web applications. Prerequisite: CS110.

- **CS121**: Web Development I VOC/TECH 3 3 0 0 0
  - This course is designed to teach students how to install, configure and maintain a Web Server with an emphasis on using 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 data bases and how to use SQL to access them. Students will learn to install a Web Server, a Relational Database, and create dynamic web content containing text, graphics, hyperlinks, tables, forms and frames. Prerequisite: H.112, 623, 626.

- **CS122**: Web Development II VOC/TECH 3 3 0 0 0
  - This course is designed to teach students how to create a website where customers can purchase products over the Internet (eCommerce). Students will learn to work with the most widely used server side scripting languages and common gate interfaces including SSL, ASP, JSP, C, 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 commerce. Prerequisite: CS121.

- **CS215**: Server Side Web Programming VOC/TECH 3 3 0 0 0
  - This course introduces the students to a current selection of application-programming languages referred to as “scripting languages.” These languages are used to create small self-contained programs that are used to add unique functions and special handling capabilities to website applications. The students will learn the basic concepts and applications of these languages and how they can be included within a website. Prerequisite: CS215 or BCA113.

- **CS240**: E-Commerce Website II VOC/TECH 3 3 0 0 0
  - Introduces Dynamic HTML, cascading style sheets and XML, work with advanced features of Frontpage and will introduce another website development tool. Prerequisite: CS207.

- **CS247**: Intro to XML VOC/TECH 3 3 0 0 0
  - 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, XSL, and XSLT. Prerequisite: CS110.
COURSE DESCRIPTIONS

CRJ147 CRIMINAL INVESTIGATION II
An in-depth study of investigative techniques as applied to specific offenses. Courtroom presentation will also be emphasized.

CRJ204 INTRODUCTION TO SECURITY
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.

CRJ222 CORRECTIONAL TREATMENT METHODS
Institutional options for preventing recidivism. Introduction to therapeutic techniques. Comparison of punishment, Freudian treatments and behavior modification systems. Student presentation required.

CRJ229 PENOLOGY
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.

CRJ340 SCIENTIFIC INVESTIGATION
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.

CRJ592 INTERNSHIP
Involves one hundred fifty hours of active internship for students in an agency other than one in which they may be employed. Synthesis paper required. (P/F) Prerequisite: 24 hrs of CRJ courses with minimum grade of C in each, CRJ707

CRR101 BASIC SHOP SAFETY
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.

CRR102 PLASTIC REPAIR
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 refinishimg of the substrates will be studied in classroom and lab. Prerequisite: CRR841

CRR103 SHEET METAL FUNDAMENTALS
Automobile design, the materials used in construction, collision and corrective forces and procedures for repair and services are analyzed through class and lab study. Prerequisite: CRR100 must be taken concurrently with or prior to this course.

CRR103 SHEET METAL FUNDAMENTALS
Automobile design, the materials used in construction, collision and corrective forces and procedures for repair and services are analyzed through class and lab study. Prerequisite: CRR100 must be taken concurrently with or prior to this course.

CRR502 FRAME DAMAGE ANALYSIS
Unibody design and construction has created a need for methods of damage analysis, gaging, measuring and sequencing total collision repair. This course emphasizes these new technologies.

CRR555 ADVANCED COLLISION REPAIR
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: CRR502, CRR101

CRR742 ESTIMATING THEORY
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.

CRR841 ADVANCED ESTIMATING
Estimating, customer relations and service selling are all important skills of ownership and management. Hard and computer estimates will be written. Labor, parts and material cost and profits will be studied. Customer and employee relations will be studied. Prerequisite: CRR742

CRR842 PRINCIPLES OF REFINISHING
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.

CRR846 63600 REFINISHING PRODUCTION
Industry application of colors and clear coats require the latest information on repair and refinishing of today’s vehicles. This course covers the latest manufacturer’s preferred methods for repair using current colors and chemicals. Color matching will be emphasized. Prerequisite: CRR877, 201

CRR877 REFINISHING APPLICATIONS
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: CRR841

CSCR1 INTRO TO COMPUTERS
Present 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 introduction to Windows, Word, Excel, Access and the Internet.

DEA253 INTRODUCTION TO DENTAL SCIENCE I
Introduction to the various sciences necessary for the dental assistant. Microbiology and oral pathology are covered. Prerequisite: DEA256 must be taken concurrently with or prior to this course.

DEA256 DENTAL ANATOMY
The study of head, neck and dental anatomy is combined to give the student background information for application in dental assisting courses.

DEA263 DENTAL SCIENCE II
A continuation of Dental Science I. Emphasis on effects of drugs and emergency procedures. Prerequisites: CPR certification DEA253, 256

DEA297 ETHICS/JURISPRUDENCE SEMINAR
Continuation of DEA491. 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: Second semester standing in Dental Assisting program. Corequisite: DEA577

DEA321 DENTAL RADIOGRAPHY II
A continuation of Dental Radiography I. Weekly seminars for basic interpretation of radiographs and laboratory experience to develop student competence in making oral radiographic surveys. Prerequisite: DEA253, 256, 507, 491Y96

DEA424 DENTAL MATERIALS LAB
Through laboratory experience, the student learns techniques in preparation and utilization of dental materials. Prerequisite: DEA256

DEA507 PRINCIPLES OF DENTAL ASSISTING
Basic concepts of chairside assisting are covered with emphasis on the role of the team in delivery systems. Terminology, instruments, equipment and basic procedures are covered. Prerequisite: DEA253, 256, 424; DEA297 must be taken concurrently with or prior to this course.

DEA511 DENTAL ASSISTING CLINIC I
Application of knowledge and skills as students rotate through dental offices, clinics and hospital clinics. General and specialty practices are included in rotations. Prerequisites: Current CPR certification DEA253, 256, 507, 424, 492, 491Y22, 161; Corequisite: DEA91

DEA517 DENTAL ASSISTING CLINICAL II
Continuation of DEA511. Corequisite: DEA297

DEA591 DENTAL ASSISTING SEMINAR
Discussion and problem-solving from clinical practice. Provides an awareness of types of office situations and discussion of clinical aspects of dental assisting and dentistry. Oral reports and weekly evaluations are required. Prerequisite: DEA253, 256, 507, 424, 492, 491Y22, 161; Corequisite: DEA576

DEA605 CLINICAL DENTAL ASSISTING
A continuation of Preclinical Dental Assisting (DEA507) with emphasis on operative dentistry, dental specialties and advanced functions. The laboratory phase develops students’ competencies in clinical assisting. Prerequisites: DEA253, 256, 507, 424; DEA297, 161

DEA702 DENTAL OFFICE PROCEDURE
Covers the business aspects of the dental office: patient relations, appointment book management, financial records, telephone communications, credits and collections, dental insurance, tax records, supply and inventory systems. Prerequisite: 35 wpm keyboard skills and computer literacy.

DHY114 DENTAL HYGIENE ANATOMICAL SCIENCES
Programmed dental anatomy supplemented by lectures, quizzes and discussions on the development, morphology and function of the teeth. Anatomy and physiology of the head and neck include mandible. Prerequisite: BIO1064

DHY112 ORAL HISTOLOGY & EMBRYOLOGY
General and oral histology beginning with a consideration of cytology, which is followed by a study of the fundamentals of oral embryology and normal microscopic anatomy of oral tissues. Prerequisite: BIO1064

DHY135 PHARMACOLOGY
The study of drugs and their action on living tissue including their use as an aid in the diagnosis, treatment and prevention of disease or to control or improve any physiological or pathological condition. Prerequisite: CHM152, DHY114, 181, 182

DHY130 GENERAL & ORAL PATHOLOGY
Basic concepts of disease process and the oral manifestations of inflammation, degenerative changes, neoplasms and developmental anomalies of the oral cavity. Prerequisite: BIO1064, DHY112, 114

DHY164 DENTAL RADIOLoGY
Lecture includes radiation physics, biological effects, radiation safety and protection, properties of x-ray film and techniques of exposing, processing, mounting and evaluating film. Laboratory experiences develop competence in exposing, processing, mounting and evaluating radiographs. Corequisite: DEA256 and DEA507 or DHY114

DHY163 DENTAL RADIOLoGY II
A continuation of Dental Radiography I. Weekly seminars in basic interpretation of radiographs and laboratory experience to develop student competence in taking oral radiographic surveys. Prerequisite: DHY164; Corequisite: DHY162

DHY170 PRINCIPLES OF DENTAL HYGIENE
Basic principles of clinical dental hygiene are introduced. The etiology of deposits and their effect on oral tissue and the theory and techniques of instrumentation in removal of deposits are emphasized in the practicum portion. Prerequisite: BIO104, CHM102; Corequisite: DHY170

DHY171 PRINCIPLES OF DENTAL HYGIENE
Introduction to the clinical practice of dental hygiene. Prerequisite: BIO104, CHM102; Corequisite: DHY170
COURSE DESCRIPTIONS

DHY181  2 2 0 0 0  
DENTAL HYGIENE I  OPEN
A continuation of the instrumentation techniques. Emphasis is placed on patient assessment and principles of patient education in chairside instruction. Topics also include polishing techniques, topical application of fluoride and supplementary procedure. Prerequisite: DHY170, 171; Corequisite: DHY182

DHY321  2 2 0 0 0  
DENTAL HYGIENE II  OPEN
A continuation of clinical practices. Further instruction and application in techniques for a complete oral prophylaxis and Phase I therapy. Topics include air polishing. Prerequisite: DHY181, 182; Corequisite: DHY282

DHY262  2 0 0 0 0  
CLINICAL DENTAL HYGIENE II  OPEN
Implementation of evidence-based dental hygiene care. Prerequisite: DHY321, 182; Corequisite: DHY281

DHY291  2 2 0 0 0  
DENTAL HYGIENE III  OPEN
A continuation of clinical practices. Topics include dental hygiene care for individuals with special needs, care planning, third-party payment applications, substance abuse, and dependent adult abuse. Prerequisite: DHY281, 282; Corequisite: DHY292

DHY292  5 0 0 1 5 0  
CLINICAL DENTAL HYGIENE III  OPEN
Implementation of evidence-based dental hygiene care. Prerequisite: DHY281, 282 Corequisite: DHY291

DHY301  2 2 0 0 0  
DENTAL HYGIENE IV  OPEN
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: DHY292, 291; Corequisite: DHY302

DHY302  5 0 0 1 5 0  
CLINICAL DENTAL HYGIENE IV  OPEN
Implementation of evidence-based dental hygiene care. Prerequisite: DHY282, 291; Corequisite: DHY301

DRA101  3 3 0 0 0  
INTRODUCTION TO THEATRE  CORE
A survey of the elements and techniques of theatre with an emphasis on acting, directing and playwriting. Attendance at dramatic production encouraged.

DRA130  3 3 0 0 0  
ACTING I  GENERAL
Training of the body, voice and mind as acting instruments. Course includes acting exercises, scene analysis and performance.

DRA147  3 3 0 0 0  
CREATIVE DRAMA SCHOOL/REC  GENERAL
Elements of improvisational acting. Students will learn approaches for participating in as well as leading creative drama activities.

DRA145  2 0 4 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.

DRA146  9 0 8 0 0  
PRACTICUM II  GENERAL
See DHY145

DHY101  4 0 8 0 0  
PRACTICUM III  GENERAL
See DHY145

DHY92  4 0 8 0 0  
CLINICAL DENTAL HYGIENE I  OPEN
See DHY 101. Prerequisite: DHY170, 171; Corequisite: DHY181, 164

DHY231  2 2 0 0 0  
PERIODONTOLOGY  OPEN
The clinical characteristics, histopathology, etiology, and treatment of periodontal diseases are presented. Special emphasis is placed on the role of the dental hygienist in the prevention and management of periodontal diseases. Prerequisite: DHY213, 181, 182; Corequisite: DHY281

DHY221  2 2 0 0 0  
DENTAL MATERIALS  OPEN
A study of materials utilized in the practice of dentistry. Properties of dental materials and ADA requirements are presented. Corequisites: DEAS26 and DEAS44 or DHY104 and DHY223 must be taken concurrently with or prior to this course.

DHY223  1 0 2 0 0  
DENTAL MATERIALS LAB  OPEN
Through laboratory experience the student learns techniques in preparation and utilization of dental materials. Corequisite: DHY221

DHY232  4 4 0 0 0  
NUTRITION/ PREVENTIVE DENTISTRY  OPEN
Lecture-discussion course relating the nutrients and their role in oral health. Emphasis will be placed on various system controls and on system-based education as it relates to dental health. Students will evaluate caries and periodontal disease risk levels and perform counseling and instruction in elements of nutrition as they relate to the prevention of dental disease. Prerequisite: BI0164, CHM132, HCN29

DHY234  1 1 0 0 0  
NUTRITION/DENTAL COUNSELING  OPEN
A combined teaching, learning and practice course emphasizing the identification and analysis of diet as it relates to dental health. Students will evaluate caries and periodontal disease risk levels and perform counseling and instruction in elements of nutrition as they relate to the prevention of dental disease. Prerequisite: BI0164, CHM132, HCN29

DHY251  3 2 2 0 0  
COMMUNITY ORAL HEALTH  OPEN
The course relates the concepts of dental public health and preventive dentistry including principles of biostatistics, epidemiology, dental manpower and systems. Students plan, implement and evaluate a community dental health project. Prerequisite: DHY201

DHY261  3 2 2 0 0  
DENTAL HEALTH EDUCATION  OPEN
An introduction to the principles of instruction in health care. The course will include developing, presenting, evaluating dental health education programs for public schools and community groups. Prerequisite: DHY170, 171

DHY281  3 1 4 0 0  
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.
COURSE DESCRIPTIONS

DTM 562
SANITATION/MEAL SERVICE
FIELD EXP 1 0 0 4
VOC/TECH
Application/evaluation of sanitation and meal service in health care facility. Practice experience in selected health care facility supervised by a registered dietitian. (P/Y)

DTM 563
NUTRITION LIFE CYCLE FIELD EXP 1 0 0 4
VOC/TECH
Application/evaluation of nutritional aspects in health care facility. Practical experience in selected health care facility supervised by a registered dietitian. (P/Y)

DTM 564
MODIFIED DIET/FIELD EXPERIENCE 1 0 0 4
VOC/TECH
Application/evaluation of modified diets in child health care facility. Practical experience in selected health care facility supervised by a registered dietitian. (P/Y)

DTM 565
FOOD PRODUCTION FIELD EXPERIENCE 1 0 0 4
VOC/TECH
Application/evaluation of food production in health care facility. Practical experience in selected health care facility supervised by a registered dietitian. (P/Y)

DTM 566
FOOD SERVICE MGMT FIELD EXPERIENCE 1 0 0 4
VOC/TECH
Application/evaluation of food service management in health care facility. Practical experience in selected health care facility supervised by a registered dietitian. (P/Y)

ECE 101
INTRO TO EARLY CHILDHOOD EDUCATION 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
PROFESSIONAL RELATIONSHIPS OPEN
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 coworkers, job-seeking skills, job performance and professional associations and educational opportunities.

ECE 130
EMERGENCY CARE OPEN
Cardiopulmonary resuscitation according to Iowa Heart Guidelines. Childhood diseases, immunization laws and environmental safety for children are discussed. Designed for day care personnel. Certificate for first aid and CPR awarded upon successful completion. Course may be repeated for a maximum of 3 credits.

ECE 133
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 144
ASSESS PLAN - YOUNG CHILDREN 1 1 0 0 0
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 and individual education plans and individual family service plans.

ECE 148
GROUP EXP: FOR EC PROGRAMS 2 2 0 0 0
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
CURRICULUM - PRESCHOOL CHILDREN 3 3 0 0 0
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
EARLY CHILD DEVELOPMENT OPEN
Course covers typical and atypical development of children from birth through eight years of age in the areas of physical/motor, language/cognitive and social/emotional growth. Emphasis is placed on the effects of interactions between child, family and society within a variety of cultural contexts.

ECE 200
INFANT/TODDLER CARE & EDUCATION OPEN
Course focuses on best practices for care and education of children birth through two years of age who are integrated into a setting. Health, safety, cultural, and communication issues as well as developmentally appropriate activities are covered.

ECE 242
EARLY CHILDHOOD GUIDANCE OPEN
Course covers various philosophies of and techniques for the application of developmentally and individually appropriate guidance for typically and atypically developing young children.

ECE 265
STUDENT PARTICIPATION I 3 3 0 0 9
OPEN
Participation with children in the inclusive day care center on campus under the supervision of a lead teacher. Students have limited responsibilities for curriculum planning. Daily student-teacher conferences are held. Prerequisite: Enrollment in or completion of a minimum of 8 credits of early childhood education or permission of instructor

ECE 266
STUDENT PARTICIPATION II 3 3 0 0 9
OPEN
A continuation of Student Participation I in which students assume full responsibility for day care center on campus under the supervision of a lead teacher. Prerequisite: Completion of 10 credits in Early Childhood Education including ECE 265 (minimum of a 2.0 GPA in ECE 265) or permission of instructor

ECE 267
EARLY CHILDHOOD ED ASSOCIATE PRACTICUM 3 3 0 0 0
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 290. Prerequisite: ECE 267

ECE 270
PRACTICUM 2 0 0 0 0
OPEN
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 (ECE) courses with a minimum of a 2.0 GPA or permission of instructor

ECE 290
EARLY CHILDHOOD PROGRAM ADMIN. OPEN
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 210
PRINCIPLES OF MACROECONOMICS CORE 3 3 0 0 0
OPEN
This course is an introduction to basic macroeconomic concepts and principles. It deals with the 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 210 is not a prerequisite for ECON 310.

ECN 215
PRINCIPLES OF MICROECONOMICS CORE 3 3 0 0 0
OPEN
This course covers a survey of demand and supply conditions, cost structure, market structure and how these elements affect individual households, business firms, government and global trade. ECN 215 is not a prerequisite for ECON 315.

EDU 213
INTRO TO EDUCATION 3 3 0 0 0
OPEN
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 2 2 2 0 8
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 213

EDU 245
EXCEPTIONAL LEARNER 3 3 0 0 0
OPEN
A survey of exceptional learners in the classroom will be explored. History, philosophy, current issues, trends and mainstreaming will be discussed.

EDT 710
ENGINEERING COMPUTATIONS OPEN
This course includes the organization, solution and presentation of engineering problems. Topics include S. I. units and selected engineering topics. Prerequisite: MAT 210 must be taken concurrently or with prior to this course.

EGT 228
STATICS OPEN
This course includes the vector and scalar analysis of coplanar and non-coplanar force systems, equilibrium concepts, friction, centroids, moments and products of inertia. Mohr’s circle, radius of gyration, internal forces, shear and bending moment diagram. Prerequisite: PHYS 222. Corequisite: MAT 221 must be taken concurrently with or prior to this course.

EGT 280
ENGINEERING FORTRAN OPEN
The FORTRAN language in batch and interactive modes with an emphasis on solutions to engineering problems. Prerequisite: MAT 220 must be taken concurrently with or prior to this course.

EGT 285
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 220 must be taken concurrently with or prior to this course.

ELE 114
ADVANCED MOTOR CONTROLS 3 2 2 0 0
VOC/TECH
Additional topics in industrial motor controls. Course includes wiring of AC & DC motors, power distribution, solid-state controls, proximity controls, and frequency drives. Prerequisite: EGT 110, EGT 111

ELE 105
BASIC MATH FOR ELECTRONICS 3 3 0 0 0
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 FOR ELECTRONICS & COMPUTERS 4 4 0 0 0
VOC/TECH
Introduction to mathematical skills needed by electronics/computer technicians.

ELE 119
PROGRAMMABLE LOGIC CONTROLLERS 3 2 2 0 0
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: EGT 114

ELE 130
ENGINEERING FORTRAN OPEN
The FORTRAN language in batch and interactive modes with an emphasis on solutions to engineering problems. Prerequisite: MAT 220 must be taken concurrently with or prior to this course.

ELE 200
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 220 must be taken concurrently with or prior to this course.

ELE 205
ADVANCED MOTOR CONTROLS 3 2 2 0 0
VOC/TECH
Additional topics in industrial motor controls. Course includes wiring of AC & DC motors, power distribution, solid-state controls, proximity controls, and frequency drives. Prerequisite: EGT 110, EGT 111

ELE 105
BASIC MATH FOR ELECTRONICS 3 3 0 0 0
VOC/TECH
Mathematics related to basic electronics. It includes basic algebra, right triangle trigonometry, scientific notation, with applications to DC and AC circuitry.
COURSE DESCRIPTIONS

ELT125 3 2 0 00 ADVANCED PLC
This course is designed for the student who is already proficient with ladder logic, and the programming 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.

ELT126 2 0 0 00 INDUSTRIAL ELECTRONICS
The devices and circuits used in thyristor control of machines are presented. It includes phase control of DC motors, triac control of AC motors, as well as various speed control circuits.

ELT134 3 2 0 00 MOTOR CONTROLS
An introduction to industrial motor controls. During this course students will use one ladder diagrams and control devices to implement practical control systems.

ELT144 2 0 0 00 MECHANISMS LAB
The principles of drives and linkages discussed in ELT144 are evaluated using precision components. Major principles evaluated are speed ratios, torque, power and efficiency. Lab projects are applications of principles of process control and robotics interfacing mechanical motion and energy requirements with programmable control concepts.

ELT158 3 0 0 00 NEC RESIDENTIAL
The basic principles of the NEC for layout and construction for residential wiring systems. Apply code rules to house wiring installations. Discuss security systems, fire and smoke detectors, low-voltage, and remote controls.

ELT159 3 0 0 00 NEC RESIDENTIAL LAB
Utilize the basic principles of the NEC for layout and residential electrical wiring systems. Apply code rules, using hands-on approach for residential electrical installations from simplistic to complicated circuit wiring.

ELT172 3 0 0 00 COMMERCIAL/INDUSTRIAL
The basic principles of the NEC for layout and construction for commercial wiring and industrial wiring systems. Apply basics of wiring into the planning of typical commercial and industrial installations. Configure how load requirements are converted into branch circuits then into feeders, and into main electrical services.

ELT173 4 0 0 00 COMMERCIAL/INDUSTRIAL LAB
Utilize the basic principles of the NEC for layout of commercial and industrial wiring systems. Apply code rules, using hands on approach for commercial and industrial electrical installations from simplistic to complicated wiring.

ELT174 2 0 0 00 ELECTRICAL GROUNDING
The understanding of grounding and eliminating the misconceptions when dealing with NEC requirements for installation.

ELT181 1 1 0 00 ADV. MATH FOR ELECTRONICS
This course is a continuation of concepts covered in Math for Electronics & Computers. Topical emphasis includes applications involving trigonometry of vectors and oblique triangles and logarithms.

ELT189 3 0 0 00 CONTROL MACHINES
Troubleshoot electro-mechanical motor controls, gain an understanding of ladder diagrams. Students should have a general knowledge of electricity to take this course.

ELT307 3 2 0 00 DIGITAL CIRCUITS
For beginners, theory, controlling electricity, voltage, amps, resistance, wattage, series and parallel circuits, DC and AC, batteries, electric lighting, generators and motors.

ELT308 3 2 0 00 DIGITAL CIRCUITS LAB
Laboratory evaluation of small-scale integrated circuits and medium-scale integrated circuits. In addition to basic and/or gates, it includes decoders, encoders, counters and multiplexers.

ELT309 2 0 0 00 DIGITAL CIRCUITS LAB
An analysis of those circuits that form basic building blocks for a digital system to include logical gates, such as OR, NOR, and NAND, storage registers and counters.

ELT310 3 3 0 00 ELECTRONICS
An analysis of those circuits that form basic building blocks for digital system, to include logical gates, such as OR, NOR, and NAND, storage registers, counters and microprocessors.

ELT311 3 0 0 00 DC & AC FUNDAMENTALS
An introductory course in DC and AC fundamentals. Subject matter includes Ohm’s law, series and parallel circuits and measuring instruments.

ELT356 3 0 0 00 DC & AC FUNDAMENTALS LAB
This laboratory will enable the student to analyze basic LCRC circuits. Basic test equipment usage will also be presented.

ELT369 4 0 0 00 ELECTRIC CIRCUIT ANALYSIS I
An analytical introduction to direct and alternating current fundamentals essential in all phases of electricity and electronics. Topics covered include Ohm’s law, Kirchhoff’s law, Thueven-Norton and Superposition theorems, impedance, resonance, series and parallel circuits, resistors, capacitors, inductors, batteries and meters.

ELT370 3 0 0 00 ELECTRIC CIRCUIT ANALYSIS II
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.

ELT375 3 1 4 0 0 FABRICATION TECHNIQUES
Rendering of isometric and orthographic projection drawings. Also soldering techniques, fabrication of sheet metal enducators, production of printed circuit boards using photographic and etching methods.

ELT376 3 0 6 0 0 ELECTRICAL CIRCUIT ANALYSIS LAB
Analysis of solid state circuits. Includes 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.

ELT377 3 0 6 0 0 ELECTRIC CIRCUIT ANALYSIS LAB
Basic experiments in AC, DC circuit analysis including familiarization with AC and DC test instruments, series and parallel circuits (using resistors, capacitors, inductors, batteries and power supplies) and applications of electrical laws and theorems.

ELT380 3 0 6 0 0 ELECTRIC CIRCUIT ANALYSIS II LAB
An analysis of solid state circuits. Includes 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.

ELT381 3 3 0 00 ELECTRONIC CONTROL SYSTEMS
The analysis of communications systems including transmission and reception of AM and FM radio, television, satellite and microwave including modulation and demodulation. In addition, this course will include the study of television standards and computer interface techniques.

ELT382 3 3 0 00 ELECTRONIC CONTROL SYSTEMS LAB
Laboratory experiments in radio, television, satellite and microwave systems including the construction and alignment of a broadcast radio receiver.

ELT387 3 3 0 00 MEDICAL ELECTRONICS SYSTEMS
A comprehensive study of process control characteristics as a separate course. Includes the study of control systems and their applications involving trigonometry of vectors and oblique triangles logarithms.

ELT388 3 3 0 00 MEDICAL ELECTRONICS SYSTEMS LAB
A comprehensive study of process control characteristics as a separate course. Includes the study of control systems and their applications involving trigonometry of vectors and oblique triangles logarithms.

ELT389 3 3 0 00 MICROPROCESSORS
The devices and circuits used in thyristor control of machines are presented. It includes phase control of DC motors, triac control of AC motors, as well as various speed control circuits.

ELT390 3 3 0 00 MICROPROCESSORS LAB
A comprehensive study of process control characteristics as a separate course. Includes the study of control systems and their applications involving trigonometry of vectors and oblique triangles logarithms.

ELT474 3 0 6 0 0 COMMUNICATIONS SYSTEMS
The analysis of communications systems including transmission and reception of AM and FM radio, television, satellite and microwave including antenna and transmission line theory.

ELT475 3 0 6 0 0 COMMUNICATIONS SYSTEMS LAB
Laboratory experiments in radio, television, satellite and microwave systems including the construction and alignment of a broadcast radio receiver.

ELT476 3 3 0 00 MICROCOMPUTER SYSTEMS
An introductory course in DC and AC fundamentals. Subject matter includes Ohm’s law, series and parallel circuits and measuring instruments.

ELT477 3 3 0 00 MICROCOMPUTER SYSTEMS LAB
Experience in troubleshooting, service and repair of copiers, laser printers, fax machines, scanners, peripherals, monitors, cameras, and LCD displays.

ELT478 3 3 0 00 SECURITY SYSTEMS
Analysis of video monitoring systems, fire and intrusion alarm systems, climate control systems.

ELT479 3 3 0 00 SECURITY SYSTEMS LAB
Installation, maintenance and troubleshooting of various security systems.

ELT480 3 3 0 00 MEDICAL ELECTRONICS SYSTEMS
A comprehensive study of process control characteristics as a separate course. Includes the study of control systems and their applications involving trigonometry of vectors and oblique triangles logarithms.

ELT481 3 3 0 00 MEDICAL ELECTRONICS SYSTEMS LAB
A comprehensive study of process control characteristics as a separate course. Includes the study of control systems and their applications involving trigonometry of vectors and oblique triangles logarithms.

ELT482 3 3 0 00 SECURITY SYSTEMS
A comprehensive study of process control characteristics as a separate course. Includes the study of control systems and their applications involving trigonometry of vectors and oblique triangles logarithms.

ELT483 3 3 0 00 SECURITY SYSTEMS LAB
A comprehensive study of process control characteristics as a separate course. Includes the study of control systems and their applications involving trigonometry of vectors and oblique triangles logarithms.
ELT652  42400  COMPUTER REPAIR & NETWORKING VOC/TECH
This course is designed for the student who is already proficient with computers and electronic circuitry. The course follows the recommendations of CompTIA on the subject and materials to assist the student in learning about computer hardware and functions needed to pass the A-Plus exam. A detailed study and hands-on lab component give the student the opportunity to install and troubleshoot computer and networking hardware.
Prerequisite: ELT657

ELT721  21200  ROBOTICS
Course provides an introduction to robotics fundamentals. The student will examine parameters of robot operation and program robots for various applications.

ELT725  21200  INTRODUCTION TO FMS CELL VOC/TECH
This course introduces the student to all aspects of a flexible manufacturing cell. It will familiarize the student with cell software and hardware. It includes labs on all cell components. Prerequisite: ELT654, T39.

ELT780  22000  ELECTRO-MECHANICAL SYSTEMS LAB VOC/TECH
The basic theories, concepts and principles of electro-mechanical devices such as relays, contactors and DC/AC motors will be covered, as well as the basic principles of mechanical relationships including gears, pulleys, belt drives, wheel and axle, inclined plane, screw, wedge and levers. Pneumatic devices such as compressors, motors, valves and actuators are covered. Basic sensors will also be covered. Prerequisite: ELT803, T39; Corequisite: ELT802

ELT872  20400  ELECTRO-MECHANICAL SYSTEMS LAB VOC/TECH
Application of the basic theories, concepts and principles of electromechanical devices. Projects are applications of principles used in business machines, security systems and medical electronic systems including construction of various examples of compound machines using wheel and axle, gears, levers and belt drives. Projects using basic sensors, pneumatic valves, cylinders and actuators will be constructed. Students will participate in a minimum of four 2-hour job-shadowing experiences which may take place outside of regular class time. Prerequisite: ELT873, T39; Corequisite: ELT871

ELT791  33000  HYDRAULICS & PNEUMATICS VOC/TECH
The basic principles of fluid power and the operation and application of fluid power components are introduced. Devices such as valves, linear and rotary actuator are evaluated in the laboratory. In addition, pneumatic position control servo mechanisms are evaluated. Corequisite: ELT792

ELT792  20400  HYDRAULICS & PNEUMATICS LAB VOC/TECH
The basic principles of fluid power and the operation and application of fluid power components are introduced. Devices such as valves, linear and rotary actuators are evaluated in the lab. Corequisite: ELT791

ELT806  22000  SYSTEMS TROUBLESHOOTING VOC/TECH
A study of electronic systems troubleshooting theory, methods and techniques. Prerequisite: ELT478, 479, 474, 482, 433; Corequisite: ELT817

ELT817  30600  SYSTEM TROUBLESHOOTING LAB VOC/TECH
A "hands-on" experience troubleshooting and repairing a variety of electronic equipment such as copiers, security monitors and cameras, radio, television and satellite systems. Prerequisite: ELT478, 479, 474, 482, 433; Corequisite: ELT816

ELT870  31400  ELECTRONICS CAPSTONE PROJECT VOC/TECH
This course provides hands-on experience in a significant design project involving technological competence, open-ended problem-solving, teamwork, and both written and oral communication skills. Prerequisite: Successful completion of requirement of first 4 terms of Electronics, Robotics and Automation Program or instructor permission.

ELT932  32200  FIRST RESPONDER VOC/TECH
A 60-hour emergency care course that emphasizes life threatening emergencies, wounds, fractures, medical and environmental emergencies and other emergency situations as outlined by the U.S. Department of Transportation.

EMS200  64400  EMERGENCY MEDICAL TECH BASIC VOC/TECH
Prepares rescue personnel for the role and responsibilities of an EMT. Includes specific patient assessment and emergency treatment procedures. Students should be at least 18 years of age prior to course completion. State Health Department Certification Exam after successful course completion.

EMS501  42230  EMT INTERMEDIATE DS VOC/TECH
An advanced EMT training program developed by the Iowa Dept. of Public Health, Bureau of EMS, which covers techniques of emergency medical care within the scope of responsibilities of the Iowa EMT Intermediate. Prerequisite: Current certification by State of Iowa as EMT Basic. Designed to help students read and write effectively. Exploration of the relationship of audience to writer and main ideas. Prerequisite: Satisfactory writing skills

ENG106  33000  COMPOSITION II CORE
Expository and persuasive writing developed through critical reading. The course explores structure, style, research and documentation. Prerequisite: ENG105

ENG108  33000  COMPO II: TECHNICAL WRITING
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: ENG105

ENG225  33000  CREATIVE WRITING: POETRY
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.

ENG229  33000  CREATIVE WRITING: FICTION
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.

ENG650  33000  SCREENWRITING: 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.

ENG660  33000  PLAYWRITING & 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.

ENV09  33000  ENVIRONMENTAL SCIENCE CORE
This course combines the basic principles of ecology with current environmental issues. Includes energy, land use, pesticides and pollution. Wildlife, fisheries, forestry, soil and water conservation practices are emphasized. Designed for the non-science major.

ENV09S  10200  ENVIRONMENTAL SCIENCE LAB CORE
Lab supplements discussion course BIOL 101. 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 ENV09S or equivalent

ENV150  33200  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. Prerequisite: ENV150, 138; or instructor permission.
COURSE DESCRIPTIONS

ESL095 - ADJUNCT 3 2200 HIGH INTER ESL LISTENING/CONV SKILLS COLLEGE PREP
For intermediate-level students to improve the accuracy of their pronunciation and to develop the listening and speaking skills needed to communicate in diverse settings. Classroom activities are supplemented by individualized listening and pronunciation exercises. College Preparatory courses cannot be used to fulfill degree requirements.

ESL094 - ADJUNCT 3 2200 ADV ESL LISTENING/CONVERSATION SKILLS COLLEGE PREP
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. College Preparatory courses cannot be used to fulfill degree requirements.

ESL095 3 2200 COMMUNICATIVE GRAMMAR FOR ESL COLLEGE PREP
This course provides nonnative 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. Prerequisite: Minimum scores on the TOEFL or Michigan Test.

FIN224 11 000 STOCKS, BONDS & INVESTMENTS OPEN
This course explores personal investment in financial assets. Investing in stocks, bonds and mutual funds is the focus of investigation. Concepts, techniques and strategies related to making financial goals with these types of assets are considered.

FIR224 3 2200 BUILDING CONSTRUCTION OPEN
Study of building materials, components and design features with regard to their reactions under fire conditions. Course also includes interpretation of Life Safety Code and its application to proposed and existing structures. Prerequisite: FIR230

FIR233 3 2200 PRINCIPLES OF FIRE PREVENTION OPEN
This course is a survey of the principles of fire prevention. Students will learn to interpret and apply complex fire prevention regulations. Course covers traditional regulatory aspects and functions associated with fire prevention, the fire code process, plan review, inspections, and fire protection systems testing. The investigation process from the fire scene to the courtroom, and state and federal agencies involved in fire investigation are also covered. Other topics are the importance of fire prevention, records and recordkeeping, personnel, and financial management. Prerequisite: FIR220, TSC, 220

FIR252 3 2200 FIRE PROTECTION SYSTEMS OPEN
An examination of devices and systems installed and utilized to support the fire service in the detection and suppression of fire. Prerequisite: FIR230

FIR182 3 2200 HAZARDOUS MATERIALS OPEN
This course concentrates on principles of response planning for incidents involving the manufacture, transportation, storage and use of hazardous materials, with the objective of minimizing harm to people, property and the environment. Prerequisite: CHM120, FIR230

FIR233 3 2200 OCCUP S/H IN EMERGENCY SERVICES OPEN
The firefighting profession is one of the most dangerous and challenging. Especially emphasized are the basic skills needed to become accredited as a Fire Fighter II based on the National Fire Protection Association Standard NFPA 1001. Certification requires successful completion of approximately 120 contact hours of Fire Fighter II training, a written exam, a practical (skills performance) exam, and local documentation, all certified by a nationally recognized fire service accreditation agency. Prerequisite: FIR230

FIR291 3 2200 PRINCIPLES OF FIRE FIGHTER II CERTIFICATION OPEN
This course is a survey of the basic principles of firefighting as they relate to fire fighter professional qualifications. Especially emphasized are the basic skills needed to become accredited as a Fire Fighter II based on the National Fire Protection Association Standard NFPA 1001. Certification requires successful completion of approximately 120 contact hours of Fire Fighter II training, a written exam, a practical (skills performance) exam, and local documentation, all certified by a nationally recognized fire service accreditation agency. Prerequisite: FIR230

FIR290 3 2200 FIRE BEHAVIOR & INVESTIGATION OPEN
Covers the behavior of fire in confined structures and the methods used to determine point of origin, cause and travel of fire within a structure.

FIR233 3 2200 PROPERTY INSURANCE-FRAUD INVESTIGATION OPEN
Covers principles of property insurance and investigation of incendiary fires with an emphasis on the investigation of insurance fraud fires.

FIR290 4 000 16 FIRE FIGHTER I CERTIFICATION OPEN
This course is a survey of the basic principles of firefighting as they relate to fire fighter professional qualifications. Especially emphasized are the basic skills needed to become accredited as a Fire Fighter I based on the National Fire Protection Association Standard NFPA 1001. Certification requires successful completion of approximately 60 contact hours of Fire Fighter I training, a written exam, a practical (skills performance) exam, and local documentation, all certified by a nationally recognized fire service accreditation agency. Prerequisite: FIR230

FIR290 3 2200 FIRE FIGHTER II CERTIFICATION OPEN
This course is a survey of the basic principles of firefighting as they relate to fire fighter professional qualifications. Especially emphasized are the basic skills needed to become accredited as a Fire Fighter II based on the National Fire Protection Association Standard NFPA 1001. Certification requires successful completion of approximately 60 contact hours of Fire Fighter II training, a written exam, a practical (skills performance) exam, and local documentation, all certified by a nationally recognized fire service accreditation agency. Prerequisite: FIR230

FIR290 3 2200 FIRE FIGHTER I CERTIFICATION OPEN
This course is a survey of the basic principles of firefighting as they relate to fire fighter professional qualifications. Especially emphasized are the basic skills needed to become accredited as a Fire Fighter II based on the National Fire Protection Association Standard NFPA 1001. Certification requires successful completion of approximately 60 contact hours of Fire Fighter II training, a written exam, a practical (skills performance) exam, and local documentation, all certified by a nationally recognized fire service accreditation agency. Prerequisite: FIR230

FLA41 4 4000 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.

FLA42 4 4000 ELEMENTARY ARABIC II CORE
Continue to acquire an elementary level of Arabic language skills of reading, writing, grammar and conversational communications. Reading and conversational emphasis will be emphasized. Prerequisite: FLA41 or permission of instructor

FLA41 4 4000 INTERMEDIATE ARABIC I CORE
Continue to acquire a higher level of Arabic language skills of reading, writing, grammar and conversational communications. Reading, grammar and conversation will be emphasized. Prerequisite: FLA42 or permission of instructor

FLA42 4 4000 INTERMEDIATE ARABIC II CORE
Continue to acquire a higher level of Arabic language skills of reading, writing, grammar and conversational communications. Reading, grammar and conversation will be emphasized within cultural context. Prerequisite: FLA43 or permission of instructor

FLA44 4 4000 ELEMENTARY CHINESE I CORE
Development of the basic skills of understanding, speaking and writing Chinese. Grammar analysis, classroom conversational practice and some exploration of the Chinese culture.

FLA42 4 4000 ELEMENTARY CHINESE II CORE
Continued practice of the four basic skills and grammar analysis. Introduction of short prose selections with conversational emphasis. Prerequisite: FLA41 or instructor permission

FLA42 4 4000 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: FLA42 or instructor permission

FLA42 4 4000 INTERMEDIATE CHINESE II CORE
Continued review of grammatical constructions using Chinese cultural materials. Reading, writing and conversational will be emphasized in the context of cultural issues and current events. Prerequisite: FLA42 or instructor permission

FLF141 4 4000 ELEMENTARY FRENCH I CORE
An introduction to the basic skills in understanding, speaking, reading and writing French. Grammar analysis, conversational practice and some exploration of French culture.

FLF142 4 4000 ELEMENTARY FRENCH II CORE
Continued practice of the four basic skills and grammar analysis begun in FLF 141. Introduction to short prose selections with conversational emphasis. Prerequisite: FLF141 or permission of instructor

FLF141 4 4000 INTERMEDIATE FRENCH I CORE
Review of essential grammatical constructions emphasizing major areas of difficulty for English speakers. Use of cultural and literary materials to develop conversational skills. Prerequisite: FLF142 or permission of instructor

FLF142 4 4000 INTERMEDIATE FRENCH II CORE
Continued review of grammatical constructions using cultural materials. Reading, writing and conversation will be emphasized in the context of cultural issues and current events. Prerequisite: FLF142 or permission of instructor

FLG141 4 4000 ELEMENTARY GERMAN I CORE
Development of the basic skills of understanding, speaking and writing German. Grammar analysis, classroom conversational practice and some exploration of the German culture.

FLG142 4 4000 ELEMENTARY GERMAN II CORE
Continued practice of the four basic skills and grammar analysis. Introduction of short prose selections with conversational emphasis. Prerequisite: FLG141 or instructor permission

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COURSE DESCRIPTIONS

FLG241 4 4 0 0 0 INTERMEDIATE GERMAN II CORE Review of essential grammatical constructions emphasizing major areas of difficulty for English speakers. Use of German cultural and literary materials to develop conversational skills. Prerequisite: FLG241 or instructor permission

FLG242 4 4 0 0 0 INTERMEDIATE GERMAN II CORE Continued review of grammatical constructions using German cultural materials. Reading, writing and conversation will be emphasized in the context of cultural issues and current events. Prerequisite: FLG241 or instructor permission

FLI141 4 4 0 0 0 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.

FLI142 4 4 0 0 0 ELEMENTARY ITALIAN II CORE Continued practice of the four basic skills and grammar analysis. Introduction of short prose selections with conversational emphasis. Prerequisite: FLI141 or instructor permission

FLI241 4 4 0 0 0 ELEMENTARY SPANISH I CORE Review of the basic skills of understanding, speaking, reading and writing Spanish. Grammar analysis, classroom conversational practice and some exploration of the Hispanic culture.

FLI242 4 4 0 0 0 ELEMENTARY SPANISH II CORE Continued practice of the four basic skills and grammar analysis. Introduction of short prose selections with conversational emphasis. Prerequisite: FLI241 or instructor permission

GLS199 2 2 0 0 0 TRADITION GENERAL This course systematically surveys the peoples, cultures, resources and problems of the cultural realms commonly designated as the Third World (Latin America, Black Africa, the Islamic World, India and China).

GLS200 3 3 0 0 0 ELEMENTARY SPANISH II CORE Review of essential grammatical constructions emphasizing major areas of difficulty for English speakers. Use of Hispanic cultural and literary materials to develop conversational skills. Prerequisite: FLI241 or equivalent

GLS225 3 3 0 0 0 INTRO TO INTERNATIONAL STUDIES GENERAL This course provides an introduction to international issues and globalization from the perspective of different continents and countries. The course will cover basic historical, geographical, political, cultural, economic, health, human rights, gender, and ethnic issues. Primary emphasis will be on the issues that face real, ordinary people and societal institutions in various countries and communities around the world.

GRD301 3 1 4 0 0 INTRO TO DESKTOP PUBLISHING VOC/TECH Course introduces students to operating system of the Macintosh computer. Industry standard electronic layout program is used to introduce the student to the field of electronic desktop publishing. Prerequisite: ADMIN05 or equivalent

GLD040 3 2 0 0 0 TYPOGRAPHY I VOC/TECH A prerequisite for all graphic design courses. Commercial art terminology, tools and techniques are practiced.

GLD041 3 2 0 0 0 TYPOGRAPHY II VOC/TECH This course will create awareness of design use. Topics of lecture and lab study will include design fundamentals, the creative process, principles of design and basic advertising design formats with application of design theories in simple design projects.

GRD404 3 2 0 0 0 COMMUNICATION DESIGN II VOC/TECH Typographic course including the principles and basic skills in typographic design on computer. Prerequisite: GRD405

GRD405 3 2 0 0 0 COMMUNICATION DESIGN III VOC/TECH A study of the history of typography as it relates to advertising design. Includes emphasis on use of copypasting and the use of typography in design.

GRD407 3 2 0 0 0 COMMUNICATION ART I VOC/TECH 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.

GRD410 3 2 0 0 0 COMMUNICATION ART II VOC/TECH 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 drawings skills.

GRD411 3 2 0 0 0 GRAPHIC DESIGN INTERNSHIP I VOC/TECH On-the-job training for graphic design students. Included is a weekly seminar for exchange of information, review and evaluation. Prerequisite: GRD421

GRD415 3 1 0 0 0 COMMUNICATION DESIGN IV VOC/TECH An advanced course using skills and understanding developed in Communication Design I and II. Emphasis is on image generation, integration of type and design, development of a direct mail advertising campaign and outdoor advertising. Prerequisite: GRD411

GRD421 3 2 0 0 0 COMMUNICATION DESIGN V VOC/TECH Lab and lecture study of color theory and various media. Emphasis on creative solutions to specific communication projects. Prerequisite: GRD414

GRD422 3 2 0 0 0 COMMUNICATION DESIGN VI VOC/TECH Computer technology is used in the preparation of material to be printed. Included are lectures and experiences in the production of printed portfolio samples. Prerequisite: GRD415

GRD423 3 2 0 0 0 PORTFOLIO PREPARATION I VOC/TECH A student seeking employment must have a well-prepared portfolio. Such a portfolio will be developed and reviewed by the Graphic Design Advisory Committee in this course. Prerequisite: GRD422

GRD424 3 2 0 0 0 COMMUNICATION DESIGN VII VOC/TECH Lab and lecture study of advanced design problems with emphasis on the development of professional quality portfolio pieces. Projects will include development of multipage publication, corporate identity package and newspaper advertising. Prerequisite: GRD423
COURSE DESCRIPTIONS

GRT440 PRODUCTION ART IV
- 3 2 0 0
VOC/TECH

To complete the study of production art, emphasis will be on the development of portfolio projects. Prerequisite: GRT430

GRT444 PORTFOLIO PREPARATION II
- 3 3 0 0
VOC/TECH

“Portfolio Night” is the highlight of completing this course. The student will be required to present a completed portfolio to graphic design professionals and prospective employers at the annual event. Prerequisite: GRT436

GRT449 AIRBRUSH I
- 4 2 4 0
VOC/TECH

The fundamental principles of airbrush techniques and application to advertising design and use of airbrush as an illustrative tool.

GRT451 AIRBRUSH II
- 4 2 4 0
VOC/TECH

Advanced course in airbrush techniques as necessary for portfolio samples. Emphasis in utilization of advanced skills learned in Airbrush I. Prerequisite: GRT449

GRT459 COMPUTER GRAPHICS
- 3 2 2 0
VOC/TECH

Use of Adobe Illustrator to produce electronic drawings in 2-D in full color. Includes the study of typography as a design and illustration element with all creative projects produced electronically.

GRT462 COMPUTER GRAPHICS II
- 3 1 4 0
VOC/TECH

Use of Adobe Illustrator and Adobe Dimensions. Advanced study of electronic drawing programs including graph creation, introduction to color separation and creation of full-color art from electronic scanner sources. Prerequisite: GRT459

GRT463 ELECTRONIC PHOTO EDITING
- 3 2 2 0
VOC/TECH

Introduction to using Adobe Photoshop. The student will learn how to electronically and edit color images; such as scanning, color separation, combining photos, using channels and working with type. Prerequisite: GRT301

GRT466 INTRO TO PRINTING METHODS
- 4 2 4 0
VOC/TECH

A prerequisite for all Graphic Technology courses as an introduction to printing technology. Course will involve lecture and hands-on lab work in the areas of lithography, screen printing and flexography. Bindery and finishing methods will also be covered.

GRT471 INTRO TO GRAPHIC COMMUNICATION
- 3 3 0 0
VOC/TECH

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.

GRT476 DIGITAL PUBLISHING I
- 3 2 2 0
VOC/TECH

An introduction to graphic design techniques and terminology. Through a combination of lecture and hands-on projects, students will focus on the creative process, principles of design and production techniques. Students will apply these principles and techniques.

GRT477 SPECIALTY PRINTING METHODS
- 4 2 4 0
VOC/TECH

A course in specialty printing focusing on flexography and screen printing. The student will work in a lab environment to complete multiple color printed projects advancing their skills in both printing technologies. Prerequisite: GRT400, 401, 409, 410

GRT478 ELECTRONIC PREPRESS II
- 4 2 4 0
VOC/TECH

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 learn to operate electronic prepress equipment in a workshop setting. Prerequisite: GRT421

GRT479 PRINTING METHODS CAPSTONE
- 4 2 4 0
VOC/TECH

This course is for students pursuing a Graphic Technologies emphasis in printing technologies. Students work collaboratively to produce a capstone project utilizing their skills in print production. Resume and portfolio preparation are also covered. Prerequisite: Completion of terms 1 and 2 of the Graphic Technologies program and GRT420, 427

GRT480 DIGITAL PUBLISHING CAPSTONE
- 4 2 4 0
VOC/TECH

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, 2 and 3 of the Graphic Technologies program

GRT481 SANITATION & EQUIPMENT LAB
- 1 0 2 0
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. (HY)

GRT482 BAKING (LAB)
- 2 0 4 0
VOC/TECH

Course offers instruction in baking fundamentals and procedures as applied to bread, rolls, cakes, pastries and cake decorating. Practical experiences in sanitation, safety and the use of large equipment is also emphasized in this course. Prerequisite: GRT483, 144 or Instructor permission

GRT483 ADV BAKING/BUFFET DECORATING
- 2 0 4 0
VOC/TECH

Advanced principles and procedures of producing baked goods, decorative work and display pieces. Prerequisite: GRT480, 270

GRT484 FOOD PREPARATION I
- 3 3 0 0
VOC/TECH

Introduces the student to the scientific principles used in food preparation. Involves preparation procedures and techniques to be used with fruits, vegetables, starch products, cheese, eggs, meat, poultry and fish. Establishes criteria needed to produce a standard product. Corequisite: HCM444

GRT485 FOOD PREPARATION II
- 3 0 6 0
VOC/TECH

Preparation of small servings of salads, starch, cheese, eggs, meat and fish products using the techniques studied in lecture. Oral and written evaluation of each product. Corequisite: HCM464

GRT486 FOOD PREPARATION II LAB
- 2 2 0 0
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: HCM445, 144

GRT487 CULINARY SKILL DEVELOPMENT
- 2 0 4 0
VOC/TECH

The production of quick breads, desserts, salads, vegetables, soups and main entrees to be sold to the public. Time is spent on an individual recipe production project. Prerequisite: HCM413, 144

GRT500 ADVANCED CULINARY CUISINE
- 2 0 0 0
VOC/TECH

Discussion of the more intricate and difficult cooking principles and techniques of classical cuisine and preparing for advanced culinary cuisine. Prerequisite: HCM607, Corequisite: HCM609

GRT501 CULINARY CUISINE LAB
- 4 0 8 0
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 service to the public. A la carte preparation is emphasized. Prerequisite: HCM617, Corequisite: HCM618

GRT502 INTERNATIONAL CUISINE (LAB)
- 3 0 6 0
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: GRT501, 153 Corequisite: HCM172

GRT503 INTERNATIONAL CUISINE
- 2 2 0 0
VOC/TECH

Students research and plan international dinners. Emphasis is on menu and production planning for eight-course gourmet dinners. The lecture will also focus on the pronunciation and definition of French terms. Prerequisite: HCM502, 153; Corequisite: HCM172

GRT504 INTERNATIONAL CUISINE LAB II
- 3 0 6 0
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: HCM172, 173

GRT505 DINING ROOM SERVICE
- 2 0 4 0
VOC/TECH

A dining room service course in an actual restaurant experience with emphasis on using sound management techniques and quality customer service.

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**COURSE DESCRIPTIONS**

**HCM230**  
**DINING MANAGEMENT**  
2 2 0 0 0  
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: HCM152, 153

**HCM231**  
**NUTRITION**  
2 2 0 0 0  
VOC/TECH  
An overview of nutrition-related topics including the psychology of eating and evaluation of food intake. General

**HCM256**  
**HUMAN NUTRITION**  
3 0 0 0 0  
GENERAL  
Understanding and implementing present-day knowledge of nutrition; the use of food for health and satisfaction of the individual and the family.

**HCM240**  
**MENU PLANNING & DESIGN**  
2 2 0 0 0  
VOC/TECH  
Course applies the principles of menu planning & layout to the development of menus for a variety of types of facilities and service.

**HCM250**  
**PURCHASING**  
2 2 0 0 0  
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.

**HCM270**  
**GARDE MANGER**  
2 0 4 0 0  
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 aps, galleanes and buffet presentations. Prerequisite: HCM143, 144

**HCM300**  
**BEVERAGE MANAGEMENT**  
2 2 0 0 0  
VOC/TECH  
Course will familiarize the students with all aspects of beverage service including wine & alcohol laws; Basic mechanics of beverage preparation, sales and promotion will be covered.

**HCM252**  
**COMPUTER LOAD CALCULATIONS**  
2 2 0 0 0  
VOC/TECH  
Course is designed to deliver instruction in the area of heating, air conditioning, refrigeration industry.

**HCR270**  
**ADVANCED HEATING & AC**  
5 2 6 0 0  
VOC/TECH  
This course covers installation and troubleshooting techniques dealing with residential heating and cooling and refrigeration systems. Prerequisite: HCR253

**HCR290**  
**COMMERCIAL HVAC/REFRIGERATION**  
5 2 6 0 0  
VOC/TECH  
This course covers basic commercial refrigeration systems, components and their use, applications, methods of installation, maintenance, diagnosis and repairs. Prerequisite: HCR270, 506

**HCR307**  
**FUNDAMENTALS OF REFRIGERATION**  
5 2 6 0 0  
VOC/TECH  
Course consists of the principles of refrigeration, domestic systems and equipment.

**HCR404**  
**ELECTRICITY**  
5 2 6 0 0  
VOC/TECH  
A study of basic electricity principles including Ohm’s law, series and parallel circuits as applied to HVAC and refrigeration. Course also includes hands-on practice with training boards in the lab.

**HCR440**  
**ELECTRICAL CONTROLS & CIRCUITS**  
5 2 6 0 0  
VOC/TECH  
The application of control circuits used in the HVAC/R field. These applications include contactors, starters, relays, interlocks, controls, relays, thermostats, split phase, shaded pole, capacitor start motors and three-phase motors. Prerequisite: HCR404

**HCR506**  
**AIR DISTRIBUTION**  
3 2 0 0 0  
VOC/TECH  
This course involves the study of fans, blowers and dampers; the design of duct systems for proper air delivery; and allows for final system balancing; includes lab practice. Prerequisite: HCR256

**HCR555**  
**SHEET METAL FABRICATION**  
3 1 4 0 0  
VOC/TECH  
This course covers all types of sheet metal fabrication pertaining to the HVAC profession. Prerequisite: HCR260

**HCR577**  
**BLUEPRINT READING**  
3 2 2 0 0  
VOC/TECH  
A study of blueprint reading related to the HVAC/R trade. Drafting symbols and terminology will be covered, along with skills needed to make simple scaled drawings.

**HCR805**  
**ENVIRONMENTAL CONTROLS**  
5 2 6 0 0  
VOC/TECH  
This course covers basic understanding of building environmental and energy management systems, computerized (DC), pneumatic and electro-mechanical controls. Prerequisite: HCR207, 440, 506; Corequisite: HCR290

**HCR840**  
**COMPUTER LOAD CALCULATIONS**  
2 1 2 0 0  
VOC/TECH  
Course is designed to deliver instruction in the area of heating/cooling load calculations, air flow and air supply/return layout. Extensive use of computers and CAD systems will be incorporated to enhance student productivity. Prerequisite: HCR506

**HCR932**  
**INTERNSHIP**  
4 0 0 0 0  
VOC/TECH  
On-the-job training for Heating, Air Conditioning, Refrigeration Technology program students who have a “C” average or better in the program. Prerequisite: Valid driver’s license; HCR253, 440, 506

**HIS112**  
**WESTERN CIV: ANCIENT TO EARLY MODERN**  
4 4 0 0 0  
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.

**HIS113**  
**WESTERN CIV: EARLY MODERN TO PRESENT**  
4 4 0 0 0  
CORE  
Survey of political, economic, social and intellectual developments from the 18th century to the present. Enlightenment, revolutions and reactions, national unification, national rivalries, world wars and post-war developments.

**HIS570**  
**U.S. HISTORY TO 1877**  
4 4 0 0 0  
CORE  
A survey of main themes of American history from 1492 to 1877 with emphasis on the political, social, economic, religious and intellectual aspects of the pre-settlement, Colonial, Revolutionary, Antebellum Civil War and Reconstruction eras.

**HIS575**  
**U.S. HISTORY SINCE 1877**  
4 4 0 0 0  
CORE  
A survey of main themes of American history from 1877 to the present with emphasis on political, social, economic, religious and intellectual aspects of the Gilded Age, the Progressive Era, WWI, the Roaring Twenties, the Great Depression, WWII and post-WWII era.

**HIS560**  
**INTRO TO HEALTH CAREERS**  
3 0 0 0 0  
PACIFIC CENTURY GENERAL  
The Pacific Century explores the tumultuous history of East Asia and Southeast Asia since 1970. The geography, culture, economics, politics, modernization, Western intervention and social and political transformation are emphasized.

**HSC200**  
**IOWA HISTORY**  
3 0 0 0 0  
GENERAL  
A broad survey of Iowa history from Indian cultures and pioneer farming through modern agriculture, gradual social changes and long-term political trends

**HSC257**  
**AFRICAN-AMERICAN HISTORY**  
3 0 0 0 0  
GENERAL  
A survey of the history of the African-American community with emphasis on the role of individuals, institutions and ideas in the development of the community from its origins in West Africa to the present.

**HSC266 - ADJUNCT**  
**THE CIVIL WAR**  
3 0 0 0 0  
GENERAL  
This course covers the causes, key events, major participants and the long-term impacts of the Civil War using Ken Burns’ widely acclaimed TV series. This course vividly captures the entire sweep of America’s most significant war.

**HSC302**  
**EMERGENCY CARE**  
1 1 0 0 0  
VOC/TECH  
Learn to perform care for medical emergencies; fractures, burns, resuscitation, basic CPR (Cardio-Pulmonary Resuscitation, American Heart Level II standards) certification.

**HSC305 - ADJUNCT**  
**SURVEY OF HEALTH CAREERS**  
1 1 0 0 0  
VOC/TECH  
This course introduces both the variety and requirements for health care careers. Basic core knowledge and professional expectations common to all health careers are explored. Workplace safety and an overview of the health system and current trends are also covered.

**HSC309 - ADJUNCT**  
**INTRO TO HEALTH CAREERS**  
3 0 0 0 0  
VOC/TECH  
Students will discover the many options available, including roles and responsibilities, in health career options. This course is designed to provide the student with the information necessary to make their health career choice.

**HSC210**  
**MEDICAL TERMINOLOGY I**  
3 0 0 0 0  
VOC/TECH  
Builds a medical vocabulary through an understanding of anatomic roots for words denoting body structures, prefixes, suffixes and body functions

**HSC211**  
**MEDICAL TERMINOLOGY II**  
3 0 0 0 0  
VOC/TECH  
Continues to build a medical language vocabulary by studying body systems such as musculoskeletal, endocrine, nervous and integumentary systems. Prerequisite: HSC210

**HSC272 - ADJUNCT**  
**NURSE AIDE 75 HOURS**  
3 2 0 3 0  
VOC/TECH  
Entry-level skills to seek employment in Iowa skilled facilities. Meets OBAR/ standards.

**HSC282 - ADJUNCT**  
**ADVANCED NURSE AIDE**  
3 2 0 3 0  
VOC/TECH  
A continuation of Nurse Aide to provide additional skills and clinical to work in hospital. Prerequisite: A DMACC sponsored 75 hour Nurse Aide class or HSC272
processes. Emphasis is placed upon application of learned skills to meet the needs. Basic concepts. Translation as product. Translation as process. Cultural problems. Denotative vs. connotative meanings. Formal properties of texts. Language variety. Glossary development. Prerequisite: ITR101 or permission of Instructor

ITR102 ETHICS FOR THE INTERPRETER/TRANSLATOR OPEN
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, competence, reporting ethical violations, professional development, disputes with clients, collegiality, and contracts. Model scenarios are used for developing and applying ethical judgments. Prerequisite: Minimum of grade “C” or better in all ITR courses and complete a minimum of three ITR courses

ITR103 INTRO TO INTERPRETATION & TRANSLATION OPEN
A general introduction to the field of oral language interpreting and translation (IT) including linguistic theory of communication, translation approaches, problems and processes, cultural competency and ethics, the role of the interpreter, modes of interpretation and interpreter errors. Taught in English; students need not be bilingual in other languages to take this introductory course.

VISIT US ONLINE: www.DMACC.edu
### COURSE DESCRIPTIONS

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Units</th>
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COURSE DESCRIPTIONS

MAP50 3 0 0 0 0 ADV. MEDICAL BILLING/CODING
This course provides a practical approach to expanding the knowledge of specialty-specific coding issues. Emphasis will be placed on identifying the specific circumstances and rules for coding in the specialty physician practices.
Prerequisite: MAP41

MAP255 4 3 2 0 0 MEDICAL LABORATORY PROCEDURES I
VOC/TECH Introduction to medical laboratory procedures, ethics, laboratory personnel and OSHA regulations. Includes use of basic lab equipment and application of basic microbiological principles. Routine: analytical physical, chemical and microscopic examination. Quality control is emphasized. Corequisite: MAP547

MAP28 3 2 0 0 0 MEDICAL LABORATORY PROCEDURES II
VOC/TECH Venipuncture and finger puncture. Experience performing hematology, blood chemistries and EKGs. Emphasis on OSHA regulations and quality control in the medical office laboratory. Prerequisite: Grade of "C" or better in MAP255; Corequisite: MAP548

MAP250 2 2 0 0 0 DIAGNOSTIC RADIOGRAPHY I
VOC/TECH 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: MAP255

MAP52 2 2 0 0 0 DIAGNOSTIC RADIOGRAPHY II
VOC/TECH 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" or better in MAP250; Corequisite: MAP524

MAP547 3 2 0 0 0 MEDICAL OFFICE PROCEDURES I
VOC/TECH Clinical skills including vital signs, patient examination, histories, charting and documentation, and patient education. Students perform various and hearing tests and sterilization procedures. Medical aspects and emphasis on OSHA regulations. Corequisite: MAP255

MAP548 3 2 0 0 0 MEDICAL OFFICE PROCEDURES II
VOC/TECH Student learns to assist with examinations, tests and treatments. Inventory and use of medical supplies and supplies. Includes principles of pharmacology, injections, theory of IV therapy, sterile procedures, pulmonary functions, bandaging and patient education. Outpatient scheduling, referral, prior authorizations and documentation. Prerequisite: Grade "C" or better in MAP547; Corequisite: MAP228

MAP423 3 0 0 0 0 PROFESSIONAL DEVELOPMENT
VOC/TECH Emphasizes professionalism, responsibilities of the certified medical assistant. Medical specialties are first aid procedures, medical ethics and law, and HIPAA regulations are studied.

MAP52 3 3 0 0 0 HUMAN BODY-HEALTH & DISEASE
VOC/TECH Designed to provide specialized knowledge of the human body relating to disease processes and possible methods of treatment. Includes CPR training. Drug terminology is added, as well as basic knowledge of symbols and abbreviations. Prerequisite: HSC120

MAP54 4 0 0 0 0 HUMAN BODY-HEALTH & DISEASE I
VOC/TECH Basic biological concepts, structure and function of the body. Interrelationships 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.

MAP54 4 0 0 0 0 HUMAN BODY-HEALTH & DISEASE II
VOC/TECH The study of the body systems is completed. Prerequisite: Grade of "C" or better in MAP544

MAP606 1 0 2 0 0 PROFESSIONAL DEVELOPMENT III
VOC/TECH Provides an opportunity for the student to discuss situations that arise in the clinical experience. Oral reports by students are supplemented by a review of weekly clinical evaluations. In addition, the student is made aware of community health service available to the patient. Corequisite: MAP624

MAP624 5 0 0 0 0 PRACTICUM
VOC/TECH A course designed especially for the preparation of students involved supervising practical application of previously studied theory. New material is integrated as the student progresses. The student receives experience in a physician’s office working under the direct supervision of the physician and office staff. There is no financial remuneration. Prerequisite: Satisfactory completion of all courses in first 2 terms. Corequisite: MAP52

MAT005 4 0 0 0 0 INTERNSHIP – MEDICAL SECRETARIES
VOC/TECH Work in a medical facility to learn the many office procedures and policies as they exist in a job situation. Prerequisite: HSC121, MAP52, MTR121, ADM215

MAT034 3 0 0 0 0 ARITHMETIC
CA Core 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.

MAT005 4 0 0 0 0 PRE-ALGEBRA
COLLEGE PREP A review of arithmetic and introduction to algebra. This is a college preparatory course designed to strengthen arithmetic skills and introduce basic concepts of algebra in preparation for MAT006. College Preparatory courses cannot be used to fulfill degree requirements.

MAT005 4 0 0 0 0 ELEMENTARY ALGEBRA
COLLEGE 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 preparatory course designed for students with no algebra background or for students who need review. College Preparatory courses cannot be used to fulfill degree requirements.

MAT005 4 0 0 0 0 ELEMENTARY ALGEBRA
COLLEGE 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. Prerequisite: 1 year H.S. algebra, department permission or MAT065. College Preparatory courses cannot be used to fulfill degree requirements.

MAT005 1 1 0 0 0 MATH STUDY SKILLS
COLLEGE 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

MAT104 4 0 0 0 0 MATH FOR ELEMENTARY TEACHERS
CORE Provides future elementary teachers a modern approach to mathematics. Sets, relations, number systems, nature of proof, algorithms, elements of algebra and geometry, basic computational skills and problem-solving. This course is for students in education fields and is not appropriate for students in other majors. This is not a methods course. Prerequisite: 1 year H.S. algebra, department permission or MAT065

MAT104 2 0 0 0 0 Explorations in Elementary Math Education
Open This course will provide elementary and middle school teachers with laboratory-based experiences designed to teach and reinforce elementary statistics and probability concepts, as well as fractions, decimals, and geometry. Topics will be covered from both a practical and theoretical standpoint, with an emphasis on practical understanding using concrete examples. It will develop the conceptual foundation for elementary mathematics including the basic arithmetical operations, properties of operation, number theory, and basic 2D and 3D geometry.

MAT104 4 0 0 0 0 College Algebra
Open 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: 2 years H.S. algebra, or MAT005

MAT104 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: 2 years H.S. algebra, or MAT005

MAT120 5 0 0 0 0 PRECALCULUS
General Real and complex number systems, inequalities, exponential and logarithmic functions. Prerequisite: MAT129 or equivalent or department permission

MAT104 3 0 0 0 0 TRIGONOMETRY
Core Circular functions and their inverses, trigonometric identities, trigonometric equations, solving triangles and graphs. Prerequisite: 2 years H.S. algebra, department permission or MAT005

MAT104 4 0 0 0 0 Finite Mathematics
Core General education course in practical mathematics for students not majoring in mathematics or science. Includes 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: 1 year H.S. algebra or MAT065

MAT104 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’s, chi-squares and f distributions, correlation, regression, analysis of variance and several nonparametric procedures. Same content as BUS21, credit will not be granted for both BUS21 and MAT104. Prerequisite: 2 years of H.S. algebra or MAT065 or dept permission

MAT104 2 2 0 0 0 STATISTICAL BUSINESS APPLICATIONS
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. Same content as BUS 215, credit will not be granted for both BUS215 and MAT104. Prerequisite: BUS21 or MAT104

MAT104 4 3 2 0 0 PRINCIPLES OF BUSINESS STATISTICS
Core Makes inferences about population parameters. Conduct regression inferential analyses. Obtain, present, and organize statistical data using measures of location and dispersion; the Normal distribution; sampling distributions; estimation and confidence intervals; inference for simple linear regression analysis. Use computers to visualize and analyze data. Prerequisite: MAT104 or MAT105 or equivalent

MAT104 4 0 0 0 0 CALCULUS FOR BUSINESS/SOCIAL SCIENCE
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 MAT129 and MAT131. Prerequisite: 2 years H.S. algebra and MAT141, or MAT083 and MAT141

MAT104 5 0 0 0 0 CALCULUS I
Core Absolute values, inequalities, functions, limits, continuity, differentiation, definite integral, exponential and logarithmic functions. Prerequisite: MAT129 or equivalent or department permission

MAT104 5 0 0 0 0 CALCULUS II
Core Continuation of MAT129. Techniques of integration, hyperbolic functions, polar coordinates, indeterminate forms, improper integrals, infinite series, partial derivatives, multiple integrals. Prerequisite: MAT129
COURSE DESCRIPTIONS

MAT218 3 0 6 0 0 CALCULUS III  VOC/TECH
Continuation of MAT217. Vectors and vector valued functions, tangent and normal vectors, arc length and curvature, vector fields, line and surface integrals, Green’s Theorem, Divergence Theorem and Stoke’s Theorem. Infinite series. Prerequisite: MAT217 or equivalent or department permission.

MAT227 4 4 0 0 0 DIFFERENTIAL EQUATION/LAPLACE CORE
Ordinary differential equations, systems of ordinary differential equations, Laplace transforms, numerical methods and applications. Prerequisite: MAT227 or equivalent must be taken concurrently with or prior to this course.

MAT772 3 0 0 0 0 APPLIED MATHEMATICS 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. Prerequisite: MAT772.

MFG105 3 2 2 0 0 APPLIED MATHEMATICS 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: MFG105.

MFG250 1 1 0 0 0 ENGINE LATHE THEORY VOC/TECH
An introductory-level course explaining the theory of the basic operation and care of an engine lathe. Corequisite: MFG250.

MFG251 2 0 4 0 0 ENGINE LATHE OPERATIONS LAB 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 in a lab environment. Corequisite: MFG250.

MFG252 2 2 0 0 0 ENGINE LATHE THEORY II VOC/TECH
An advanced-level course explaining complex setups and procedures for lathes. Prerequisite: MFG250 Corequisite: MFG252.

MFG253 3 0 6 0 0 ENGINE LATHE OPERATIONS LAB II 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: MFG253.

MFG254 3 0 6 0 0 MILL OPERATIONS THEORY VOC/TECH
An introductory-level course explaining the theory of the basic operation and care of vertical milling machines. Corequisite: MFG254.

MFG255 2 0 4 0 0 MILLING OPERATIONS LAB VOC/TECH
An introductory-level course for the vertical mill. During this course, students will become familiar with basic setups, as well as safe operation and care of milling machines in a lab environment. Corequisite: MFG255.

MFG256 1 1 0 0 0 GRINDERS THEORY VOC/TECH
Theoretical explanation of procedures in surface grinding. Corequisite: MFG256.

MFG257 3 0 6 0 0 GRINDERS LAB 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: MFG257.

MFG258 2 2 0 0 0 MILLING OPERATIONS II 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. Prerequisite: MFG258; Corequisite: MFG258.

MFG259 3 0 6 0 0 MILLING OPERATIONS LAB II 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. Prerequisite: MFG259; Corequisite: MFG259.

MFG261 2 2 0 0 0 HAND & BENCH MACHINE TOOLS VOC/TECH
Machine shop procedures including shop safety, hand tools, layout and tool grinding. Operations on drill presses, pedestal grinders and sawing machines. Prerequisite: MFG261.

MFG262 3 0 6 0 0 HEAT TREATMENTS VOC/TECH
Introduction to physical and mechanical characteristics of metals directly associated with area of heat treatment. Also structure and composition of metals, testing, hardening, tempering and annealing. Corequisite: MFG262.

MFG330 1 1 0 0 0 CNC MILL OPERATIONS THEORY VOC/TECH
An introductory-level course explaining the theory behind basic operation and programming of a CNC vertical machining center. Corequisite: MFG330.

MFG331 2 1 2 0 0 CNC MILL OPERATIONS LAB VOC/TECH
An introductory-level course for programming and operating a CNC milling center in a lab environment. Corequisite: MFG331.

MFG401 3 1 2 0 0 VERTICAL MILL OPERATIONS LAB VOC/TECH
Vertical mill operation is explained and reinforced with practical experience using vertical milling machines. Corequisite: MFG401.

MFG402 3 1 4 0 0 VERTICAL MILL OPERATIONS THEORY VOC/TECH
This course covers setup and operation of the metal lathe including lathe parts, materials and safety procedures. Corequisite: MFG402.

MFG403 6 0 1 2 0 ADVANCED DIEMAKING LAB VOC/TECH
Constructing a more complex stamping die, including a progressive die that has been partially designed and detailed by the student. Prerequisite: MFG403; MFG412 must be taken concurrently with or prior to this course.

MFG412 3 1 4 0 0 ADVANCED DIEMAKING THEORY VOC/TECH
Complex diemaking procedures, including CAM automated dies and exposure to cost estimating and quoting. Prerequisite: MFG412.

MFG413 3 0 0 0 0 ADVANCED DIEMAKING LAB VOC/TECH
A study of measurements as used in industry. Units of material utilization. Experienced individuals may contact the instructor to gain admittance to this course. Prerequisite: MFG412 and MFG413.

MFG451 3 3 0 0 0 INTRO TO STATISTICAL PROCESS CONTROL 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 exercise statistical methods for continuous improvement. Corequisite: MFG451.

MFG502 3 3 0 0 0 INTRO TO QUALITY MANAGEMENT VOC/TECH
The basis of this course is to provide an understanding of the principles and concepts of continuous improvement and the ability to apply them to an organization. Team concepts and the tools of SPC are also discussed. Corequisite: MFG502.

MFG507 3 3 0 0 0 TOTAL QUALITY MANAGEMENT VOC/TECH
Course provides understanding of the theories, methods and concepts of continuous improvement. Includes detailed, in-depth study of current theories and practices used in business and provides the student with the knowledge to implement these techniques. Prerequisite: MFG507.

MFG510 3 3 0 0 0 PRACTICES-CONTINUOUS IMPROVEMENT VOC/TECH
Course provides understanding of the theories, methods and concepts of continuous improvement. Includes detailed, in-depth study of current theories and practices used in business and provides the student with the knowledge to implement these techniques. Prerequisite: MFG510.

MFG512 3 3 0 0 0 INTRO TO QUALITY CONTROL MANAGEMENT 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: MFG512; MFG510.

MFG521 3 3 0 0 0 MEASURING DEVICES-SPC VOC/TECH
An introduction to quality-control measuring devices, their use and application of data in Statistical Process Control.
COURSE DESCRIPTIONS

MGST22
APPLICATIONS OF STATISTICAL METHODS
VOC/TECH
An in-depth study in applying the concepts of MGST02. Additional areas of concentration include sampling plan theory, ANOVA study, alpha and beta calculations, reliability values and applying these concepts in case studies. Prerequisite: MGST02

MGST23
CONTROLLING MFG. BUSINESS COSTS
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 individuals have on costs on a day-to-day basis.

MGST24
PM & DIAGNOSING MECH & ELEC SYS
VOC/TECH
Provide understanding in the concepts and methods of preventative maintenance. Includes the development of a maintenance and documentation system. Provides fundamental troubleshooting methods and concepts.

MGST08
IMT INTERNSHIP
VOC-TECH
Supervised work experience with employer, based on 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.

MGST10
PRINCIPLES OF MANAGEMENT GENERAL
VOC/TECH
Explore basic management principles, concepts and practices found 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.

MGST15
ADMINISTRATIVE MANAGEMENT
OPEN
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.

MGST20
PROJECT MANAGEMENT BASICS
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.

MGST18
ORGANIZATIONAL BEHAVIOR
VOC-TECH
Course introduces the 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.

MGST19
PRINCIPLES OF SUPERVISION
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.

MGST45
HUMAN RELATIONS IN BUSINESS
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.

MGST47
LEADERSHIP DEVELOPMENT
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.

MGST10
HUMAN RESOURCE MANAGEMENT
VOC/TECH
This course studies the role of human resource management as it applies to the challenges, problems, techniques, opportunities, ethical considerations and social dynamics found in organizations. Emphasis on human resource activities of both managers and human resource specialists.

MGST44
RELATIONSHIP STRATEGIES IN BUSINESS
VOC/TECH
Includes the awareness of communication styles and how to manage successful interpersonal and organizational relationships.

MGST48
SYSTEMS & INFORMATION MANAGEMENT
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.

MGST00
BUSINESS INTERNSHIP I
VOC/TECH
One semester of full time successful internship on-the-job training in a cooperating training station. Emphasis is placed on customer service and sales promotion strategies. (P/F) Corequisite: MGST02

MGST02
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 a sales promotion. Corequisite: MGST00

MGST05
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 a teacher/coordinator. (P/F) Corequisite: MGST07

MGST07
BUSINESS INTERNSHIP SEMINAR II
VOC/TECH
Students are exposed to areas of sales promotion through guest speakers, visual aids and discussion of business. Corequisite: MGST05

MGST00
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 will be given to merchandising control and supervision. Supervision of the training plan will be made by a teacher/coordinator. (P/F) Corequisite: MGST02

MGST12
INTERNSHIP SEMINAR III
VOC/TECH
Students are exposed to areas of marketing through guest speakers, visual aids and discussion of business internship experiences. Corequisite: MGST10

MGST05
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: MGST02

MGST00
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: MGST05

MGST10
PRINCIPLES OF MARKETING
GENERAL
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.

MGST10
BUSINESS TO BUSINESS MARKETING
VOC/TECH
Present functional methods of business-to-business marketing. Examines all forms of wholesaler service and manufacturer-type marketing activities.

MGST10
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.

MGST10
SALES MANAGEMENT
VOC/TECH
Expands on the selling process by training the trainer 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.

MGST10
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.

MGST10
RETAIL MANAGEMENT II
VOC/TECH
Course examines developments in retailing, organization of retail institutions, merchandise handling processes, understanding retail customers and future directions in retailing.

MGST10
RETAIL MANAGEMENT I
VOC/TECH
A problem-solving approach to operating principles and methods in the retail field. Management decision-making is emphasized. Prerequisite: MGST10

MGST10
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.

MGST10
SPORTS/ENTERTAINMENT MARKETING
VOC/TECH
Exploration of the essentials of effective Sport/Entertainment Marketing. Topics include application of the marketing principles in the sports/entertainment area, licensing issues, endorsements and sponsorships, 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.)

MGST10
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, (PHB280).
COURSE DESCRIPTIONS

MLT21 LAB FUNDAMENTALS & URINALYSIS OPEN
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 presented. This course also includes the study of urine formation and methodology for determining the physical, chemical and microscopic properties of urine in normal and abnormal states. Prerequisite: Acceptance into the Medical Laboratory Technology program

MLT22 BEGINNING HEMATOLOGY OPEN
An introduction to the study of red blood cells, white blood cells and platelets. This course focuses on red cell metabolism, hematopoiesis, evaluation of red cell morphology and the pathogenesis of anemia. Methods of measurement and basic hematology procedures are presented. Prerequisite: Acceptance into the Medical Laboratory Technology program

MLT23 ADVANCED HEMATOLOGY/ COAGULATION OPEN
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 and includes an in-depth study of various anemias, leukemias and other hematological disorders. Prerequisite: Grade of “C” or better in MLT21 and 132.

MLT24 CHEMISTRY 6 4 0 0 OPEN
Study and analysis of electrolytes, proteins, lipids, enzymes, hormones, drugs and various other biochemical compounds found in the body. Test results are correlated with patient’s conditions. Laboratory math, statistics and quality control are presented. Prerequisite: Grade of “C” or better in MLT21. Successful completion of the following courses: CHM122 or equivalent, CHM 132 or better in MLT121. Successful completion of the following courses: MLT21, with emphasis on application to specific cases.

MLT25 IMMUNOLOGY & SEROLOGY OPEN
Students will be introduced to the study of antigen and antibodies will be used as a means of determining the pathology of the disease. Prerequisite: MLT21, with emphasis on application to specific cases.

MLT26 IMMUNOHEMATOLOGY OPEN
A study of group antigens and antibodies are studied. Prerequisite: Grade of “C” or better in MLT21.

MLT27 ADVANCED IMMUNOLOGY OPEN
Study and analysis of electrolytes, proteins, lipids, enzymes, hormones, drugs and various other biochemical compounds found in the body. Test results are correlated with patient’s conditions. Laboratory math, statistics and quality control are presented. Prerequisite: Grade of “C” or better in MLT21. Successful completion of the following courses: MLT21, with emphasis on application to specific cases.

MLT28 ADVANCED MICROBIOLOGY OPEN
A study of important microorganisms, Students learn and practice techniques used to isolate and identify pathogenic bacteria, parasites and fungi. Prerequisite: Grade of “C” or better in MLT21. Successful completion of the following courses: BIO164 or equivalent, BIO164 or equivalent, BIOT164 or equivalent, CHM122 or equivalent.

MLT29 CLINICAL LABORATORY PRACTICUM OPEN
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 Medical Laboratory Technology program with a GPA of 2.0 or higher. Corequisite: MLT290

MLT290 CLINICAL SEMINAR AND REVIEW 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 of Medical Laboratory Technology program with a GPA of 2.0 or higher. Corequisite: MLT290

MLW400 BLUEPRINT READING AND LAYOUT VOC/TECH
An introduction to blueprint reading and layout and the application of this knowledge with the use of specific tools.

MLW401 MATERIAL IDENTIFICATION/USAGE VOC/TECH
An introduction to the materials used in making architectural millwork products.

MLW402 INTRODUCTION TO PORTABLE TOOLS VOC/TECH
An introduction to safe use and the proper care and selection of power tools.

MLW405 STATIONARY EQUIPMENT VOC/TECH
The purpose of this course is to train the student in the identification, operation and maintenance of stationary equipment.

MLW406 ADVANCED EQUIPMENT TECHNIQUES VOC/TECH
This course will provide the students with maintenance experience and advanced machining skills. Prerequisite: MLW400, 441, 442, 443

MLW407 MILLIMETER CABINETS VOC/TECH
This course is an introduction to the rational of cabinet making and millwork. Prerequisite: MLW400, 441, 442, 443

MLW408 MILLWORK TECHNIQUES VOC/TECH
This course is an introduction to the initial steps of applying various millwork techniques to projects. Prerequisite: MLW400, 441, 442, 443

MLW409 ADVANCED MILLWORK APPLICATION I VOC/TECH
This course will allow students to begin combining their knowledge of the previous courses in Architectural Millwork to produce mock-up projects. Prerequisite: MLW400, 441, 442, 443

MLW410 ADVANCED MILLWORK APPLICATION II VOC/TECH
This course will combine the skills learned from the previous courses to begin producing completed projects. Prerequisite: MLW400, 441, 442, 443

MLW419 ADVANCED MILLWORK APPLICATION III VOC/TECH
This course will combine the students’ previous courses to produce a completed project from beginning to installation. Prerequisite: MLW400, 441, 442, 443

MLT282 HISTORY OF FUNERAL SERVICES VOC/TECH
Students will trace the history of funeral services from ancient times through current practices with emphasis on the development of funeral practices in the United States. Students study the customs of various cultures throughout the world including customs in the United States. Prerequisite: Admission to the Mortuary Science program

MLT300 PATHOLOGY FOR MORTUARY SCIENCE VOC/TECH
Students will be introduced to the study of the cause, course and effects of diseases upon the human body, with stress on ways in which tissue changes affect the embalming process. Pathologic conditions that require special treatment and terminology associated with the causes of death. Prerequisite: Admission to the Mortuary Science program

MLT310 FUNERAL LAW VOC/TECH
Deals with the statutory laws and practices pertaining to funeral services. The student will study the laws governing the funeral director and the embalmer and their legal responsibilities to the consumer. Prerequisite: Admission to the Mortuary Science program

MLT325 FUNERAL DIRECTING VOC/TECH
Surveying the principles related to funeral directing customs, religions, human relations, relations with clergy, and the professional behavior required of funeral directors. Requirements for burial, cremation, anatomical donation, and burial at sea as modes of disposition are presented. Prerequisite: Admission to the Mortuary Science program

MLT326 EMBALMING I CLINICAL VOC/TECH
This course is a study of basic techniques of embalming through dissection, preservation, and restoration of deceased human remains. Included are instruments, treatment planning, and the practical application of modern embalming theory. Prerequisite: BIO307 and admission to the Mortuary Science program; Corequisite: MOR305

MLT330 EMBALMING II VOC/TECH
This course is a continuation of MORS35. Theories and principles of embalming, embalming chemicals, cavity treatments and disaster management will be studied with an emphasis on application to specific cases. Prerequisite: Admission to the Mortuary Science program and MOR335

MLT340 EMBALMING II CLINICAL VOC/TECH
This course is an advanced study of embalming techniques. Included in the study will be the embalming of difficult cases. Prerequisite: MORS35 and admission to the Mortuary Science program; Corequisite: MORS40

MLT345 RESTORATIVE ART VOC/TECH
Students will develop knowledge of anatomical modeling, facial expressions, color, cosmetics, display lighting, instruments, and materials and techniques necessary to rebuild the human face that has been destroyed by traumatic or pathological conditions. Prerequisite: MOR335 and admission to the Mortuary Science program

MLT346 RESTORATIVE ART LAB VOC/TECH
This course is designed to provide the student with the theories applied in restorative art procedures. The student will study the anatomical structure of the cranial and facial areas of the human skull, facial proportions and markings, methods and techniques used to restore facial features destroyed by traumatic or pathological conditions and color and cosmetic theory. Prerequisite: MOR335 and admission to the Mortuary Science program; Corequisite: MORS45

MLT350 FUNERAL HOME OPERATIONS VOC/TECH
This course is designed to give the student an understanding of the principles of the operations of a funeral home. Topics of study will include funeral service forms, death benefits and vital statistics. In addition, this course will study the role and function of the funeral director as an effective manager. Emphasis is placed on small business and management functions of planning, organizing, motivation, direction and controlling in the funeral home setting, and introduces students, through a hands-on approach, to the basic computer applications, which are part of the day to day operations of the funeral home. Prerequisite: Admission to the Mortuary Science program

MLT355 RESTORATIVE ART VOC/TECH
This course is a survey of the basic principles of disfigurement and preservation as they relate to embalming. Especially emphasized are the chemical principles involved in sanitation, disinfection, and embalming practice. The development and use of personal, professional, and community sanitation practices is addressed as well as use and precautions related to potentially harmful chemicals that are currently used in the field of funeral services. Prerequisite: Admission to the Mortuary Science program or instructor permission; Corequisite: MOR335

MLT360 EMBALMING I CLINICAL VOC/TECH
This course is a study of basic techniques of embalming through dissection, preservation, and restoration of deceased human remains. Included are instruments, treatment planning, and the practical application of modern embalming theory. Prerequisite: BI037 and admission to the Mortuary Science program; Corequisite: MORS35

MLT370 EMBALMING II VOC/TECH
This course is a continuation of MORS35. Theories and principles of embalming, embalming chemicals, cavity treatments and disaster management will be studied with an emphasis on application to specific cases. Prerequisite: Admission to the Mortuary Science program and MOR335

MLT380 EMBALMING II CLINICAL VOC/TECH
This course is an advanced study of embalming techniques. Included in the study will be the embalming of difficult cases. Prerequisite: MORS35 and admission to the Mortuary Science program; Corequisite: MORS40

MLT390 EMBALMING ART VOC/TECH
This course is designed to give the student an understanding of the principles of the operations of a funeral home. Topics of study will include funeral service forms, death benefits and vital statistics. In addition, this course will study the role and function of the funeral director as an effective manager. Emphasis is placed on small business and management functions of planning, organizing, motivation, direction and controlling in the funeral home setting, and introduces students, through a hands-on approach, to the basic computer applications, which are part of the day to day operations of the funeral home. Prerequisite: Admission to the Mortuary Science program

MLT395 EMBALMING VOC/TECH
This course is a survey of the basic principles of disfigurement and preservation as they relate to embalming. Especially emphasized are the chemical principles involved in sanitation, disinfection, and embalming practice. The development and use of personal, professional, and community sanitation practices is addressed as well as use and precautions related to potentially harmful chemicals that are currently used in the field of funeral services. Prerequisite: Admission to the Mortuary Science program or instructor permission; Corequisite: MOR335
COURSE DESCRIPTIONS

MOR365 SURVEY OF INFECTIOUS DISEASES 2 2 0 0 0  V/O/C TECH
This course provides a survey of infectious disease processes, nonspecific and specific defense mechanisms, and principles of infection control and epidemiology. Safe handling of infectious materials and the use of personal protective equipment is emphasized. Prerequisite: Admission to the Mortuary Science program.

MOR401 PRACTICUM 4 1 0 9 0  V/O/C TECH
Students will be assigned to a college-approved funeral home to learn procedures and policies of the funeral home and perform duties directly relating to the practice of funeral service as assigned by the preceptor, licensed funeral home staff, and faculty members. Prerequisite: Completion of all Mortuary Science courses, required general education courses and business core courses and consent of Program Chair.

MTR120 MEDICAL TRANSCRIPTION I 3 2 2 0 0  V/O/C TECH
Designed to prepare the student to transcribe from physician dictation. The course covers the various medical specialties and introduces the student to a variety of formats for medical materials. Prerequisite: ADM157, HSCI20, MAP119 must be taken concurrently or prior to this course.

MTR121 MEDICAL TRANSCRIPTION II 3 2 2 0 0  V/O/C TECH
A continuation of Medical Transcription I. Prerequisite: MTR120.

MTR222 MEDICAL TRANSCRIPTION III 3 2 2 0 0  V/O/C TECH
A continuation of Medical Transcription II. Concentrates on transcription of case histories and physicians, discharge summaries and operative reports with a variety of dictating styles. Prerequisite: MTR121.

MUA101 APPLIED VOICE 1 0 2 0 0  GENERAL
Individual instruction in voice. Weekly half-hour lessons in tone production, breath control, diction, literature and stage presence. May be repeated for a maximum of four credits.

MUA201 APPLIED PIANO I 1 0 2 0 0  GENERAL
Individual instruction in piano. Weekly half-hour lessons. Beginning, intermediate and advanced students accepted. May be repeated for a maximum of four credits.

MUA202 APPLIED PIANO II 1 0 2 0 0  GENERAL
Individual instruction in piano. Weekly half-hour lessons. Beginning, intermediate and advanced students accepted. May be repeated for a maximum of four credits.

MUA401 APPLIED INSTRUMENTAL 2 1 2 0 0  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.

MUA402 APPLIED INSTRUMENTAL 1 0 2 0 0  GENERAL
Individual instruction in all instruments. Weekly half-hour lessons. May be repeated for a maximum of four credits.

MUS100 MUSIC APPRECIATION 3 3 0 0 0  CORE
A survey of the development of western arts music through study of representative compositions of many periods and styles. Includes definitions of musical terminology and a major emphasis on listening.

MUS102 MUSIC FUNDAMENTALS 3 3 0 0 0  CORE
This course introduces students to the elements of music through performance on recorder and piano. Includes instruction in teaching the elements of music to preschool and elementary school children.

MUS206 MATERIALS OF MUSIC I 4 3 2 0 0  GENERAL
All aspects of music theory will be introduced and explored with the experienced music student. Activities will include ear training, sight singing, keyboard training and written theory assignments.

MUS207 MATERIALS OF MUSIC II 4 3 2 0 0  GENERAL
As a sequel to Materials of Music I, this course will examine music theory in greater complexity and will emphasize the harmonic aspects of music. Activities include ear training, sight singing, keyboard skills and written theory assignments. Prerequisite: MUS206.

MUS345 CONCERT CHOIR 2 1 2 0 0  GENERAL
The concert choir is open to all students. Varied literature is chosen. May be repeated for a maximum of eight credits.

MUS350 CHAMBER ENSEMBLE 1 0 2 0 0  GENERAL
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: MUS345.

NET120 NETWORK COMPATIBILITY PRODUCTS 4 4 0 0 0  V/O/C TECH
Concepts of the software and hardware used to link various computers and operating systems. Prerequisite: NET144, 444; Corequisite: NET129.

NET129 NETWORK COMPATIBILITY PRODUCTS LAB 2 0 4 0 0  V/O/C TECH
Installing and configuring compatibility software and hardware. Use of the software to share data between dissimilar system types. Prerequisite: NET144, 444; Corequisite: NET128.

NET152 OPERATING SYSTEMS 3 3 0 0 0  V/O/C 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 execute programs, create and modify files and maintain an orderly file system.

NET159 MCSE DESKTOP OPERATING SYSTEM 4 3 2 0 0  V/O/C TECH
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: NET222 or Net Plus Certification.

NET412 DIGITAL AND COMPUTER ELECTRONICS 3 2 2 0 0  V/O/C TECH
In the context of today’s computer technology, this class studies digital electronic circuits, concentrating on gates, counters, registers/memory. Also included is the study of data communications by bus structure, parallel and serial ports and microprocessor.

NET456 DIGITAL & COMPUTER ELECTRONICS LAB 3 0 6 0 0  V/O/C TECH
In the context of today’s computer technology, this class studies digital electronic circuits, concentrating on gates, counters, registers and memory through lab experiments. Also included is the study of data communications by bus structure, parallel and serial ports and microprocessors.

NET221 DIGITAL AND COMPUTER ELECTRONICS LAB 3 0 6 0 0  V/O/C TECH
In the context of today’s computer technology, this class studies digital electronic circuits, concentrating on gates, counters, registers and memory through lab experiments. Also included is the study of data communications by bus structure, parallel and serial ports and microprocessors.

NET222 TROUBLESHOOTING 3 0 6 0 0  V/O/C TECH
This course provides the student a technical level of understanding in the areas of PC and mainframe networking connectivity, data communications concepts and protocol communication concepts. Prerequisite: NET122.

NET223 CCISO ROUTERS 4 2 4 0 0  V/O/C TECH
CCISO training includes learning the basics of setting up, configuring and maintaining a switch, bridge and router. Includes network standards, LANs, WANs, OSI models, routers, router programming, ethernet and IP protocol addressing and decision making and problem-solving techniques. Prerequisite: NET225.

NET224 WINDOWS NETWORK MANAGEMENT 4 2 4 0 0  V/O/C TECH
This course covers the current infrastructure administration, including setting up, maintaining and administering the active directory services of current windows server products. Prerequisite: NET223, 623, 628.

NET332 WINDOWS SECURITY 3 2 2 0 0  V/O/C TECH
This course covers the current curriculum for Designing Security for an MS Network. Corequisite: NET333, 664, 345.

NET352 WINDOWS DIRECTORY SERVICES DESIGN 2 2 0 0 0  V/O/C TECH
This course covers the current curriculum for designing MS directory services. Corequisite: NET353, 664, 345.

NET402 LINUX SECURITY 3 2 2 0 0  V/O/C TECH
This course covers the current curriculum for Designing the MS Network Infrastructure. Corequisite: NET402, 664, 345.

NET412 LINUX NETWORK ADMINISTRATION 3 2 2 0 0  V/O/C TECH
This is the second in a series of ITNA Linux courses. This course covers the basic installation and administration of the Linux operating system. Prerequisite: NET412 or instructor permission.

NET412 LINUX SYSTEM ADMINISTRATION 3 2 2 0 0  V/O/C TECH
This is the second in a series of ITNA Linux courses. This course covers system administration of the Linux operating system. Prerequisite: NET402 or instructor permission.
NET441 - ADJUNCT
NETWORK SECURITY ISSUES
This is a survey course for currently employed network managers and/or administrators. This course does not have any lab component. It explains how to protect a network from malicious users and how to choose a firewall for Microsoft Windows, Novell, Linux and Cisco. Prerequisite: NET625 or 2 years industry experience and instructor permission

NET432  3  2  0  0  0
LINUX SYSTEM SECURITY VOC/TECH
This is the first in a series of ITNA Security courses. This course details how to protect your network from malicious users and how to choose and configure a firewall for Microsoft Windows, Novell, Linux and Cisco. Prerequisite: NET625 or instructor permission

NET433 - ADJUNCT
NETWORK SECURITY ISSUES
This is a survey course for currently employed network managers and/or administrators. This course does not have any lab component. It explains how to protect a network from malicious users and how to choose a firewall for Microsoft Windows, Novell, Linux and Cisco. Prerequisite: NET625 or 2 years industry experience and instructor permission

NET434  3  2  0  0  0
LINUX SYSTEMS & CERTIFICATION VOC/TECH
This course provides the student with a thorough study into the various Linux/Unix systems available, the advantages and disadvantages, installation techniques and management functions. A significant amount of time will be spent learning, operating and contrasting the various operating systems. Prerequisite: NET402, 412, 432

NET435  3  2  0  0  0
LINUX PROGRAMMING VOC/TECH
This course includes the study of creating and installing bash and perl scripts as well as a detailed study of their uses and power controlling a Linux or Unix environment. The student will also create, compile and link C code and explore the Unix/Linux kernel. Prerequisite: NET432

NET436  3  2  0  0  0
LINUX NETWORK PROGRAMMING VOC/TECH
The purpose of this class is to familiarize the student with the functions and program skills to successfully support Linux in a network environment. The course will include a major project of programming and installing a successful Linux network service. Prerequisite: NET435

NET441  3  2  0  0  0
UNIX OPERATING SYSTEM VOC/TECH
Concepts of the UNIX operating system commands. Use of shells, shell scripts, facilities and management commands. Corequisite: NET444

NET444  3  2  0  0  0
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: NET444

NET484 - ADJUNCT
NETPLUS CERTIFICATION VOC/TECH
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.

NET488  3  2  0  0  0
NETWARE 4.X ADMINISTRATION VOC/TECH
Course covers the knowledge and skills needed to perform Netware 4.x network administration or system management tasks effectively.
COURSE DESCRIPTIONS

PEH140 2 0 0 0 0 FIRST AID GENERAL
Discussion and application of the basic techniques in administering first aid will be covered in this course. Cardio pulmonary resuscitation will be covered and other emergency situations will be discussed. Red Cross certification will be awarded to those who qualify.

PEH162 3 3 0 0 0 INTRO TO PHYSICAL EDUCATION OPEN
History of physical education. Careers and professional leadership in physical education, with emphasis on teaching. Examines the four areas of most vital concern to the physical educator: recreation and leisure, sports, curriculum, and research and evaluation.

PEH255 3 3 0 0 0 PRINCIPLES-SPORTS MANAGEMENT OPEN
The foundation and principles of sports management. Theory, ethics, and practice of management are discussed in relation to the fitness and sports industries.

PEH262 3 3 0 0 0 WELLNESS PROG/PLANNING/ORGANIZATION OPEN
The purpose of this course is to familiarize the student with wellness programs in the workplace. Emphasis will be on program design, health assessment, corporate management issues and promotion.

PEH264 3 3 0 0 0 FITNESS TESTING/PROGRAMMING OPEN
The purpose of this course is to prepare the student to be able to organize and implement fitness programs for employees in agencies and organizations. Emphasis will be on introduction/recruitment of employees, fitness testing, prescription of individual and group fitness programs and fitness testing procedures.

PEH265 2 1 2 0 0 LEADERSHIP TECH FOR FITNESS PROGRAMS OPEN
This course covers the development of exercise leadership skills for a variety of activities. Includes the planning and promotion, as well as the teaching techniques for developing fitness in others using a variety of exercise modalities. Aerobics, weight training and aquatic fitness are included. Prerequisite: PEA44A

PEH920 2 0 0 0 0 FIELD EXPERIENCE OPEN
Supervised experience in a fitness or sports management facility. The student will be able to apply their own knowledge and skills in a professional setting.

PET110 2 1 2 0 0 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.

PEV115 1 0 2 0 0 VARIETY BASEBALL 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 of 1 credit per year, with a maximum of 2 credits total. Credit for a sport course may not be applied toward graduation if credit is also received for any skill technique course in the same sport. Prerequisite: Permission of Head Coach

PEV211 1 0 2 0 0 VARIOUS 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 of 1 credit per year, with a maximum of 2 credits total. Credit for a sport course may not be applied toward graduation if credit is also received for any skill technique course in the same sport. Prerequisite: Permission of Head Coach

PEV212 1 0 2 0 0 VARSITY BASKETBALL, 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 of 1 credit per year, with a maximum of 2 credits total. Credit for a sport course may not be applied toward graduation if credit is also received for any skill technique course in the same sport. Prerequisite: Permission of Head Coach

PEV213 1 0 2 0 0 VARSITY TENNIS, WOMEN OPEN
Provides experience and instruction in women’s tennis. Course is designed for the varsity athlete in terms of conditioning, practice, game preparation and weight training. Limit of 1 credit per year, with a maximum of 2 credits total. Credit for a sport course may not be applied toward graduation if credit is also received for any skill technique course in the same sport. Prerequisite: Permission of Head Coach

PEV214 1 0 2 0 0 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 of 1 credit per year, with a maximum of 2 credits total. Credit for a sport course may not be applied toward graduation if credit is also received for any skill technique course in the same sport. Prerequisite: Permission of Head Coach

PEV215 1 0 2 0 0 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 of 1 credit per year, with a maximum of 2 credits total. Credit for a sport course may not be applied toward graduation if credit is also received for any skill technique course in the same sport. Prerequisite: Permission of Head Coach

PEV216 1 0 2 0 0 VARSITY SPIRIT SQUAD OPEN
Men and women desiring to be basketball cheerleaders for Varsity Basketball season.

PEH200 2 0 0 0 0 PHIL 200 0 0 0 PHIL 200 0 0 0
PHIL 200 0 0 0 PHIL 200 0 0 0
Students report to a local hospital to practice patient approach and collect blood specimens from hospital patients. The 120-hour clinical includes both supervised clinical experience and independent clinical learning experiences. Note: Phlebotomy students must also take MLT112.

PET101 3 3 0 0 0 INTRODUCTION TO PHILOSOPHY CORE
Exploration of basic questions in epistemology, critical thinking, pharmacology, teaching/learning and communication. Associated skills are performed in the laboratory setting.

PET102 3 3 0 0 0 INTRODUCTION TO PHILOSOPHY CORE
Exploration of basic questions in epistemology, metaphysics and ethics. Emphasis on western philosophy tradition.

PHDS 3 3 0 0 0 INTRO TO ETHICS CORE
Comparative study of different traditional moral theories. Application of moral theories to different contemporary moral problems.

PHI100 3 3 0 0 0 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.

PHI106 4 3 2 0 0 SURVEY OF PHYSICS CORE
Student is exposed to scientific method with an emphasis on elementary problem-solving. Review of basic mathematics, the topics of weights and measures, mechanics, heat, gas laws, electricity, magnetism, sound, light and modern physics are covered.

PHI122 3 4 2 0 0 COLLEGE PHYSICS I CORE
This course is the first semester of a two-semester sequence in non-calculus physics. Topics include forces, linear and rotational motion, energy, momentum, fluids, gases and heat. Prerequisite: MAT132 or high school trigonometry

PHI212 4 3 2 0 0 COLLEGE PHYSICS II CORE
Course is second semester of a two-semester sequence in non-calculus physics. Topics include wave motion, sound, electricity, magnetism, optics and modern physics. Prerequisite: PHY122 or equivalent

PHI213 6 5 2 0 0 CLASSICAL PHYSICS I CORE
Course is calculus-based and intended for engineering and science majors. Topics include statics, dynamics, fluid behavior, wave motion, vibrating systems, heat and thermodynamics. Corequisite: MAT131 or equivalent must be taken concurrently with or prior to this course.

PHI214 6 5 2 0 0 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: PHYS213 or equivalent; Corequisite: MAT132 must be taken concurrently with or prior to this course.

PHI111 3 2 2 0 0 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: MAT177 or equivalent

PNN151, 152, 153, PSY121, BIO734
PNN351 1 1 0 0 0 SUCCESS IN NURSING CORE
Explores the art and science of nursing practice including nursing history, roles and legal/ethical practice issues for the professional practical nurse. Health care delivery systems and settings will be discussed. Strategies for success in nursing will be applied.

PNN511 3 3 0 0 0 INTRODUCTION TO NURSING
PNN513 1 1 1 0 0 0 NURSING PRACTICE II OPEN
Supervised experience in a fitness or sports management facility. The student will be able to apply their own knowledge and skills in a professional setting.

PETI102 3 0 0 0 0 NURSING PRACTICE III OPEN
Theory and practicum in caring for clients with predictable health needs involving comfort, circulation, oxygenation, nutrition, endurance, and urinary elimination alterations. Prerequisite: PNN513, 152, 153, PSY121, BIO734

PNTL3 3 0 0 0 0 AMERICAN NATIONAL GOVERNMENT CORE
A study of the American political system and how and why the citizenry relate to the government as they do. Emphasis is placed upon the organization and functioning of the presidential, legislative and judicial subsystems.

PNTL2 3 0 0 0 0 AMER STATE & LOCAL GOVERNMENT CORE
Study of organization, operations and politics of state and local governments. Emphasis on analysis of legislative, executive and judicial roles and processes.

PNTL2 3 0 0 0 0 INTERNATIONAL RELATIONS CORE
International system is examined from several perspectives including United States, Russia and China. Emphasis upon ideology, national interest, the use of power, international law and organization.

PNTL2 3 0 0 0 0 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.

PNN512 - ADJUNCT NEWS MEDIA - ELECTORAL POLITICS GENERAL
Course will examine the role the news media plays in electoral strategy and outcomes. Focus will be on the relationship between the voting public, television and print media, and public officials. The most recent general election will be assessed. The course is designed for prospective journalism and political science majors. Corequisite: concurrent enrollment in JON163

VISIT US ONLINE: www.DMACC.edu 125
## COURSE DESCRIPTIONS

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<thead>
<tr>
<th>PKL209 - ADJUNCT</th>
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<tr>
<td><strong>POLITICS OF TERRORISM</strong></td>
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<tr>
<td>An interactive course analyzing the philosophy and methodology of prominent extremist groups in the USA and the world. Focus will be on definitions, conditions, media response, and prospects for future terrorist activity. Assessments will be student-centered and emphasize research and composition.</td>
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<th>POL711</th>
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<tr>
<td><strong>INTRO TO PUBLIC ADMINISTRATION</strong></td>
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<tr>
<td>Study of the theory &amp; practice of public administration examining alternate organizational theories &amp; practices, personnel administration, problems of communications within organizations and styles of leadership. Course emphasizes the interpersonal relationships of professionals and political influences on decision making.</td>
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<tr>
<td><strong>INTRODUCTION TO LAW</strong></td>
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<tr>
<td>A general introduction to the American legal system including case briefing, court structure and civil, criminal and administrative procedure. An examination of ethical and professional practice standards applicable to the legal profession. Understanding of the roles of the judge, jury, attorney and legal assistant.</td>
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<tr>
<td><strong>LEGAL RESEARCH &amp; WRITING II</strong></td>
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<th>PRL114</th>
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<tr>
<td><strong>ADV LEGAL RESEARCH &amp; WRITING</strong></td>
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<tr>
<td>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: PRL113.</td>
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<tr>
<td><strong>COMPUTERIZED LEGAL RESEARCH</strong></td>
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<tr>
<td>Introduction to computer-assisted legal research. Training in legal research search strategies using both the Lexis and Westlaw systems. Prerequisite: PRL112.</td>
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<th>PRL122</th>
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<tr>
<td><strong>EVIDENCE: THEORY &amp; PRACTICE</strong></td>
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<tr>
<th>PRL123</th>
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<tr>
<td><strong>TORTS &amp; LITIGATION I</strong></td>
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<tr>
<td>A study of the basic law relating to personal and property damage. Topics include intentional torts, negligence, nuisance, strict liability and automobile law. Principles of trial practice including drafting basic pleadings, gathering and organization of materials for trial. Prerequisite: instructor permission or PRL113, 112.</td>
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<th>PRL124</th>
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<tr>
<td><strong>BUSINESS &amp; CORPORATE LAW I</strong></td>
<td>3 000</td>
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<tr>
<td>Study of fundamentals of law of contracts, uniform commercial code and rights of creditors in transactions.</td>
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<th>PRL125</th>
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<tr>
<td><strong>DEBTOR/CREDITOR LAW</strong></td>
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<tr>
<td>Procedures in non-bankruptcy debt collection. Fundamentals of bankruptcy law and bankruptcy procedure. Examination of alternatives to formal bankruptcy proceedings. Prerequisite: Instructor permission or PRL113, 112.</td>
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<th>PRL126</th>
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<tr>
<td><strong>REAL ESTATE LAW</strong></td>
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<tr>
<td>Study of law of real property and a survey of more common types of real estate transactions. Emphasis on the preparation of the instruments necessary to complete various real estate transactions. Prerequisite: Instructor permission or PRL113, 112.</td>
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<th>PRL127</th>
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<tr>
<td><strong>FAMILY LAW</strong></td>
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<tr>
<td>Legal aspects of the family relationship. Rights and duties of the parties in marriage, annulment, divorce, child custody and adoption. The course will emphasize the use of domestic laws for families. Prerequisite: Instructor permission or PRL113, 112.</td>
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<tr>
<td><strong>PROBATE PROCEDURE</strong></td>
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<tr>
<td>A study of wills including valid requirements, modification and revocation, formation of trusts and the characteristics and requirements of each type. Laws of testament and intestate succession. Forms and procedures for probating an estate. Prerequisite: Instructor permission or PRL113, 112.</td>
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<th>PRL169</th>
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<tr>
<td><strong>RESPIRATORY CARE PROGRAM</strong></td>
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<tr>
<td>This initial course in the Respiratory Therapy program highlights the contributions of major figures in the study of human behavior. Dramatization and other techniques clarify fundamental concepts and philosophies, highlighting the contributions of major figures in psychology. (IV course)</td>
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<th>PRL171</th>
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<tr>
<td><strong>STRESS &amp; STRESS MANAGEMENT</strong></td>
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<tr>
<td>A course that focuses on the practical application of these principles to the areas of mental health, mental retardation and education.</td>
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<th>PRL172</th>
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<tr>
<td><strong>EXPLORING HUMAN BEHAVIOR</strong></td>
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<tr>
<td>An introductory-level course encouraging an understanding and appreciation of the scientific approach to the study of human behavior. Dramatization and other techniques clarify fundamental concepts and philosophies, highlighting the contributions of major figures in psychology. (IV course)</td>
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<tr>
<td><strong>MEDICATION</strong></td>
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<tr>
<td>Classroom study of mediating legal disputes. Students will study the purposes of mediation using “objective” criteria, impediments to resolution, moving beyond impasse and reaching an agreement. Prerequisite: PRL113, 112 and/or instructor permission.</td>
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<tr>
<td><strong>LEGAL INTERNSHIP &amp; ETHICS</strong></td>
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<tr>
<td>Application of the theoretical knowledge gained in the classroom by interning in a private law office, governmental agency, or private business that utilizes attorneys. Students will participate in seminars concerning their internship experience and legal ethics. Total internship requirement is 225 hours. (P/F) Prerequisite: Minimum of “C” in all PRL courses and complete minimum 8 PRL classes.</td>
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<th>PSL121</th>
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<tr>
<td><strong>HUMAN SEXUALITY</strong></td>
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<tr>
<td>This course provides students with definitive and precise information about the nature of human sexuality and gender roles. An interdisciplinary approach will be used to present a more comprehensive view, stressing the biological, social and psychological aspects of sexuality and gender roles.</td>
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<th>PSL122</th>
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<tr>
<td><strong>EDUCATIONAL PSYCHOLOGY</strong></td>
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<tr>
<td>The principles of psychology applied to classroom teaching, with emphasis on such topics as development, learning, motivation, evaluation, adjustment and educational techniques and innovations.</td>
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<th>RCP100</th>
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<tr>
<td><strong>INTRO TO RESPIRATORY CARE</strong></td>
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<tr>
<td>This initial course in the Respiratory Therapy program emphasizes the assessment and evaluation of patients. Also included will be a history of health care, medical specialties, communication skills and medical terminology. Students must demonstrate skill in the assessment of patient vital signs. Prerequisite: BIOT353 or BIOT354.</td>
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<th>RCP240</th>
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<tr>
<td><strong>RESPIRATORY THERAPEUTICS</strong></td>
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<tr>
<td>This course introduces the student to basic therapeutic techniques utilized in respiratory care. Major topics include medical gas therapy, humidity and aerosol, cylinder systems and physical principles of gases and liquids. Students will be required to demonstrate competence in the techniques to receive a passing grade in the course. Prerequisite: RCP100 and RCP230 must be taken concurrently or prior to this course.</td>
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<th>RCP250</th>
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<tr>
<td><strong>CARDIO/PULMONARY THERAPEUTICS</strong></td>
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<tr>
<td>Students will learn basic patient care techniques of hyperinflation therapy, secretion clearance, airway care, patient assessment, pulmonary rehabilitation, subsite respiratory care and assessment of the effectiveness of therapies. Students will be required to demonstrate competence in procedures to succeed in course. Prerequisite: RCP100 must be taken concurrently or prior to this course; Corequisite: RCP240.</td>
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<th>RCP350</th>
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<tr>
<td><strong>CARDIO/PULMONARY RENAL PATHOPHYS</strong></td>
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<tr>
<td>This course provides an in-depth study of the normal functioning of the cardiovascular, pulmonary and renal systems, emphasizing their interactions. Progresses to study of the common adolescent and adult diseases affecting the three systems. Students will learn to interpret the results of arterial blood gas pit data. Prerequisite: RCP361, BIOT34 must be taken concurrently or prior to this course.</td>
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Students will continue development of skills in sampling and efficiency. Neonatal intensive care will be introduced.

**RESPIRATORY THERAPY**

**Prerequisite:** RCP700 from practicum I. Arterial puncture, arterial line sampling as well.

**Prerequisite:** RCP250 Corequisite: RCP360, 400

**Modality that have been learned will be introduced.** Therapeutic techniques with emphasis on increased speed and comprehension. Emphasis on therapeutic and principles of polysomnography will be learned. **Prerequisite:** BIST34 or 164, RCP500, 400

**RCP500 ADVANCED RESPIRATORY THERAPY OPEN**

Techniques of initiation, monitoring, maintenance and discontinuation of mechanical ventilation in a variety of care settings will be learned. Students will develop skill in ABG analysis and electrocardiography. Adjuncts for advanced life support will be learned. Students will become proficient in the analysis of arterial blood gases and basic techniques of electrocardiography. Students will learn the use of adjuncts for the treatment of cardiopulmonary arrest. **Prerequisite:** BIST34 or 164, RCP500

**RCP600 NEONATAL/PEDIATRIC RESPI THERAPY OPEN**

Embryonic development of the respiratory and cardiovascular systems will begin this course, which progresses to the learning of normal function and a consideration of the common neonatal and pediatric diseases. Therapeutic techniques and monitoring of patients will be learned. **Prerequisite:** BIST34 or 164, RCP500

**RCP700 RESPIRATORY THERAPY PRACTICUM I OPEN**

This is the initial hospital experience. Consists of supervised care of patients with respiratory disorders. Students will administer IPPB, aerosol, postural drainage and incentive breathing therapies. Other therapeutic modalities that have been learned will be introduced as well. **Prerequisite:** RCP250 Corequisite: RCP360, 400

**RCP705 RESPIRATORY THERAPY PRACTICUM II OPEN**

This practicum will continue the supervised experience in provision of basic patient care techniques to therapies from practicum I. Arterial puncture, arterial line sampling and analysis of blood samples will be introduced. Suctioning of airways will be emphasized. **Prerequisite:** RCP700

**RCP710 RESPIRATORY THERAPY PRACTICUM III OPEN**

This 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. ECG and other cardiac diagnostic tests will be observed. **Prerequisite:** RCP600, 705

**RCP715 RESPIRATORY THERAPY PRACTICUM IV OPEN**

Hospital respiratory care with the addition of mechanical ventilation and care of patients in critical care units will complement the techniques from the prior practicums. Observation and performance of pulmonary function testing will be introduced. **Prerequisite:** RCP500, 710, 400 must be taken concurrently with or prior to this course.

**RCP720 RESPIRATORY THERAPY PRACTICUM V**

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:** RCP710, 715

**RCP800 RESP THERAPY MGMT & ETHICS OPEN**

Begins with study of the organization and management of a respiratory therapy department. Consideration of issues of jurisprudence and medicolegal aspects of health care. Tactful interactions and ethical practices will be emphasized. Will also serve to review much of what has been assimilated in the program. **Prerequisite:** RCP710

**RDG009 COLLEGE PREPARATORY READING I COLLEGE 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. Note: 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

**RDG010 COLLEGE PREPARATORY READING II COLLEGE 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. Note: College Preparatory courses cannot be used to fulfill degree requirements. **Prerequisite:** Grade of “C” or higher in RDG009 or a Compass score of 61 or higher or instructor permission based on an alternative test

**RDG060 SPEED READING GENERAL**

An advanced reading course designed to improve reading speed and comprehension. Emphasis on adapting to varying content, levels of difficulty and reading purposes. **Prerequisite:** Grade of “C” or higher in RDG009, ACT Reading score of 19 or higher, Compass score of 81 or higher on Compass Reading, or instructor permission based on alternative test SDV108 and SDV115 (listed below) are wonderful opportunities to assist with transition to college. These courses provide numerous strategies to create success in and out of the classroom.

**RELI001 SURVEY OF WORLD RELIGIONS CORE**

Study of major living religions, commonalities and contrasts. How these religions enrich human lives.

**SDV008 THE COLLEGE EXPERIENCE GENERAL**

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.

**SDV015 STUDY STRATEGIES GENERAL**

Provides students with study/read strategies for independent learning and academic success. An examination of college policies and procedures is also included.

**SDV100 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.

**SDV115 EMPLOYMENT PLACEMENTS**

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.

**SDV120 BUILDING A PROFESSIONAL PORTFOLIO**

This course provides the writing and research skills necessary to create a professional portfolio highlighting abilities, experiences and accomplishments. The portfolio will include a resume, reference letters, certificates, sample demonstrations of work performance, documents that shows knowledge of subject area and other applicable items.

**SDV121 ELECTRONIC PORTFOLIO DEVELOPMENT**

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.

**SDV122 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.

**SDV131 LIBRARY INSTRUCTION**

Study of classification systems, use of library resources and the compilation of bibliographies.

**SDV123 INTERNET RESEARCH TECHNIQUES**

General Students will learn how information resources are organized on the Internet, how to reference, search and evaluate information on particular topics. **Prerequisite:** Basic computer literacy

**SDV124 COOP CAREER SEMINAR**

Examines 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 4 credits. **Corequisite:** SDV122 or 223 or 224 or 225 or 227

**SDV125 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 student’s academic programs of study. **(P/F) Corequisite:** SDV122

**SDV126 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. **(P/F) Corequisite:** SDV122

**SDV127 COOP CAREER EXPERIENCE III**

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. **(P/F) Corequisite:** SDV122

**SDV128 COOP CAREER EXPERIENCE IV**

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. **(P/F) Corequisite:** SDV122

**SDV129 COOP CAREER EXPERIENCE V**

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. **(P/F) Corequisite:** SDV122

**SDV130 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.

**SDV131 SOCIAL PROBLEMS**

CORE This course is an analysis of the nature, dimensions, causes and characteristics of selected social problems of major interest. Consideration is given to theories research and programs for prevention and treatment.

**SDV132 MARRIAGE & FAMILY**

CORE This course analyzes the sociological, physical, psychological, legal and economic aspects of the American family. Included are investigations of courtship and marriage relationships, preparation for marriage, family, parenthood, interpersonal relationships and marital adjustment.

**SDV133 GROUP DYNAMICS**

GENERAL The study of group behavior including leadership, interaction, team building, decision-making, cooperation, cohesion, power, problem-solving, and conflict between and within groups.
SOC220 3 3 0 0 0
MINORITY GROUP RELATIONS
This course is the study of the relations between racial, ethnic and gender categories. Focus on stereotypes, prejudices, discrimination and exploitation. Major emphasis upon group relations in the United States. Prerequisite: SOC110 is recommended.

SOC225 4 4 0 0 0
SOCIAL GERONTOLOGY/APPLICATIONS
Societal aspects of aging as they relate to the delivery of services to the aging. Students will develop a project that serves a specific community need.

SOC226 2 2 0 0 0
ISSUES IN AGING
This course will address the issues of aging in transition, explore the conflicts of change and examine the needs and strategies to best meet the demands and challenges presented to this fast-growing segment of our population.

SOC250 3 3 0 0 0
JUVENILE DELINQUENCY
An investigation of juvenile delinquency in American society, sociological theories and research of delinquency, impact of groups, juvenile justice system and prevention programs. Prerequisite: SOC110 or instructor permission

SOC240 3 3 0 0 0
CRIMINOLOGY
The nature and extent of crime and criminality, society’s efforts to control crime, theories of causation, emphasis on social processes, systems and methods of correction. Prerequisite: SOC110 or instructor permission

SOC282 3 3 0 0 0
ENVIRONMENTAL SOCIOLOGY
This course examines the relationship between society and the natural environment. It focuses upon human understanding of nature, the use and abuse of natural resources, and what can be done to improve the relationship. Prerequisite: It is recommended that students take SOC110 prior to this course.

SPC101 3 3 0 0 0
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.

SPC120 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.

SPC204 3 3 0 0 0
INTERPERSONAL & SMALL GROUP COMM
An introduction to interpersonal and group communication theories and their application in relationship development, conflict resolution, group problem-solving and group presentations.

SPC700 3 3 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: SPC120 or instructor permission.

SRV110 3 3 0 0 0
SURVEY DRAFTING
VOC/TECH
This course includes the application of manual and computer-aided techniques in survey drafting. The topics include plat maps, topography, field notebook sketches and property descriptions. Third-party software will be utilized. Prerequisite: CET178

SRV200 5 4 2 0 0
U.S. 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 surveying; the system of rectangular surveys; monumentation; restoration of lost or obliterated corners; surveys; special surveys and special instructions; field notes; and plat. Prerequisite: CET178

SRV209 1 1 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 and 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.

SRV225 2 2 0 0 0
INTRO TO LAND INFORMATION SYSTEMS
VOC/TECH
An introduction to Land Information System and Land Records Research. Mapping information analysis compiled from country 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: CET119

SRV229 3 3 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: SRV120

SRV235 2 2 0 0 0
SURVEYING ETHICS
VOC/TECH
Introduction to ethical and business issues involved in the surveying profession. Case studies and problems included. Prerequisite: SRV120

SRV236 3 3 0 0 0
LAND SUBDIVISION
VOC/TECH
Covers different phases of the land development process: study financing of the project, site analysis design of preliminary plat and a final plat. Prerequisite: Successful completion MAT173 or instructor approval
COURSE DESCRIPTIONS

TEL212  INTRODUCTION TO TELEPHONY 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. Corequisites: TEL230

TEL220  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: TEL225

TEL225  TELECOM TRANSPORT LAB  VOC/TECH
Provides hands-on training in the telecommunications outside plant field. Topics covered include basic installation and repair troubleshooting, outside plant cable splicing and design, ladder safety, working aloft and pole climbing. Corequisites: TEL230, Corequisites: TEL220

TEL230  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. Prerequisites: TEL220, 233; Corequisite: TEL235

TEL252  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. Prerequisites: TEL235, 237

TEL235  ADVANCED TOPICS IN TELECOM LAB  VOC/TECH
Provides hands-on learning experience with broadband fiber circuits, digital multiplex systems and high speed transport devices. Focus on system configuration and diagnostics are also presented. Prerequisites: TEL220, 233; Corequisite: TEL230

TEL240  TELECOMMUNICATIONS MANAGEMENT  VOC/TECH
Telecommunication management course covering new and emerging technology and implementation in the business environment. Discussion covering technology management and leveraging of telecommunication assets. Prerequisite: TEL230, 233; Corequisite: TEL243

TEL242  INTERCONNECTING 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, DSL, ISDN and other technologies are used and implemented in the lab setting. Prerequisites: TEL290, 233; Corequisite: TEL240

VIN201  VINEYARD ESTABLISHMENT & MAINT  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 field hands-on experience within area vineyards.

VIN205  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 311. The course is designed to serve as a practical job attachment and may qualify as experience for those seeking employment in commercial viticulture. Prerequisite: VIN201

VIN406  INTRODUCTION TO ENOLOGY  VOC/TECH
This course in the basic science and technology of winemaking is intended for the entrepreneur exploring business opportunities in the grape wine industry, and for the prospective small winery employee interested in career development. VIN 312 recommended.

VIN408  CELLAR SANITATION & MAINTENANCE  VOC/TECH
This is a course in the basic science and technology of cellar sanitation. The course covers all methods used for cellar sanitation including premises, tanks, pumps, filters, oak barrels and sampling equipment, including but not limited to, chemical agents reagents, and thermal treatments leading to sterile bottling. Environmental impacts and compliance are also addressed. VIN 146 recommended.

VIN650  CELLAR EQUIPMENT OPERATIONS  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.

VIN721  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.

VIN835  MIDWEST VINEYARD MANAGEMENT  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: VIN201, 113

VIN246  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 high school algebra or equivalent is recommended. Prerequisite: VIN406

VIN268  WINE AND MUST ANALYSIS  VOC/TECH
Principles of grape juice and wine analysis and the reasons for use of each analysis. Analyses 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.

VIN295  SOILS FOR VITICULTURE  VOC/TECH
This course will explore soil properties and behavior 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.

WEL120  GRY FUEL WELDING/CUTTING  VOC/TECH
Skills will be developed in oxy-acetylene welding, cutting and repair. Safety is emphasized.

WEL150  ARC WELDING I (SMAW)  VOC/TECH
Skills will be developed in welding beads and buildup surfacing in the flat position. Safety is emphasized.

WEL165  ARC WELDING II (SMAW)  VOC/TECH
Skills will be developed in welding multiple pass tee fillet welds in the horizontal position. Safety is emphasized.

WEL177  ADV ARC WELDING I (SMAW)  VOC/TECH
Skills will be developed in arc welding girthwelds in the flat and horizontal positions. Safety is emphasized. Prerequisite: WEL165

WEL181  ARC WELDING III (SMAW)  VOC/TECH
Skills will be developed in welding corner fillet joints, weld around and sheet metal weldments in the flat position. Safety is emphasized. Prerequisite: WEL165

WEL186  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: WEL165

WEL190  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: WEL120

WEL220  PIPE WELDING/SMAW  VOC/TECH
Welding practice and testing on open-groove plate weldments in the 2G, 3G, 5G and 6G positions and, as time permits, on pipe weldments in the 2G, 5G and 6G positions. Safety is emphasized. Prerequisite: WEL220

WEL235  ADVANCED TOPICS IN OXY FUEL WELDING/CUTTING  VOC/TECH
Skills will be developed in cutting and beavertail surfacing in the vertical, transition and overhead positions. Safety is emphasized. Prerequisite: WEL120

WEL240  BASIC WELDING  VOC/TECH
Provides hands-on training in the proper use of oxy fuel cutting equipment. Safety is emphasized.

WEL246  INTERMEDIATE WELDMENT  VOC/TECH
This course is designed to introduce students to current practices for building and maintaining a sound and productive torch. Safety is emphasized.

WEL285  ADVANCED TOPICS IN WELDING  VOC/TECH
This course is a study of advanced welding processes and associated equipment. Safety is emphasized.

WEL303  BASIC WELDING  VOC/TECH
Provides hands-on training in the proper use of oxy fuel cutting equipment. Safety is emphasized.
AGINSKY, VERA, 2005, English As a Second Language. M.A., Minsk Pedagogical University; M.A.T., Drake University; Ph.D., Middlebury College

AGYEMAN, AHMED, 2004, Educational Advisor. B.S., M.Ed. Iowa State University

ALBERTSON, MARCIA, 1974, P.C. Applications. B.A., University of Northern Iowa

ALLEN, JASON STEVEN, 2002, Education Outreach Specialist. B.A., Simpson College


ANDERSON, ROBERT L., 1974, Hospitality Careers. A.O.S., Culinary Institute of America; Mankato Area Vocational Technical Institute; C.C.E., Order of the Golden Toque Society

ANDERSON, RON D., 1999, HVAC. A.A., Arapahoe Community College; B.S. University of Colorado-Denver


BAILEY, GREG A., 2000, Industrial Electromechanical Technology Assoc., National Institute of Technology

BAKER-BRODERSEN, BETH M., 2005, English/Academic Achievement Center. B.A., Northwest Missouri State University; M.A., Iowa State University

BARRITT, LARRY, 1988, Respiratory Therapy. A.A.S., Des Moines Area Community College; B.S., M.Ed., Iowa State University

BASCUM, TIM P., 2004, English, B.A., Wheaton College; M.A., University of Kansas; M.F.A., University of Iowa

BECKER, AMANDA, 2001, Nursing. B.S.N., Allen College; M.S.N., Drake University

BELL, DEBORAH P., 1987, Dental Assistant. A.A., A.S., Des Moines Area Community College

BELL, FRANK JR., H., 2005, Director, Partners for Economic Progress/Assistant to the President. B.S., M.S., Iowa State University

BELTRAME, DAVE, 2004, Graphic Technologies. Diploma, Des Moines Area Community College


BENNETT, JAMES, 1980, Data Processing. B.S., Northwest Missouri State University; A.A., Des Moines Area Community College; Iowa State University

BERGIN, TIMOTHY M., 1996, Biology. B.S., Kansas State University; M.S., University of Nebraska-Lincoln; Ph.D., Bowling Green State University

BERGLUND, ERIC J., 2000, Network Systems Analyst. A.A.S., DeVry Institute of Technology

BETHARDS, MELODY L., 2002, Nursing. A.D.N., Des Moines Area Community College; B.S.N., Grand View College; M.S.N., Drake University

BISHOP, PATRICK J., 1995, Diesel. A.A.S., Des Moines Area Community College; Iowa State University

BITTNER, SHARON G., 2000, Director, Program Development. B.S., Indiana State University; M.A., Drake University

BOOTH, CONNIE, 1982, Nursing. B.S.N., Creighton University; M.S.N., University of Nebraska Medical Center

BOWLIN, DEBBIE D., 2005, Health Occupations. A.A., Southwestern Community College; B.S.N., Grand View College

BRAAFHART, LISA BETH J., 2002, College Recruiter. A.A., Des Moines Area Community College; B.A., Grand View College

BRADLEY, JANE, 1996, Biology. A.S., Seminole State University; B.S., Oklahoma State University; M.S., University of Oklahoma

BRAND, SONJA K., 1995, Academic Achievement Center. B.S., Northwest Missouri State University

BREND, JOSEPH, 1998, Building Trades.

BROCKELSBY, JOHN W., 1987, Business Administration. B.S.G.S., University of Nebraska at Omaha; M.A., Webster University

BROWN, GEORGE K., 1977, Academic Achievement Center. B.A., Simpson College; M.S.E., Drake University

BROWN, REBECCA F., 2002, Business Administration. B.S., Meredith College; M.B.A., Bellevue University

BROWN III, CYRUS J., 1996, Mathematics. B.A., Louisiana State University; M.A., University of Nebraska-Lincoln

BRUINS, CYNTHIA C., 1987, Nursing. B.A., Central College; M.Ed., East Carolina University; B.S.N., Grand View College; M.S.N., Drake University; CNM/ARNP

BRUMBACK, LISA P., 2005, Academic Achievement Center. B.A., Albright College

BURKHARDT, BRYAN A., 2001, Electronics. B.S., Iowa State University

BURNS, JERALD L., 2004, Automotive Technology. A.A.S., Des Moines Area Community College

BUTIN, PATRICIA, 1992, Coordinator, Veterans/Scholarships. A.A., Des Moines Area Community College; B.A., Drake University

CALVIN, JEFFREY B., 1988, Automotive Technology.

CAMPBELL, KAREN J., 1999, Medical Laboratory Technology. B.A., M.A.T., Drake University

CAMPOS, KYLE ANN, 1988, Psychology. B.F.A., M.S., Drake University

CAREY, PHILLIP J., 2004, Hospitality Careers. A.S., Des Moines Area Community College; B.S., Upper Iowa University

CARPENTER, CHRISTINA M., 2004, Counselor. A.A., State Fair Community College; B.S.; M.S., Central Missouri State University; Kansas State University

CARPENTER, RICK, 2004, Educational Advisor. A.A., Florissant Valley Community College; B.S.B.A., M.A., Central Missouri State University; Iowa State University

CARROLL, JOHN W., 2003, Title I Corrections. B.A., Loras College; M.A., University of Northern Iowa

CHACKO, SANDRA J., 1980, Nursing. R.N., Iowa Lutheran Hospital School of Nursing; B.S.N., M.A., University of Iowa; Ph.D., Iowa State University

CHASE, HAL S., 1989, History. B.A., Washington & Lee University; M.A., Stanford University; Ph.D., University of Pennsylvania

CHERRY, MICHAEL R., 2000, Safety/Fire Science. A.A., Des Moines Area Community College; B.A., Simpson College

CHOPARD, LOIS, 1987, Educational Advisor. B.A., University of Northern Iowa

CHRISTMAN, RICK L., 1989, English. B.A., University of Wisconsin-Madison; M.A., Mankato State University; D.A., Drake University

CIPALE, DEBORAH J., 2005, Coordinator, Nursing Resource Lab. R.N., Iowa Methodist School of Nursing; B.S.N., Grand View College

CONIS, PETER J., 2000, Sociology/Criminal Justice. A.A., Des Moines Area Community College; B.S., M.S., Ph.D., Iowa State University

CORWIN, MARYLIN K., 1984, Dental Hygiene. B.A., University of Iowa; Drake University; Iowa State University

CORY, CYNTHIA, 1980, Nursing. B.S.N., University of Iowa; M.S.N., Clarkson College

CRAIN, KATHLEEN, 1983, Business Technology. B.S., University of Northern Iowa; M.A., Colorado State University; University of Wisconsin, Superior; Drake University; University of Iowa

DAMERON, APRIL J., 2001, Educational Advisor. B.A., Simpson College

DAVENPORT, ANDI, 2005, Coordinator, District Student Support Services. B.A., Simpson College; M.S. Drake University

DAVENPORT, RITA L., 2002, Counselor. B.A., Central College; M.S.E., University of Wisconsin, Platteville

DAVIS, SUSAN M., 2003, Nursing. Diploma, St. Vincent School of Nursing; B.S.N., Briar Cliff University; M.S., Iowa State University

DAWSON, RICK E., 2004, Associate Provost, West Campus. A.A., Iowa Central Community College; B.A., Buena Vista College; M.S., Northwest Missouri State University; University of Iowa
FACULTY AND STAFF

DAY, ANN M., 2000, Nursing. B.S.N., M.S.N., University of Iowa

DENSON, ROBERT J., 2003, PRESIDENT/CEO. B.S., M.S., Iowa State University; J.D., University of Florida

DICKSON, NANCY K., 1995, Coordinator, Scheduling/Special Projects. B.A., Western Illinois University; University of Illinois; North Dakota State University

DICKSON, VALREE M., 1992, Nursing. Diploma, Marshalltown Community School of Nursing; B.S.N., Grand View College; M.S.N., Drake University

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

DOUD, TIM J., 1999, Commercial Horticulture. B.S., Iowa State University

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

DOWDELL HOMMERDING, KATHERINE, 2001, Psychology. B.A., University of Pennsylvania; M.S., University of Pittsburgh

DOWIE-REESER, LORI K., 1986, Hospitality Careers. A.A.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

EISCHEID, DIANE, 1992, Lab Assistant. A.A.A., Des Moines Area Community College; B.A., Buena Vista University

EMLEY, BOB, 1990, Psychology. B.A., Central College; M.S., Drake University; Ph.D., Iowa State University; L.M.H.C.

EMMERSON, JANET E., 2000, Director, Program Development. B.F.A., University of Wisconsin, Milwaukee; M.Ed., Iowa State University


ENTZ, MARY J., 1992, Provost, Newton Polytechnic Campus. B.A., M.A., University of Iowa

ERICKSON, RON, 1993, LAN Equipment Specialist. A.A.S., Iowa State University

ETHINGTON, LISA., 1993, Physical Sciences. A.A., Des Moines Area Community College; B.A., University of Northern Iowa; M.A., Drake University

FARA, KIMBERLY J., 1991, Academic Achievement Center. B.S., University of Iowa; M.S.E., Drake University; University of Northern Iowa


FOLTZ, TAMMIE J., 2006, Philosophy/Sociology. A.S., Des Moines Area Community College; B.S., M.S., Iowa State University

FRAZER, DOUG L., 1993, Educational Advisor. A.L.S., Black Hawk College; B.A., M.S., Ed.D., Drake University; University of Maryland

FRIEDLIEIN, 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

FRIESS, CIEL A., 1993, Coordinator, Outreach Services. A.S., Des Moines Area Community College; B.A., Grand View College; M.S.E., Drake University

FUNKE, REBECCA S., 2004, Librarian/Media Specialist. B.A., M.A., University of Iowa

FURNEY, LISA S., 2004, Educational Interpreter. A.A.S., Iowa Western Community College; B.A., Central College

GALLIGAN, ROBERT J., 2003, Speech. B.A., St. Ambrose University; M.A., University of Northern Iowa

GANO, BARBARA, 1989, Nursing. R.N., St. Joseph Mercy School of Nursing; B.S.N., University of Iowa; M.S.N., Drake University

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; CDT; ACP

GAVIN, DAVID, 1999, English. B.A., Portland State University; M.F.A., University of Arkansas

GEORGE, 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

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., Wartburg 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

GOSCH, GAYLE M., 2004, Instructional Assistant. B.S., Iowa State University; M.Ed., University of Houston

GRANSETH, 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

GRANTHAM, VADA, 2003, Business Administration/Entrepreneurship. B.A., Grand View College

GREEN, BRIAN, 2005, Associate Provost, Boone Campus. B.A., University of Northern Iowa; M.A., University of Iowa

GREEN, MARY JANE, 1985, Business Technology. B.A., Buena Vista College, M.A., University of Northern Iowa

GREIMANN, DAVID L, 1998, Computer Science/Information Technology. B.A., University of Northern Iowa; M.S., Drake University


HABERMANN, PATRICK J., 1997, Ford Motor Project. Diploma, Wyoming Technical Institute; Diploma, Iowa Central Community College; Iowa State University

HADE, DELORA JESPERSEN., 2004, Child Development. B.S., M.S., Ph.D., Iowa State University

HANSEN, BARBI N., 1994, STRIVE. B.S., Iowa State University; M.A., University of Iowa; Drake University

HANSEN, PAULA, 1989, Business Administration. B.S., University of South Dakota; M.A., Western Michigan University

HANSON, DENNIS L., 1996, Diesel. B.S., Iowa State University

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HANSON, JOE., 2004, Business Management/Information Technology. A.A., Iowa Lakes Community College; B.A., University of Northern Iowa; M.B.A., University of Nebraska at Omaha

HARRIS, RUDOLPH, 1972, Sociology. B.A., Bemidji State University, M.A., University of South Dakota; University of North Dakota; Howard University; Iowa State University

HARRISON, PATTY J., 2005, Assistant Athletic Director/Educational Advisor. B.S., Briar Cliff University

HASTAD, RUTHANNE, 1989, English. A.A., Kirkwood Community College; B.A., University Without Walls; M.A., Ed.S., University of Iowa

HAUSER, DAVID W., 1992, Philosophy. B.A., M.S., Iowa State University; M.A., University of Arizona; Ph.D., Duquesne University

HAUSER, JUDITH A., 1999, Lab Assistant. B.S., Drake University, M.A., Florida State University; B.A., Iowa State University

HAWKINS, DELORES W., 1999, Director of Financial Aid. B.S., M.S., Iowa State University

HEDRICK, DALE A., 1999, Lab Assistant. Diploma, Des Moines Area Community College

HEILSKOV, HEIDI, 1999, Educational Advisor. B.S., Iowa State University

HEIMBAUGH, NANCY J., 1977, Educational Advisor. B.S.Ed., Drake University

HELGESON, A. SCOTT, 1994, Biology. B.A., M.A., University of Nebraska

HENSEN, KARI A., 2004, Judicial Officer. B.S., M.S., Ph.D., Iowa State University

HERRMANN, JANE M., 1990, Executive Director, Continuing Education. B.S., Iowa Wesleyan College

HEUER, KAREN K., 1976, Marketing. B.S., Iowa State University

HILDRETH, SHELBY, 1999, Educational Advisor. A.A., Des Moines Area Community College; B.A., Upper Iowa University

HILGERS, DANIEL, 1983, Business Administration. B.S., Moorhead State University; M.S., Emporia State University

HILL, HOMER D., 2004, Educational Advisor. B.A., M.A., University of Southern Mississippi

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- DMACC can leverage your gifts—through private, local, state and federal matching programs.
- DMACC is a good investment—even small gifts are significant and substantial gifts can directly guide and influence positive future programming.
- DMACC has a talent for teaching and emphasizing learning—help fund our programs and your efforts will be recognized by satisfied employers and positive word-of-mouth from graduates.
- DMACC is a quality alternative to high-cost undergraduate education. We provide an effective and affordable route to the baccalaureate degree through transfer programs—support for us ensures outreach to underserved populations and expanded access to postsecondary education.
- DMACC emphasizes a mission to support student success.

The DMACC Foundation was created to assist educational excellence through charitable giving. Gifts to the DMACC Foundation provide scholarships, assist the college in acquiring new instructional equipment and provide capital support for new and existing facilities. Contributions also build the college endowment funds, so essential to the future. Gifts of all sizes help us realize our mission. Contributions are solicited from individuals, corporations, foundations and alumni.
CONTACT US

DMACC WEBSITE:
www.DMACC.edu

EMAIL:
Admissions: admissions@dmacc.edu
Financial Aid: finaid@dmacc.edu

PHONE:
In the Des Moines/Ankeny area call: 964-6200
Or call any campus toll-free: 1-800-362-2127

INFORMATION ABOUT DMACC CAMPUSES

Ankeny http://www.dmacc.edu/ankeny/
Boone http://www.dmacc.edu/boone/
Carroll http://www.dmacc.edu/carroll/
Des Moines/Urban http://www.dmacc.edu/urban/
Newton http://www.dmacc.edu/newton/
West http://www.dmacc.edu/west/
Other Locations http://www.dmacc.edu/otherlocations.asp