







Refer to the Index or Table of Contents section(s) of this catalog

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?

Academic 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?

#### **Transfering Credit to DMACC**

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

Adult Basic Education, ABE/HSE/ESL

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** 

## Student Handbook

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

## **PROGRAMS AVAILABLE 2011-12**

#### CAMPUS CODES:

(A) Ankeny (B) Boone (C) Carroll (N) Newton (U) Urban/Des Moines (W) West
 \* Selected courses in this program are offered at this campus
 AA = Associate in Arts degree AS = Associate in Science degree
 AAS = Associate in Applied Science degree AGS = Associate in General Studies degree

#### ARTS AND SCIENCES AND PREPROFESSIONAL EMPHASIS

#### Arts & Sciences/Liberal Arts......AA/AS.....All

Preprofessional Emphasis—Programs available at selected campuses

Accounting	Education	Pharmacy
Architecture	Engineering	Physical Therapy
Business Admin.	Law	Physician's Assistant
Chiropractic	Medicine	Social Work
Computer Science	Nursing	Veterinary Medicine
Dentistry	Optometry	
Associate in General Studies	AGS······All	

#### VOCATIONAL AND PARAPROFESSIONAL PROGRAMS

PROGRAM	AWARD	CAMPUS
ASEP-General Motors	AAS	A
ASSET-Ford	AAS	A
Accounting & Bookkeeping	Diploma	B,U
Accounting Certificate I	Certificate	A*,B,N*,U
Accounting Certificate II	Certificate	A*,B,U
Accounting Income Tax Preparer.	Certificate	A,B,U
Accounting Information Systems	AS	A*,B,U
Accounting Paraprofessional	AS	A,B,C,N*,U
Accounting Payroll	Certificate	A,B,C,U
Accounting Specialist	AAS	B,U
Administrative Assistant	AAS	A,B,C,U
Adult Services	Certificate	A
Advanced Web Developer*	Certificate	A
Aging Services Management	AS	A
Agribusiness	AAS	A
Agribusiness-Agronomy	Certificate	A
Agribusiness-Animal Science	Certificate	A
Agribusiness-Farm Management	Certificate	A
Agribusiness-Sales/Service	Certificate	A
Agribusiness-Sustainable		
Agriculture		
Airbrush Art		
Architectural Millwork		
Architectural Technologies		
Auto Collision Technology		
Auto Mechanics Technology		
Auto Chassis & Power Train		
Auto Engines & Tune-Up	Diploma	A
Auto Maintenance & Light Repair Technology	Diploma	A*,U
Basic Visual Communications		
Biomass Operations Technology		
Biotechnology	AS	A
Building Maintenance		
Building Trades		
Business Administration	AA, AS	A,B,C,N,U,W

PROGRAM	AWARD	CAMPUS
Business Information Systems	AAS	A,B*,C*,U,W*
CAP-Chrysler	AAS	A
Caterpillar Technology	AAS	A
Chemical Dependency Counseling	Certificate	A
Civil Engineering Technology	AAS	B
CNC Operator	Certificate	A
Commercial Horticulture	AAS	A
Greenhouse Production	Certificate	A
Landscape Design	Certificate	A
Turf Maintenance	Certificate	A
Computer-Aided		
Design Technology	AAS, Diploma	A
Computer Applications	Certificate	A,B,U
Computer Languages	Certificate	A,U*
Corel Painter	Certificate	A
Criminal Justice	AS or AA	A,B*,N*,U*
Culinary Arts	AAS, Diploma	A
Data Entry I	Certificate	A,B,C,N,U
Database Specialist	Certificate	A,W
Dental Assistant	Diploma	A
Dental Hygiene	AAS	A
Diemaking (See Tool & Diemaking)	Diploma	A
Diesel Technology	AAS, Diploma	A
Dietary Manager	Certificate	A
Digital Forensic Investigation	Certificate	A
Digital Illustration	Certificate	A
Digital Publishing	Certificate	A
Early Childhood Education	AS, Diploma, Cert	A,U*,W*
Electrical Construction Trades	Diploma	N
Electronics, Robotics		
& Automation	AAS	A
Electronics Systems		
Servicing Technology		
Emergency Med Tech Basic		
Enology		
Environmental Science		
Entrepreneurship		
Fashion		
Fashion/Design		
Fire Science Technology		
Fire Specialist		
Fitness and Sports Management		
Fluid Power Technology		
Gerontology Specialist		
Graphic Design		
Graphic Sales & Customer Service	Certificate	A
Graphic Technologies		
Greenhouse Production	Certificate	A
Health Information Technology	AAS	A,*W
Heating, AC,		
	AAS, Diploma	A
Refrigeration Technology		
Refrigeration Technology Hospitality Business Hotel & Restaurant Management	Diploma	A

## **PROGRAMS AVAILABLE 2011-12**

#### CAMPUS CODES:

(A) Ankeny (B) Boone (C) Carroll (N) Newton (U) Urban/Des Moines (W) West \* Selected courses in this program are offered at this campus

AA = Associate in Arts degree AS = Associate in Science degree

AAS = Associate in Applied Science degree AGS = Associate in General Studies degree

PROGRAM	AWARD	CAMPUS
Human Services	AS	A,N*,U
InDesign	Certificate	A
Industrial Electro-		
Mechanical Technology		
Informatics		
Information Processing Support	Certificate	A,B,C,U
Information Technology Network Admin	AAS	A,B*,C*,U*,W*
Interactive Media for Graphic Design	Certificate	A
Interior Design Consultant	Certificate	A
Interpretation & Translation	AS	U
Interpretation & Translation, Business	Certificate	U
Interpretation & Translation, Education		
Interpretation & Translation, Healthcare		
Interpretation & Translation,		0
Human Services	Certificate	U
Interpretation & Translation, Judiciary	Cortificato	
Landscape Design		
Legal Assistant		
Long-Term Care Administrator		
Long-Term Care Administrator-Practicum		
Machinist Technology (see Tool & Diemaking)		
Maintenance (Diesel Technology)	Cortificato	Δ
Management		
Management Information Systems		
Manufacturing Technology		
Marketing		
Medical Assistant		
Medical Insurance/Coding		
Medical Laboratory Technology		
Medical Office Specialist		
Medical Transcriptionist		
Microcomputers	Certificate	A,U*,W
Mortuary Science- Advanced Standing	Diploma	A
Network Security Manager	Certificate	A,U
Nursing-Advanced Standing		
Nursing-Associate Degree	AAS	A,B,C
Nursing-Practical	Diploma	A,B,C,N
Office Assistant	Diploma	A,B,C,N*,U
Office Specialist	Certificate	A,B,C,N*,U
Optometric/Ophthalmic Technician	Diploma	A

PROGRAM	AWARD	CAMPUS
Paramedic Specialist	AAS, Certificate	A
Pharmacy Technician		
Phlebotomy		
Photography		
Printing Technologies		
Respiratory Therapy		
Retailing		
Sales		
Sales & Management	Diploma	A
Secretarial Careers:		
Administrative Assistant	AAS	A,B,C,U
Medical Office Specialist	AAS, Diploma	A
Office Assistant		
Office Specialist		
Supervision		
Surgical Technology		
elecommunications Technology.		
ool & Diemaking	AAS	A
urf Maintenance	Certificate	A
/eterinary Technology	AAS	A
/isual Communications		
/iticulture		
Vastewater Treatment Technology*	Certificate	A
Vater & Wastewater Treatment Technology*	Diploma	A
Nater Environmental Technology	*AAS	A
Vater Treatment Technology*	Certificate	A
Veb Developer*	Diploma, Certificate	A
Veb Development*	AAS	A
Velding	Diploma	A,N
Velding-Blueprint Reading	Certificate	A,N
Velding-Gas Metal Arc	Certificate	A,N
Velding-Gas Tungsten Arc		
Velding-Oxyacetylene	Certificate	A,N
Velding-Pipewelding		
Velding-Shielded Metal Arc	Certificate	A,N
Welding-Structural Welding		
Vine Service	Certificate	A
The Advanced Web Developer certificate wi Education approval.	II be offered pending Iowa De	epartment of
The Wastewater Treatment Technology cert of Education approval.	ificate will be offered pendin	g Iowa Departri
The Water and Wastewater Treatment Techn	ology diploma will be offered	l pending lowa

\*The Water and Wastewater Treatment Technology diploma will be offered pending Iowa Department of Education approval.

\*The Water Environmental Technology AAS program will be offered pending Iowa Department of Education approval.

\*The Water Treatment Technology certificate will be offered pending lowa Department of Education approval.

\*The Web Developer certificate and diploma will be offered pending lowa Department of Education approval.

\*The Web Development AAS program will be offered pending lowa Department of Education approval.

## TABLE OF CONTENTS

Programs Available 1-2	
President's Welcome7	
Profile of DMACC	
History	
Mission & Goals	
Nondiscrimination Policy	
Student Right to Know	
DMACC Catalog	
The Campuses	
Access to Campus Facilities	
DMACC Centers	
Accreditation	
Board of Directors	
Campus Maps & Directories 11-12	

#### 2011-2012 DMACC Academic Calendar ------ 13

Admissions 14-17
Applying for Admission
Guidelines for Required Assessment
ESL Test in COMPASS
Students with Disabilities
Admission of High School Students
Admission of Pre-High School Students
Admission of Home-Schooled Students
Admission of Guest Students
Admission of International Students
Residency
Readmission
Transferring Credit to DMACC
Credit for Educational Experience in the Armed Forces
Campus Tours

#### Registration ...... 18

**Registration Procedures** 

Adding or Dropping a Course

Noncredit Course Registration, Adds and Drops

### Educational Expense/ Student Accounts------19-21

Tuition and Fee Charges Other Fees DMACC OneCard/Student ID Indebtedness Policy Deposits Registration Plus+ Campus Bookstore Purchases Billing Policy Payment Policy Payment by Check Refunds Refund Schedule Education Tax Credits Educational Expenses

#### Financial Aid ..... 22-27

How to Apply for Financial Aid at DMACC Filing Request for Special Consideration Free Application for Federal Student Aid (FAFSA) When to Apply Financial Aid Updates on the Web To Obtain a DMACC PIN Types of Aid (Grants & Scholarships) Applying for DMACC and Outside Scholarships and Grants How DMACC Awards are Paid Employment Study Abroad Loans Alternative Loans Veterans Educational Benefits Iowa New Choices **Dislocated Workers** STRIVE Vocational Rehabilitation Requirements for Continued Financial Aid Eligibility

Financial Aid Academic Progress Standards Repeating Classes Never-Attending Process Quit-Attending Process Leave of Absence Financial Aid Recipients Return of Financial Aid

#### Academic Information ------ 27-31

Academic Integrity Academic Recognition Attendance and Enrollment **Auditing Courses** Grade Appeals Grade Reports Grading System Computing GPA Other Credit Options and Special Offerings Repeat Coursework Satisfactory Academic Progress Student Records-Confidentiality Transfer Credit **Transcript Requests** Transferring from DMACC to Another Institution

## 

Degrees Awarded Programs of Study General Education Graduation Honors Graduation Requirements Transfer Information

#### 

Academic Achievement Centers Alumni Association Academic Advising Assessment Testing Campus Recreation Programs

## TABLE OF CONTENTS

**Campus Security** Career & Transfer Resource Center (CTRC) Child Care College Bookstores **College Preparatory Education Counseling Services Food Services** Intramural Recreation Information Center Libraries Student Employment Assistance Services for Students with Disabilities Student Handbook Student Health Student Housing **Testing Centers** Tobacco-Free DMACC Tutoring Vocational Rehabilitation Counseling

#### Student Activities ...... 40-41

DMACC Choirs DMACC Drama Game Room Intercollegiate Athletics Student Activities Student Activities Council Student Centers Student Organizations Student Publications Ticket Sales

#### DMACC Business Resources (DBR) ------ 41

.. . . . . .

Continuing Education & Specialized Programs 41-42
Adult Basic Education ABE/HSE/ESL
Conference and Event Planning Services
Continuing Education
Distance Learning
English as a Second Language

Evening/Weekend Services
Transportation Institute— Commercial Vehicle
Motorcycle/Moped Safety Rider Courses
DMACC Educational Programs 43
Choose A Career Path/ Are You a Match? (Personal Career Profile Questionnaire) 44-45
Programs Available 46-145
Degrees and Diplomas46-121
Liberal Arts and Sciences 46
Associate in Arts Degree (AA)46-48
Associate in Science Degree (AS)48-50
Associate in General Studies (AGS)
ASEP-General Motors51
ASSET-Ford52
Accounting & Bookkeeping52
Accounting Information Systems53
Accounting Paraprofessional54
Accounting Specialist54
Administrative Assistant55
Aging Services Management56
Agribusiness57
Architectural Millwork58
Architectural Technologies59
Auto Collision Technology59
Auto Mechanics Technology 60
Auto Engines & Tune-Up61
Auto Chassis & Power Train61

Automotive Maintenance & Light Repair Technology at

**Business Administration-**

the Urban Campus-----61

AA or AS·····63 Business Information Systems······64 CAP-Chrysler·····65

Biotechnology 61 Building Trades 62 Business 63

Civil Engineering Technology66
Commercial Horticulture67
Computer-Aided Design Technology68
Criminal Justice-AA or AS68
Culinary Arts72
Dental Assistant 73
Dental Hygiene74
Diesel Technology75
Early Childhood Education76
Early Childhood Education-Associate76
Education 77
Electrical Construction Trades77
Electronics, Robotics & Automation78
Electronics Systems Servicing Technology79
Engineering 80
Entrepreneurship 80
Environmental Science80
Fashion/Design81
Fire Science Technology82
Fitness and Sports Management83
Fluid Power Technology84
Graphic Design85
Graphic Technologies
Health Information Technology
Heating, Air Conditioning, Refrigeration Technology87
Hospitality Business
Hotel and Restaurant Management88
Human Services
Industrial Electro- Mechanical Technology90
Information Technology/ Network Administration91
Interpretation and Translation93
Law95
Legal Assistant95
Management AA or AAS96
Management Information Systems (MIS)97

4 DES MOINES AREA COMMUNITY COLLEGE CATALOG 2011-2012

## **TABLE OF CONTENTS**

Manufacturing Technology98
Marketing AA or AAS99
Medical Assistant 100
Medical Laboratory Technology101
Medical Office Specialist102
Medicine103
Mortuary Science- Advanced Standing103
Nursing-Advanced Standing104
Nursing Programs105
Office Assistant106
Optometric/Ophthalmic Technician
Paramedic Specialist108
Pharmacy Technician
Photography110
Respiratory Therapy111
Retailing 112
Sales and Management112
Surgical Technology113
Telecommunications Technology 114
Tool & Diemaking114
Veterinary Medicine115
Veterinary Technology116
Visual Communications116
Water & Wastewater Treatment Technology117
Water Environmental Technology 118
Web Developer119
Web Development 120
Welding120

## Certificates of

Specialization 122–145
Accounting Certificate I122
Accounting Certificate II122
Accounting Income Tax Preparer122
Accounting Payroll122
Adult Services123
Advanced Web Developer123
Agribusiness-Agronomy 123
Agribusiness-Animal Science124
Agribusiness-Farm Management 124

Agribusiness-Sales and Service 124
Agribusiness-Sustainable Agriculture
Airbrush Art 125
Basic Visual Communications 125
Biomass Operations Technology 125
Building Maintenance125
Chemical Dependency Counseling 126
CNC Operator 126
Computer Applications 126
Computer Languages127
Corel Painter127
Data Entry I127
Database Specialist127
Dietary Manager127
Digital Forensic Investigation 128
Digital Illustration 128
Digital Publishing128
Early Childhood Education 128
Emergency Medical Technician-Basic129
Enology 129
Enology
Entrepreneurship 129
Entrepreneurship 129
Entrepreneurship129 Fashion130
Entrepreneurship 129 Fashion 130 Fire Specialist 130
Entrepreneurship 129 Fashion 130 Fire Specialist 130 Gerontology Specialist 130
Entrepreneurship 129 Fashion 130 Fire Specialist 130 Gerontology Specialist 130 Graphic Sales & Customer Service 130
Entrepreneurship 129 Fashion 130 Fire Specialist 130 Gerontology Specialist 130 Graphic Sales & Customer Service 130 Greenhouse Production 130
Entrepreneurship
Entrepreneurship 129 Fashion 130 Fire Specialist 130 Gerontology Specialist 130 Graphic Sales & Customer Service 130 Greenhouse Production 130 Human Resource Management 131 InDesign 131
Entrepreneurship
Entrepreneurship 129 Fashion 130 Fire Specialist 130 Gerontology Specialist 130 Graphic Sales & Customer Service 130 Greenhouse Production 130 Human Resource Management 131 InDesign 131 Informatics 131 Information Processing Support 132 Interactive Media for
Entrepreneurship
Entrepreneurship 129 Fashion 130 Fire Specialist 130 Gerontology Specialist 130 Graphic Sales & Customer Service 130 Greenhouse Production 130 Human Resource Management 131 InDesign 131 Informatics 131 Information Processing Support 132 Interactive Media for Graphic Design 132 Interior Design Consultant 132 Interpretation and
Entrepreneurship
Entrepreneurship 129 Fashion 130 Fire Specialist 130 Gerontology Specialist 130 Graphic Sales & Customer Service 130 Greenhouse Production 130 Human Resource Management 131 InDesign 131 Informatics 131 Information Processing Support 132 Interactive Media for Graphic Design 132 Interior Design Consultant 132 Interpretation and Translation-Business 133 Interpretation and Translation-Education 133 Interpretation and

Translation-Judiciary136
Landscape Design 137
Legal Assistant 137
Long-Term Care Administrator
Long-Term Care Administrator-Practicum
Maintenance (Diesel Technology) 138
Management139
Medical Insurance and Coding
Medical Transcriptionist140
Microcomputers140
Network Security Manager140
Office Specialist
Paramedic Specialist141
Phlebotomy141
Printing Technologies 142
Retailing142
Sales142
Supervision 142
Turf Maintenance 143
Viticulture143
Wastewater Treatment Technology143
Water Treatment Technology144
Web Developer144
Welding144
Wine Service 145
Certificates of Completion145
Commercial Vehicle Operator (CDL and DDC)145
RV Safety and Education145
Course Descriptions147-215
Faculty & Staff 216-222
Index 223-226

## WELCOME TO DES MOINES AREA COMMUNITY COLLEGE



Welcome to DMACC. You're here at a great time—a time of growth, a time of commitment, a time when we're working to position ourselves as the premier community college in the state. And that means good things for DMACC students.

March 2011 marked not only the 45th anniversary of Des Moines Area Community College, but also the halfway point in our ten-year plan to meet the three objectives we call our First Goals. To continue to provide outstanding service and educational excellence to our students and communities, and to compare favorably to other state and national community colleges, we must accomplish the following:

- Be **FIRST** in quality by making sure our students are the most successful
- Be FIRST in service by making a DMACC education accessible to all students in our district
- Be **FIRST** in affordability by making DMACC the best value for our students.

With five years until our golden anniversary, we're making great progress. Here are just a few examples:

- In Quality, our students and graduates do extremely well after leaving DMACC, whether they transfer to a four-year school or go directly into the workforce.
- In Service, there are only a few areas in our district that still 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.

Last year there were more than 75,000 credit and noncredit students enrolled at DMACC, all with unique needs and aspirations, all with unique contributions to the college experience. We're glad you're considering DMACC and we look forward to using our resources and commitment to help you achieve your career goals.

Sincerely,

Robert Denson, President

## PROFILE OF DMACC

## **HISTORY OF DMACC**

Des Moines Area Community College is a publicly supported two-year institution serving the Des Moines metropolitan area and surrounding counties. The College District includes all or major portions of Audubon, Boone, Carroll, Dallas, Guthrie, Jasper, Madison, Marion, Polk, Story and Warren counties and 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 on 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 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; the Carroll Campus was initiated in 1979. The Urban Campus began operation in Des Moines in 1972, then moved into a new facility at Seventh and Laurel in 1980. The first classes in Newton were held in the Fall of 1993 as a result of the cooperative effort of the Maytag Corporation, Iowa State University, the City of Newton and the DMACC Foundation. In October 2001, the state-of-the-art technology facility, West Campus, opened in West Des Moines.

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

Dr. Joseph A. Borgen served 20 years as the president from 1981 until his retirement in 2001. David England was the president of Des Moines Area Community College from 2001 to 2003. Robert Denson became our 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 co-curricular activities that promote the 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 or allow discrimination covered by law. This includes harassment based on race, color, national origin, creed, religion, gender, sexual orientation, gender identity, age, disability and genetic information. Veteran status in 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, the campus Provost's office or the EEO/AA Officer. Persons who wish additional information or assistance may contact the EEO/AA Officer, Human Resources, Bldg. 1, 515-964-6479. For requests for accommodations, the Accommodation/ Section 504/ADA Coordinator can be contacted at 515-964-6857.

## STUDENT RIGHT TO KNOW

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

## DMACC CATALOG

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

## **PROFILE OF DMACC**



#### ANKENY CAMPUS

2006 S. Ankeny Blvd.., Ankeny, IA 50023-3993 515-964-6200 or toll-free in Iowa: 800-362-2127 FAX: 515-964-6391 **BOONE CAMPUS** 

1125 Hancock Dr., Boone, IA 50036-5399 515-432-7203 or toll-free in Iowa: 800-362-2127 FAX: 515-433-5033 **CARROLL CAMPUS** 906 N. Grant Rd., Carroll, IA 51401-2525 712-792-1755 or toll-free in Iowa: 800-622-3334 FAX: 712-792-6358



#### **NEWTON CAMPUS**

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

#### **URBAN CAMPUS**

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

#### WEST CAMPUS

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

### THE CAMPUSES

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

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

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

**Newton Campus** is located at 600 N. 2nd Ave. West in Newton and began operation in the Fall of 1993.

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

**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 from 7:30 a.m. to 4:30 p.m. on Friday, and from 7:30 a.m. to 12:30 p.m. on Saturday. (Saturday hours may vary on individual campuses.) The campuses are closed during other times and holidays. Visit our website: **www.dmacc.edu**.

### 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 three centers:

#### SUCCESS CENTER

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

## PROFILE OF DMACC

## DMACC AT PERRY VANKIRK CAREER ACADEMY

In the Fall of 2011, a new career academy is scheduled to open at 1011 Second Avenue in Perry. DMACC at Perry VanKirk Career Academy will be operated in partnership with Perry Community Schools and Perry Industries Inc. 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, information technology, health careers, automotive technology and welding. In the afternoon and at night, a wide variety of college-credit liberal arts courses will be offered.

## DMACC CAREER ACADEMY, HUNZIKER CENTER

The \$5 million DMACC Career Academy, Hunziker Center opened its doors on 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 a wide variety of college-credit liberal arts courses are offered through the Boone Campus. The Hunziker Center telephone number is 515-663-6700.

## 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	DISTRICT
Fred Buie, West Des Moines	9
Jeff Hall, Des Moines	
Kevin Halsemesteran, Board Vice-Chair, Indianola	4
Jim Knott, Carroll	
Cheryl Langston, Ames	1
Ben Norman, Ankeny	6
Joe Pugel, Board Chair, Newton	5
Wayne Rouse, M.D., Boone	2
Madelyn Tursi, Des Moines	7

### **ANKENY CAMPUS**

2006 S. Ankeny Blvd., Ankeny, IA 50023-3993 515-964-6200 or toll-free in Iowa: 800-362-2127 FAX: 515-964-6391

### **BOONE CAMPUS**

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

## **CARROLL CAMPUS**

906 N. Grant Rd., Carroll, IA 51401-2525 712-792-1755 or toll-free in Iowa: 800-622-3334 FAX: 712-792-8500

### **NEWTON CAMPUS**

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

### **URBAN CAMPUS**

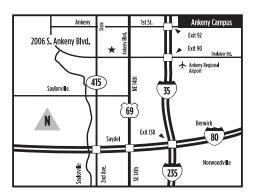
1100 7th St., Des Moines, IA 50314-2597 515-244-4226 or toll-free in Iowa: 800-362-2127 FAX: 515-248-7216

### WEST CAMPUS

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

## **CAMPUS MAPS & DIRECTORIES**

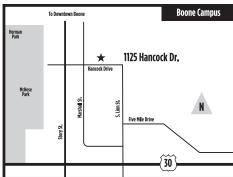
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## **Ankeny Campus**

515-964-6200 or 1-800-362-2127 Campus Code #1 and the Ext#

	Bldg. No.	Rm. No.	Ext No.
Academic Achievement	6	19	365-7004
Academic Records	1		6341
Accidents-Auto (On Campus	) 12	01	6500
Address Changes	1	16	6565
Admissions	1	16	965-7337
Advising	1	16	6200
Alumni Association	22		965-7331
Athletics/Recreation	5	26	6333
Bookstore	5	34	6302
Campus Clubs	5	26	6359/6376
Campus Events	1	06	6200
Campus Nurse	24	103	6352
Career Planning/Counseling	1	06	6200
Career Resource Center	1	06	6474
Child Development Center	09	21	6238
Disability Services	06	10B	6850
Drops/Adds	1	16	6800
Emergencies	1	06	6200/6500
Foundation Office	22		6229
Information Center	1	06	6200
Financial Aid	1	16	6282
Graduation	1	16	6647/6507/7354
Health Insurance/Services	5	09	6352
International Advising	1	33	6471
Library	6	03	6317
Lost & Found	5	27	6359
Program Changes	1	16	6495
Registration	1		6800
Scholarships	1	16	965-7179
Security	12	01	6500
Student Accounts	1	18	6446
Student Employment Assistance	1	16	6215
Testing Center	6	24	6595
Transcripts	1	16	6800
Transfer Evaluation	1	16	6647/6507
Tutoring Services	6	20	965-7004
Veterans Services	1	16	6278



## **Boone Campus**

515-432-7203 or 1-800-362-2127 Campus Code #3 **Rm. No.** 

	KIII. NO.	LAL NU.
Academic Achievement	102	5096
Address Changes	120	5027
Advising	120A/129B	5024/5030/ 5051/5048
Assessment Center	102	5096
Athletics/Recreation	133/120A	5050
Bookstore	101	5034
Campus Clubs	120	5078
Campus Events	120	5026
Career Planning/Counseling	120A/120B	5030
Disability Services	120A/120B	5024
Drops/Adds	120	5026/7203
Emergencies	120	5027
Financial Aid	120	5022/5023
Graduation	120	5026
Information	120	5027
International Students	120A/120B	5030
Library	135	5040
Program Changes	120A/120B	5024/5030
Security	105C	5027
Student Accounts	120C/120D	5022
Student Employment Assistance		5025
Student Housing	120	5078
Transcripts	120	5026
Tutoring Services	102	5096

964-6278 or 800-362-2127 Ext.#6278, Ankeny Campus

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## **Carroll Campus**

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

Ext No.

··· [·····	Rm. No.	Ext No
Academic Achievement	157	8333
Accidents–Auto (On Campus)	Business Office	1755
Address Changes	167	8331/8332
Advising	167	8331/8332
Assessment Center	167	8303
Bookstore	Bookstore	8310
Campus Clubs	167	8331/8332
Campus Events	167	8331/8332
Career Planning/Counseling	104 7	12-792-4350
Disability Services	167	8331/8332
Drops/Adds	167	8331/8332
Emergencies	Business Office	1755
Financial Aid	Business Office	8305
Graduation	167	8331/8332
Health Insurance	167	8331/8332
International Students	167	8331/8332
Iowa New Choices	111	8304
Library	156	8316/8317
Lost & Found	Business Office	1755
Program Changes	167	8331/8332
Security	Maintenance	8312
Student Accounts	Business Office	8305
Student Employment Assistance	167	8331/8332
Transcripts	167	8331/8332
Transfer Evaluation	167	8331/8332
Tutoring Services	157	8333
Veterans Services: Refer all inquiries to		

964-6278 or 800-362-2127 Ext.#6278, Ankeny Campus

## **CAMPUS MAPS & DIRECTORIES**

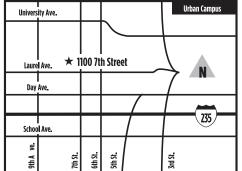


## **Newton Campus**

641-791-3622 or 1-800-362-2127 Campus Code #5

	Rm. No.	Ext No.
Academic Achievement	107	1730
Accidents–Auto (on Campus)	Info Desk	3622/1720
Address Changes	Info Desk	3622
Advising	Advisors	1722/1723
Assessment Center	Info Desk	3622
Bookstore	105	1770
Campus Clubs	Advisors	1722/1723
Campus Events	Info Desk	3622
Career Academy	Bldg. 2	5165
Career Planning	Info Desk	1722/1723
Disability Services	106	1720/1721
Drops/Adds	Info Desk	3622
Emergencies	Info Desk	3622
Financial Aid	106	1725
Graduation	Advisors	1722/1723
Health Insurance/Services	Info Desk	3622
International Students	Info Desk	1722/1723
Lost & Found	Info Desk	3622
Program Changes	Advisors	1722/1723
Security		1795
Student Accounts	106	1725
Student Employment Assistance		1722/1723
Transcripts	Info Desk	3622
Transfer Evaluation	Advisors	1722/1723
Tutoring Services	107	1730
Veterans Services: Refer all inquiries to		

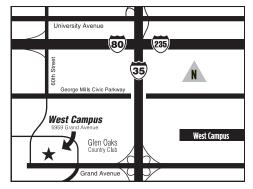
964-6278 or 800-362-2127 Ext.# 6278, Ankeny Campus



## **Urban Campus**

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

	Rm. No.	Ext No.
Academic Achievement	204	248-7523
Address Changes	101	248-4226
Advising	101E	248-4226
Assessment/Testing Ctr	207A	248-7218
Bookstore	134A	248-7212
Campus Clubs	101G	248-7515
Campus Events	101	248-4226
Career Planning/Counseling	101E	697-7791
Disability Services	101D	697-7727
Drops/Adds	101	248-4226
Emergencies	101	248-4226
Financial Aid	101A	248-7522
Graduation	101	248-4226
Health Insurance/Services	101A	248-4226
Information	101	248-4226
International Students	101E	248-4226
Library	122C	248-7210
Lost & Found	101	248-4226
Program Changes	101	248-4226
Security	101	248-7200
Student Accounts	101A	248-7242
Transcripts	101	248-4226
Transfer Evaluation	101	248-4226
Tutoring Services	101	697-7798
Veterans Services: Refer all inquirie 964-6278 or 800-362-2127 Ext.# 627		



## **West Campus**

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

	Rm. No.	Ext No.
Provost's Office	112W	633-2439
Associate Dean	107W	633-2442
Assessment Center	213W	633-2426
Provost's Secretary	110W	633-2406
Academic Achievement	213W	633-2472
Advising	107W	633-2405/2412
Bookstore	115W	633-2423
Campus Tours	109W	633-2408
Disability Services	109W	633-2408
Drops/Adds	109W	633-2408
Financial Aid	110W	633-2411
Registration/Records	109W	633-2408
Resource Center (Library)	213W	633-2426
Student Accounts	110W	633-2411
Veterans Services: Refer all inquiries to		

964-6278 or 800-362-2127 Ext.# 6278, Ankeny Campus

## 2011-2012 ACADEMIC CALENDAR

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#### Fall semester 2011

Aug. 25, 2011	.Fall semester Begins (first day of classes)
Sept. 3-5, 2011	.Labor Day, No Classes, Offices Closed
Oct. 1, 2011	Application Deadline for Fall Graduates
Oct. 19, 2011	.Midsemester
Oct. 21, 2011	.All Staff In-Service, No Classes, Offices Closed
Nov. 4, 2011	.*Last Day to Withdraw from Regular Semester Classes
Nov. 24-27, 2011	.Thanksgiving Holiday, No Classes, Offices Closed
Dec. 15, 2011	.Last Day of Fall semester
Dec. 24, 2011–Jan. 2, 2012	.Holidays, Offices Closed

#### Spring semester 2012

Jan. 9, 2012	Spring semester Begins (first day of classes)
Jan. 16, 2012	Martin Luther King Jr. Holiday, Offices Closed
Feb. 1, 2012	Application Deadline for Spring/Summer Graduates
Feb. 17, 2012	All Staff In-Service, No Classes, Offices Closed
Mar. 5, 2012	Midsemester
Mar. 19-25, 2012	Spring Break, No Classes, Offices Open
Mar. 27, 2012	*Last Day to Withdraw from Regular Semester Classes
May 3 2012	
1 ay 5, 2012	Last Day of Spring semester
	Last Day of Spring semester 7:00 p.m. Ankeny/Urban/ Newton/West Graduation
May 3, 2012	7:00 p.m. Ankeny/Urban/
May 3, 2012 May 4, 2012	7:00 p.m. Ankeny/Urban/ Newton/West Graduation

#### Summer semester 2012

May 22, 2012	Summer semester Begins (first day of classes)
May 26-28, 2012	Memorial Day Holiday, No Classes, Offices Closed
July 4, 2012	Holiday, No Classes, Offices Closed
Aug. 2, 2012	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.

K	EY
	Semester Begins
	Midsemester
	Last day to withdraw from classes*
$\star$	Holiday-College Closed
	Semester Ends
	Spring Break
	All Staff In-Service, No Classes,

**Offices Closed** 

Des Moines Area Community College is dedicated to helping individuals 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**

- Complete an admission application and submit it online or at the DMACC campus nearest you. You may request a form by calling any DMACC campus. To apply online, visit the DMACC website at www.dmacc.edu. There is no fee for applying for admission to DMACC.
- Complete any required assessment.
   Assessment guidelines can be found under the heading, Guidelines for Required Assessment.
- 3. Complete any program entry requirements for the desired program for which application has been made.
- Submit a copy of your high school transcript or GED scores if either is needed for entry to a specific program.

For admission requirements to any specific program, refer to the Program Entry Requirements in the informational material that accompanies each individual academic program. After applicants have met all admission requirements, they will be notified. DMACC accepts students on a first-come, first-served basis. If a program is filled to capacity at the time all admission requirements are met, the applicant will be placed on standby and so notified.

### GUIDELINES FOR REQUIRED ASSESSMENT

DMACC requires a skills assessment of all new, full-time students. Full-time is defined as 12 credit hours or more during Fall and Spring semesters and 8 credit hours or more during the Summer semester. This assessment provides information about students' academic skills in reading, writing and mathematics.

Assessment information is used to assist with course selection and schedule planning. The assessment requirement may be met by completing any one of the following options:

- 1. Complete COMPASS testing at any DMACC campus. The COMPASS Assessments in math, reading and writing are given to students who do not qualify under options 2 or 3.
- 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 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 coursework such as psychology, sociology, economics, etc., and/or vocational technical coursework requiring comparable reading skills.
  - Math—grade of C or higher in a college-level mathematics course.
  - If college experience is older than five years, students are strongly encouraged to take the COMPASS test.

Assessment 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.

- 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 below to make a testing appointment at the campus of your choice:
  - Ankeny: 515-964-6595 or 1-800-362-2127, ext. 6595
  - Boone: 515-432-5096 or 1-800-362-2127, ext. 5096
  - Carroll: 712-792-1755 or 1-800-622-3334
  - Newton: 641-791-3622 or 1-800-362-2127, ext. 3622
  - Urban: 515-248-7218 or 1-800-362-2127, ext. 7218
  - West: 515-633-2408 or 1-800-362-2127, ext. 2408

## **ESL TEST IN COMPASS**

DMACC offers English as a Second Language ESL Test in COMPASS for students whose native language is not English. All full-time and part-time students whose native language is not English are required to take and pass the ESL Test in COMPASS as a requirement for admission. This requirement may be waived in certain circumstances based on TOEFL, ACT or IELTS scores or previous college coursework. Placement in ESL courses, college preparatory courses or college-level courses is based on minimum scores. Please contact the DMACC Testing Center at the campus nearest you for more information.

#### STUDENTS WITH DISABILITIES

Students taking the COMPASS test who are in need of an accommodation due to a disability may apply and provide documentation to the Disability Services Coordinator. This request must be submitted prior to the test, and the student should make accommodation arrangements with both the Testing Center and the Disability Services Coordinator in advance of the test date. Accommodations are generally granted for access to assistive technology for the COMPASS test.

## ADMISSION OF HIGH SCHOOL STUDENTS

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

Admission steps:

- 1. Submit a completed Application for Admission.
- 2. Submit written approval from a parent/ guardian and from a high school counselor or principal on the Permission Form for High School Student.
- 3. Complete COMPASS testing or submit ACT scores. Course placement is mandatory based on the COMPASS or ACT scores.
- 4. Meet with a DMACC advisor or counselor prior to registration.

This procedure does not apply to high school age students enrolling under the Postsecondary Enrollment Options Act, Career Advantage or other special contractual agreements, except to the extent that full-time students must meet the Guidelines for Required Assessment.

## ADMISSION OF PRE-HIGH SCHOOL STUDENTS

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

- 1. Approval of the school counselor or principal.
- 2. Approval of the parent or guardian.
- 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 semester.
- 6. Students must meet with the appropriate instructor, program chair, or dean for an evaluation of readiness for each desired course. The students's parent may not be present at this meeting. A determination that a student is not ready, either educationally or emotionally, will prohibit enrollment in that course.

#### ADMISSION OF HOME-SCHOOLED STUDENTS

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

- 1. Complete a DMACC Application for Admission.
- 2. Provide a written statement of approval from a parent or guardian on the Permission Form for High School Student.
- 3. Complete COMPASS testing or submit ACT scores of 19 or better in the English, Mathematics and Writing tests.

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

4. The student must meet with a DMACC advisor or counselor prior to registration.

#### ADMISSION OF GUEST STUDENTS (SUMMER ONLY)

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

Guest students must complete a DMACC Application for Admission and supply proof of enrollment (e.g., 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 30 days prior to the first day of the semester.

Semester Deadline	
Fall 2011	July 29, 2011
Spring 2012	December 9, 2011

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 July 29, 2011, DMACC will process the application for the Spring semester.

#### Deadlines for International Transfer Students

Semester	Deadline
Fall 2011	August 12, 2011
Spring 2012	December 22, 2011

#### INTERNATIONAL STUDENT APPLICANTS

## New Full-Time International Student Applicants

New full-time international students need to obtain Certificate of Eligibility Form I-20 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 by 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:

- A completed and signed DMACC International Application for Admission. Do not apply online.
- 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 and accompanied by a letter or bank statement dated within six months of the application. Financial support of approximately \$17,000 (USD) is needed per year. (In addition, a refundable deposit of \$4,000 (USD) is required. Refer to #7 for more deposit details.) 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. Payment of a \$100 processing fee. This may be sent in the form of a bank draft or an international postal money order. Payment must be made before an I-20 will be issued.
- 5. An official transcript that provides evidence of graduation from a secondary school and transcripts from all postsecondary institutions attended. Photocopies may be accepted if they are properly notarized as true copies. Transcripts must be translated into English.

Students who wish to transfer credits from a college or university from outside the United States to apply toward degree requirements at Des Moines Area Community College must have transcripts reviewed by a commercial service. The review must be completed at the subject analysis or catalog level. Students are responsible for the additional fees. Contact the International Student Office for further information.

The college issues an I-20 Certificate of Eligibility form after students complete the steps above and qualify for admission.

The following items must be provided upon the student's arrival at DMACC to complete the admission process:

- 6. Official evidence of English proficiency. All full-time and part-time students whose native language is NOT English are required to take and pass the ESL Test in COMPASS as a requirement for admission. This test is available at the assessment centers located on each DMACC campus. This requirement may be waived by providing any of the following:
  - a. TOEFL (Test of English as a Foreign Language) score of 173 on the computer test, 500 on the paper test, or 61 on the iBT internet-based version (45 if speaking not completed) in order to enroll in credit courses. The code for DMACC is #6177.
  - b. Official transcripts from an accredited United States college or university showing successful completion ('C' or better grade) of a college-level writing course and 6 hours of college-level academic coursework requiring reading.
  - c. ACT score of 19 or higher in Reading and Writing. The ACT code for DMACC is 1272.

- d. IELTS (International English Language Testing System) score of 5.0.
- 7. A refundable deposit of \$4,000 (USD) is required for new or transfer F-1 students and must be paid before course registration. It may not be used to pay educational expenses until the last semester the student is enrolled.
- 8. Proof of medical insurance. Students who purchased their own medical insurance must provide proof of insurance within the first 15 days of the semester. If no proof of insurance is provided, insurance will be provided and a fee of approximately \$850 per year will be assessed to the student.
- 9. Completion of the "Guidelines for Required Assessment" and any additional entry requirements for the program of study.

#### Transfer International Student Applicants

Students who apply to Des Moines Area Community College as transfers 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:

- A transfer release signed by the Designated School Official (DSO) or Alternate Responsible Officer (ARS) from their most recent school of attendance.
- 11. A completed DMACC International Student Transfer Form, completed by the current school's International Student Advisor.
- 12. Copies of passport including the VISA pages, I-94 forms and all previously issued I-20 forms.

#### New Part-Time International Student Applicants

Students who are enrolled full-time at another college or university within the United States and wish to enroll part-time at DMACC must provide items 1, 6 and 12 from above, plus a copy of their student ID card from the primary school. Students should designate "Liberal Arts" as their major program of study.

All other types of applicants should contact the International Student Office.

## RESIDENCY

Requirements for proof of lowa residency are established for community colleges by the lowa Department of Education. Please note that a student cannot be a resident of two states at the same time. If your home is in another state and you are living in Iowa for the purpose of attending school, you are a resident of your home state and not a resident of Iowa.

You will be considered a resident of Iowa for DMACC tuition and fee purposes if you are:

- 1. Permanently domiciled in Iowa (not living in Iowa primarily for educational purposes); and
- 2. Have resided here for a period of not less than 90 days prior to the first day of the semester in which you will be attending; and
- 3. You provide supporting documentation issued/dated on or before the appropriate date on the timeline below to prove your lowa residency. (See list of acceptable documents under Application Process below.)

In-state tuition is also given to residents of Iowa Sister States. These include:

- Cherkasy Oblast, Ukraine
- Hebei Province, PRC
- Stavropol Krai, Russia
- Taiwan
- Terengganu, Malaysia
- Veneto Region, Italy
- Yamanashi Prefecture, Japan
- Yucatan, Mexico

Proof must be given showing that the student is actually from the Sister State.

If you are classified as an out-of-state student, it is your responsibility to submit the appropriate documents needed to prove lowa residency. In-state residency status is not automatically changed after a certain period of time.

#### RESIDENCY APPLICATION TIMELINES

To meet the 90-day requirement, **you must provide documentation** proving that you began residing in Iowa on or before the following dates:

Semester	Deadline
Fall 2011	On or before May 27, 2011
Spring 2012	On or before Oct. 11, 2011
Summer 2012	On or before Feb. 22, 2012

To apply for reclassification from nonresident to resident status, follow these steps:

 Complete the DMACC Request for Residency Status form.

- Submit supporting, dated documentation demonstrating residency in lowa to any DMACC campus **prior to the first day of the semester** for which you are registering. To show that your purpose for living in lowa is for more than attending school and to show that you have been a resident of lowa for 90 days or more, you must provide one of the items listed in A through E below as evidence. The second document you provide may be from A through G.
  - a. Iowa driver's license
  - b. Iowa vehicle registration form
  - c. Iowa state income tax return, signed and dated
  - d. Iowa voter registration card
  - e. Proof of Iowa Homestead credit on property taxes
  - f. Written and *notarized* documentation from an employer that you have been employed in Iowa for a minimum of 90 days prior to the start of the semester
  - g. Other indicators of Iowa residency, such as apartment lease dated and signed by both you and the manager, utility bills, bank statements, etc., dated and showing your Iowa address.

If you are a lawful permanent resident (LPR) of the United States or an approved refugee, you may apply for residency status. International students who are in the United States on any type of student visa (e.g., an F-1 or F-2 visa) *cannot* establish in-state residency while studying in this country.

For more information, see our website at **www.dmacc.edu/admissions/residency.asp** or contact the Registrar's office at 515-964-6320.

### READMISSION

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

Students accepted to a limited enrollment or selective admission program and who did not start when planned or withdrew for one or more semesters must contact the department chairperson to request enrollment as a "Restart" student. Students who have been suspended due to failure to meet the College's academic standards must meet the requirement for readmission as found in the Academic Standards section of the catalog before reenrolling.

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

#### TRANSFERRING CREDIT TO DMACC

#### Evaluation of Previous Training and Education

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

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

A maximum of 43 semester credit hours of transfer credit is applicable toward associate degree requirements. The total grade point average of credits transferred to DMACC must equal 2.0 or higher. Some programs may require a minimum grade of "C" in each course that fulfills a degree requirement. Since the student's DMACC grade point average is calculated from coursework 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 can access their DMACC transcript using the web information system to view transfer award.

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 (MOS) evaluation program.

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

### **CAMPUS TOURS**

Prospective students are invited to visit any or all of the DMACC campuses during "**Discover DMACC Day**." Individual tours may be arranged by calling 1-800-362-2127 and selecting the campus of your choice, clicking the "Visit DMACC" link at **www.dmacc.edu** 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	515-248-4226
West Campus	515-633-2408

## REGISTRATION

#### REGISTRATION PROCEDURES

#### New, Full-Time Students

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

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

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

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

#### New, Part-Time Students

New part-time students (11 or fewer credits Fall and Spring semesters, 7 or fewer credits Summer semester) are encouraged to participate in orientation/registration, but are not required to do so. Registration during the time and dates published on the DMACC website and in the Credit Schedule of classes can be completed in person, by telephone or via the internet.

#### **Continuing Students**

These students may register in person, by telephone or the internet in accordance with the times and dates published on the DMACC website and in the Credit Schedule of classes.

## **ADDING A COURSE**

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

### **DROPPING A COURSE**

Students may drop a full-semester credit course through the 50th class day of the Fall and Spring semesters and the 30th class day of the Summer semester. The last day to drop a course that does not run the full length of the Fall, Spring and Summer semesters depends on the beginning and ending dates of the course; the applicable date is published in the DMACC Credit Schedule and is also available by contacting the Registration Office on any campus. Courses dropped during the first week of the semester will not appear on students' transcripts.

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

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

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

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

#### Dropping or Adding Courses After the Deadlines

Students who miss the deadline for dropping a course, receiving a refund of tuition and fees, or adding a course may file an appeal asking that the deadline in question be waived. In order to appeal, students complete a Petition for Policy Waiver and submit it to their campus Student Services Office. Students must have exceptional extenuating circumstances that precluded compliance with the deadlines. Documentation must be submitted in support of the petition. Students must meet with an ombudsperson before submitting a petition. Petitions must be submitted no later than the last day 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 the internet. Payment is due at the time of registration.

## EDUCATIONAL EXPENSE/STUDENT ACCOUNTS

### **TUITION AND FEE CHARGES**

The DMACC Board of Directors establishes tuition and fee charges. Tuition is charged on a per-credit basis. Additional supplemental fees are described below under "other fees."

Nonresident tuition, not including fees, is twice the amount of resident student tuition. See the tuition and fees chart on the following page. The DMACC Board of Directors has the authority to change tuition and fees after the charges are published in this catalog.

### **OTHER FEES**

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

#### DMACC ONECARD/ STUDENT ID

All currently enrolled credit students will receive the DMACC OneCard from Higher One. This new student photo ID card not only serves as a picture ID confirming college enrollment and on-campus privileges such as using the library, but, when used in tandem with the OneAccount, also has all the purchasing power of the debit MasterCard® network. The DMACC OneCard also provides students a choice in receiving any financial refunds from DMACC, allowing them to get their money quicker and easier with new electronic options.

- The DMACC OneCard will be mailed to you by Higher One at your mailing address on file with DMACC. Please verify that your address is correct on the DMACC Web Info System at www.dmacc.edu/WEBINST.asp.
- Student photos will be taken on all campuses. Please have your photo taken at one of DMACC's campus photo sites.
- The DMACC OneCard should be activated at **www.dmacconecard.com**.
- Lost cards will be replaced for a \$20 fee assessed to your DMACC student account.
- Students must register their OneCard with the DMACC Libraries in order to have access to library resources. Please contact your campus library for more information.

### **INDEBTEDNESS POLICY**

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

### DEPOSITS

International students are required to pay a \$4,000 deposit prior to admission to the College. This is coordinated through the International Student Office.

Students must notify the Business Office when they have deposited money available to pay tuition. At the student's request, additional deposit money may be released for the purchase of books at the college bookstore.

Students are encouraged to deposit money prior to each semester of enrollment. Call the International Student Office at the Ankeny Campus for information.

### **REGISTRATION PLUS+**

Students who qualify by registering early may make a nonrefundable deposit of \$200 as one of the options under the registrationplus+ program. Making this deposit will postpone the due date for the payment of tuition by as much as one month.

#### 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.

## **BILLING POLICY**

DMACC students will receive notification of their DMACC bills electronically approximately 4–6 weeks before a semester begins via the students' DMACC email address. Statements may also be viewed at any time by clicking on QuikPay on the DMACC WebInfo system.

## **PAYMENT POLICY**

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

**Important:** Enrollment in credit classes 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 semester.* 

Payment for Noncredit Continuing Education classes is required when registering.

## **PAYMENT BY CHECK**

When you provide a check as payment, you authorize DMACC to use information from your check to process a one-time Electronic Funds Transfer (EFT) or draft drawn from your account, or to process the payment as a check transaction. When DMACC uses information from your check to make an EFT, funds may be withdrawn from your account on the same day you make your payment, and you will not receive your check back from your financial institution.

If your payment is returned unpaid, you authorize the collection of your payment and a return fee of \$30 by EFT(s) or drafts(s) drawn from your account.

## EDUCATIONAL EXPENSE/STUDENT ACCOUNTS

### 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.
- Students should consider a possible reduction of financial aid. See the Financial Aid Recipients section of this catalog.

## Student refunds are computed by using one or more of these factors:

- 1. The date the Student Registration Office receives a formal drop form from the student
- 2. The date the Student Registration Office receives a phone call from the student requesting a class drop
- 3. The date the student initiates a drop via the internet.

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

## **REFUND SCHEDULE**

(normal/full-length semester classes only)

First Week of semester	100%
Second Week of semester	100%
After Second Week of semester	No Refund

#### Important:

- 1. Refunds for classes other than the normal full-semester 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/semester dates—NOT the viewing dates.

DMACC reserves the right to change the Refund Schedule at any time.

3. If a student makes a \$200 deposit as part of the registrationplus+ option and attends DMACC, the deposit will be applied toward tuition. If a student decides not to attend, the deposit is nonrefundable.

## **EDUCATION TAX CREDITS**

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

## EDUCATIONAL EXPENSE

## STUDENT TUITION RATE FOR CREDIT OFFERINGS

Full- or Part-Time Enrollment (per credit) Resident	\$131.00	
Full- or Part-Time Enrollment (per credit) Nonresident	\$262.00	
Audit (per credit) Resident	\$131.00	
Audit (per credit) Nonresident	\$262.00	
Career Supplemental Noncredit Courses (per contact hour)	Market Rate	
Continuing and General Adult Ed-Local Schools (per contact hour)	Market Rate	
Adult High School Diploma—Course Fee	\$100.00	
Correspondence Course Fee	\$100.00	
Nonresident tuition is 200% of resident rate.		

## FEES

Music Fee (piano/instrumental per course)	Market Rate	
Correspondence Course Fee	\$15.00/course	
TV Course Fee	\$30.00/course	
Lab Fees for Advanced Technology Center and		
Computer Application Courses (per course)	Market Rate	
International Student Processing Fee	\$100.00	
GED—Testing/Diploma	\$100.00	
GED—Instructional Materials Fee	\$50.00	
NLN Testing (per test)	\$100.00	
Online Course Fee (per credit hour)	\$25.00	
Web-Blended Course Fee (per credit hour)	\$10.00	
Late Registration Fee	\$25.00	
Re-Registration Fee for Nonpayment	\$25.00	
Tobacco-Free Violation	\$50.00	
Background Checks, Certification & Testing & Consumable Supplies (per course)	Market Rate	
Deferred Payment Fee	\$ 25.00	
Returned Check Fee	\$30.00	

## **TRANSCRIPT FEES**

Regular Request (sent within two business days)	No Charge
Same-Day Service Request	\$5.00
FAX Requests	\$5.00

## **TRAFFIC FINES**

\$100.00
\$10.00
\$10.00
\$25.00
\$50.00
\$50.00
-

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

### 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 students 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 2009–2010 budget, are as follows:

Iowa Resident		Nonresident	
Tuition and Fees	\$3,450	\$6,900	
Books and Supplies	\$1,160	\$1,160	
Room and Board	\$5,462	\$5,462	
Personal/Misc.	\$1,922	\$1,922	
Transportation	\$2,320	\$2,320	
Total	\$14,314	\$17,744	

Current cost of attendance can be found at www.DMACC.edu/fin\_aid/finstudentexpense.asp.

### FILING REQUEST FOR SPECIAL CONSIDERATION

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

#### FREE APPLICATION FOR FEDERAL STUDENT AID (FAFSA)

One application is all it takes. FAFSA worksheets are available at all campuses. Students must access the Free Application for Federal Student Aid (FAFSA ) on the Web at **www.fafsa.gov**. Students may access the Web by using computers available in the Student Financial Aid Office located in Building 1 on the Ankeny Campus.

Students may apply on the Web at **www.fafsa.gov**.

## WHEN TO APPLY

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

- 1. Complete the FAFSA as soon after January 1 as possible.
- 2. Make sure the appropriate signatures are on all forms.
- 3. Review all data before submitting the FAFSA. Check the student's Social Security number and birth date. ESTIMATED tax data may be used, but it is preferred that taxes be completed before filing the FAFSA, when possible.
- 4. Submit the FAFSA online.
- 5. You can obtain a PIN to electronically sign the form by visiting **www.pin.ed.gov**. 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 his or her PIN, contact:

1-800-362-2127, ext. 6800, or 515-964-6800 or email to: info-sys@dmacc.edu.

#### Helpful hints section:

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

### TYPES OF AID (GRANTS & SCHOLARSHIPS)

#### **Federal Pell Grants**

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

#### Federal Academic Competitiveness Grant

This is grant assistance for students who have completed rigorous high school coursework. First-year students are eligible for \$750 and second-year students are eligible for \$1,300.

Students who are eligible for Federal Pell Grants are enrolled full-time, have completed rigorous high school coursework and completed high school after January 1, 2006, for the first year or January 1, 2005, for the second year. Second-year students must also meet the GPA requirement of 3.0 and have a total of 32 credit hours.

## Federal Supplemental Educational Opportunity Grants (SEOG)

SEOG is available for undergraduate students who have completed and filed a FAFSA, are enrolled at least half-time and show exceptional financial need. The maximum amount is \$500 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 notifies DMACC of award recipients. The maximum annual award is \$1,200.

#### Iowa Grant

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

#### **TEACH Grant**

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

#### 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 for the freshman year only.

#### **Miscellaneous Scholarships**

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

#### APPLYING FOR DMACC AND OUTSIDE SCHOLARSHIPS AND GRANTS

#### **DMACC Scholarships**

Each year, the DMACC Foundation receives generous gifts from individuals, corporations and foundations. Fundraising efforts combined with earnings from Foundation investments provide student scholarships to hundreds of students annually. These awards are granted through a competitive application process.

Most awards are based on both financial need and academic achievement, with a few that are based solely on academic achievement. A full listing of Foundation scholarship awards available college-wide can be found on the Foundation's website:

www.dmacc.edu/foundation.

#### DMACC Foundation Scholarship Program

#### Criteria and Conditions for DMACC Foundation Awards

 Completed DMACC Admissions Application must be on file—OR applicant must be enrolled as a current DMACC student.

- Minimum of a 2.0 cumulative GPA for most recent coursework. Applicants with no recorded grade within the last 10 years will be exempt from this requirement.
- If awarded a scholarship, the applicant will be required to complete at least six DMACC credits and maintain at least a 2.0 GPA during the semester(s) of award.

\*Some awards may have higher requirements, which will be communicated at the time of award notification, if applicable.

### HOW DMACC AWARDS ARE PAID

Unless otherwise stated, all awards will be applied directly to a student's DMACC account and may be used for tuition and/or book charges at DMACC in the semester for which the award is given. Some awards are renewable for the following semesters. If a recipient fails to maintain his or her original enrollment criteria or drops out before the semester ends, he or she may be required to repay the DMACC Foundation.

#### DMACC Foundation's Scholarship Application Process

By applying once with the general online application, eligible applicants could be chosen to receive scholarships from any of our six campuses. The application is available after February 1 each year at:

www.dmacc.edu/foundation/scholarships.asp. The application deadline is April 15 for Fall semester awards. Applicants will be notified of their award status by mail no later than June 1. A second cycle of scholarship applications will be made available during the Fall semester to be awarded for the following Spring semester.

#### Application Components Include:

- Online form detailing personal, academic and financial information.
- One-page essay describing the applicant's educational and career goals, volunteer involvement, achievements and financial need. Applicants should explain how they would personally benefit from receiving scholarship support, and how they value a college education.
- Grade verification.

- Application Scoring will be based on: 50% Essav
  - 25% E33dy
  - 25% Financial Need25% Cumulative Grade Point Average

#### Outside Scholarships and Grants Websites

FASTWEB: www.fastweb.com

CollegeQuest: www.collegequest.com

CASHE: www.cashe.com

#### Tips for Applying for

#### **Outside Scholarships and Grants**

- Focus on scholarships/grants with criteria that closely match the student.
- Send a self-addressed, stamped envelope when requesting applications and information about scholarships/grants.
- Be aware of deadlines.

## EMPLOYMENT

#### Federal College Work-Study Program (CWSP)

The College Work-Study Program is for students who are enrolled and show financial need. The College Work-Study Program offers part-time jobs on- and off-campus. Students should contact the DMACC Student Employment Assistance Office for available positions.

#### **Community Service**

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

## STUDY ABROAD

A student in a study abroad program is eligible for aid if the program is approved for credit by an eligible school and the student is enrolled as a regular student at the eligible school. DMACC will accept the study abroad coursework for credit. The coursework does not have to be required for the student's degree program. DMACC must have a contractual agreement with the foreign school or a single written arrangement with a study-abroad organization to represent agreement between DMACC and one or more foreign schools.

A financial aid advisor will assist you with obtaining financial aid for study abroad. Visit the Financial Aid Office on the Ankeny Campus or call 515-964-6283.

### LOANS

#### Federal Direct Student Loan Program—Subsidized and Unsubsidized

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

Repayment for both loan types begins six months after terminating enrollment or dropping to less than half-time. The maximum annual subsidized/unsubsidized Direct Loan amounts are \$3,500 for freshmen and \$4,500 for sophomores. Independent students may be eligible to receive additional unsubsidized loans. 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 that is available to parents of dependent students. Students must be enrolled at least half-time. Parents can borrow the cost of the dependent student's education minus any financial aid the student receives. Parents apply through the DMACC Financial Aid Office.

## **ALTERNATIVE LOANS**

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

#### **Entrance Counseling**

All first-time borrowers at DMACC are required to attend an entrance counseling session.

Students may use the internet Entrance Counseling-tutorial at **www.dl.ed.gov** or visit the Financial Aid Office.

#### **Exit Counseling**

Students leaving or graduating from DMACC must complete the Exit Counseling requirement. It is important for students to know the amount of their loans, as well as repayment options and requirements and loan cancellation provisions. Students may use 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, (VA) and serves as a resource to other DMACC departments and services.

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

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

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

#### Iowa National Guard

The Iowa National Guard Educational Assistance Program may pay up to 100 percent of an eligible student's tuition (not additional class fees) in the Fall and Spring semesters at DMACC. Eligible students must be active members of the Iowa Army or Air National Guard. Individuals must apply for this grant through their Guard unit commander each spring for the coming academic year. 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, Carroll and Urban 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-served basis; mileage allowance to the Ankeny and Urban Campuses if the student lives outside Polk County; and childcare assistance if not eligible for State block grant. All financial assistance depends on availability of funds. Details may be obtained from the lowa 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 at **www.dmacc.edu/strive**.

### VOCATIONAL REHABILITATION

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

#### 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 semester a student is enrolled and receiving financial aid at DMACC, he or she must earn a minimum grade point average of 2.00.
- b. Subsequent semesters will require the student to earn a cumulative GPA of at least 2.00.
- c. Acceptable grades to maintain a cumulative 2.00 GPA are: A (superior),
  B (above average), C (average), P (pass),
  T (credit by testing). A grade of D (below average) will be acceptable only from the standpoint that it is figured into the cumulative GPA.
- d. If a student receives an I (incomplete), W (withdraw or dropped), X (repeats), or F (failing), he or 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 semester of enrollment.
- e. Summer credits earned will be included when totaling minimum credits completed for each calendar year.

#### 3. Warning Status

Students will be placed on Warning Status if either the qualitative or quantitative criteria are not met. During the next semester of enrollment, the student's GPA musty increase to a cumulative 2.00 GPA if the qualitative measurement was not met. If the student does not earn the minimum required credits, deficit credits *and* the minimum required credits must be earned in the next semester. GPA must be maintained as well. (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 semester a student fails to meet one or more of the minimum progress standards, eligibility for financial aid will be cancelled.

#### 5. Regaining Eligibility

To regain eligibility for financial aid, students will be required to regain cumulative 2.00 GPA at their own expense. If students do not earn the minimum credits for which financial aid was received, they must earn the number of deficit credits, as indicated in point 3 above, at their own expense. If a student is reenrolling after an absence of one or more semesters and has had financial aid cancelled, the minimum qualitative and quantitative standards to regain eligibility must be met. If the student 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 semesters 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 the minimum standards from being met. 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 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 or 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. This may result in a financial aid warning or cancellation.

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

#### Example:

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

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

# NEVER-ATTENDING PROCESS (10th day—NA)

Prior to the 10th day of class, instructors can view their class lists online and must identify students who have never attended their class. Students will receive an email indicating the classes that were reported. If they have been reported as never-attending, the student is dropped from enrollment, and the student's financial aid is adjusted accordingly. If a balance is due, a letter is sent to the student, indicating the amount and a due date. If an error was made, the student may obtain a signature from the instructor and submit the signed email to the Registrar's office to reenroll.

### QUIT-ATTENDING PROCESS (Midsemester—QA)

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

## LEAVE OF ABSENCE

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

### FINANCIAL AID RECIPIENTS

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

## **RETURN OF FINANCIAL AID**

#### Title IV Funds

A student's financial aid is based on the number of classes the student is enrolled in and the number of days the student is enrolled in classes. When a student initiates a withdrawal from one or more classes, the amount of financial aid the student is eligible to receive is affected. The Return of Title IV funds to the federal government is based on a calculation that determines how much aid the student is eligible to receive and how much the student is no longer eligible for, because he or 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

#### For example:

considered earned.

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 semesters of the promissory note. That was, through scheduled payments to the holder of the loan over a period of time.

If the student is required to repay unearned Pell and/or SEOG Grant funds, the law provides that the student is only required to return grant funds if the final grant overpayment amount exceeds 50 percent of the total grant assistance the student received for the payment period.

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

#### Example:

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

Bill was awarded the following financial aid, which was credited to his student account:

Federal SEOG	250
Federal Pell Grant	998
Federal Direct Student Loan	\$ 1,733

### Total Financial Aid Awarded \$2,981

Bill completed only 11 days of classes or 10 percent of the semester. Bill's tuition and fee charges for the full semester are \$1,500.\* (2010-2011 tuition rate is estimated. Please visit **www.dmacc.edu** for current tuition and financial aid information.)

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

## FINANCIAL AID/ACADEMIC INFORMATION

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

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

#### Amount of Unearned Aid \$2,682.90

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

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

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

Total Institutional Charges Multiply Percent of Unearned Aid	\$1,500.00 x .90
Amount to be Repaid	\$1,350.00
Bill is required to return the remain	ing
unearned amount.	
Total Unearned Aid	\$2,682.90
Subtract Percent of Unearned Aid	-\$1,350.00
Amount Bill Must Repay	\$1,332.90

#### Amount and Order of Repayment

In the example, both DMACC and Bill must return loan funds. After completing the calculations and following the repayment guidelines, it was determined that DMACC should repay \$1,350.00 to Bill's loan. Bill will be required to repay \$383.00 to the Federal Direct Student Loan Program, through a repayment plan in accordance with the semesters of his promissory note. In addition, based on the calculations, \$949.90 of Bill's Pell Grant was unearned. As DMACC has already paid the total amount it owes to the loan program, Bill is responsible for paying back 50% of the Pell Grant.

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

#### **Title IV Grant Overpayment**

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

## ACADEMIC INFORMATION ACADEMIC INTEGRITY

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

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

## ACADEMIC RECOGNITION

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

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

#### ATTENDANCE AND ENROLLMENT

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

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

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

## AUDITING COURSES

Students may enroll in most courses on an audit basis with instructor approval. Audit enrollment may be denied in select courses based on prerequisite knowledge or skills, high demand or other criteria. For example, a course with a practicum or clinical experience may not be appropriate for audit participation.

The same amount of tuition is due for audited courses as students pay to take the courses for credit. Audited courses appear on students' records with no credit and marks of "N."

Students auditing courses are not required to complete regular assignments or examinations, though attendance is expected. Instructors may exclude students who are auditing from participation in portions of the course, such as special projects. Enrollment on an audit basis does not qualify for financial aid or insurance purposes.

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

## **GRADE APPEALS**

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

## **GRADE REPORTS**

Final grade reports are available approximately one to two weeks after the end of a semester. Students may view their grades on the Web. Progress grade reports are issued prior to midsemester 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 been reported as 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.

Letter Grade	Numerical Value
А	4.00
A-	3.67
B+	3.33
В	3.00
B-	2.67
C+	2.33
С	2.00
C-	1.67
D+	1.33
D	1.00
D-	.67
F	.00

#### **Other Grade Designations:**

W	Withdrawn/Dropped
1	Incomplete
Ν	Audit
Ρ	Pass
Т	Testing
L	Life Experience

### **COMPUTING GPA**

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

- a. Multiply hours of credit in each course by the appropriate numerical value of the grade to find the quality points.
- b. Total the quality points earned.

c. Divide the total quality points earned by the total number of semester hours taken (excluding courses in which a "W," "I," "N," "P," "T" or "L" was received).

#### Example:

	Semeste Hours	r	Quality Grade	Points
Composition I	3	Х	B+ (3.33) =	9.99
Fund. of Oral Communication	3	Х	A (4.00) =	12.00
Finite Mathematics	4	Х	C- (1.67) =	6.68
Intro to Computer Literacy	3	Х	(+ (2.33) =	6.99
Elementary Spanish I	5	Х	D+ (1.33) =	6.65
TOTAL	18 semes	ster h	iours	42.31

Divide 42.31 points by 18 semester hours = 2.350

#### OTHER CREDIT OPTIONS AND SPECIAL OFFERINGS

#### **Advanced Placement (AP)**

This program allows high school students 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 test (T) credit after a minimum of 12 semester hours of credit have been successfully completed at DMACC.

#### **Advanced Standing Credit**

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

#### Alternative Methods for Obtaining Credit

Students may obtain college credit for competencies gained through formal training, work experience or certain approved examinations. Some alternative methods available include:

- Converting DMACC continuing education coursework to credit.
- Converting DMACC corporate training to credit.

- Earning credit for experiential learning through portfolio development or skills demonstration.
- Earning credit through the assessment of work experience.
- Converting certification or licensure from a state or national examination to credit.

Students should first examine the competencies for courses to determine which course or courses provide instruction in the subject area. Course competencies are available on the internet via the DMACC homepage. "Student Application for Alternative Credit" forms are available in the Dean's or Provost's office. Students then contact the dean or department chairperson in that subject matter area, who will determine if there is a possibility of obtaining credit and the method of assessment that may be available and appropriate for that course. Students may be required to complete a challenge test, develop a portfolio and/ or provide documentation. There is a charge for awarding alternative credit. Credit for employment experience is limited to courses that meet program requirements for internship, career courses, practicum, clinical experiences, field experiences and seminars related to these types of courses.

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

## Challenge Tests (DMACC Local Department Examinations)

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

- Students may challenge test a course only once. This can occur at any time prior to formal registration in that course or, if the students are enrolled in the course, by the designated drop date for the course.
- If the examination is requested prior to formal registration in a class, a nonrefundable fee equal to one-half the tuition for that course shall be charged.
   If the examination is unsuccessful, that fee may NOT be applied if the student subsequently, formally registers for that course.

- A course that is a prerequisite to a course that has been successfully completed cannot be challenged.
- A challenge test cannot be used as a course repeat.
- Credit earned by challenge testing is entered on students' permanent records only when students have earned 12 credit hours at DMACC. A "T" mark is used and is not included when computing grade point average.

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

#### Credit for Educational Experience in the Armed Forces

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

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

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

## College Level Examination Program (CLEP)

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

A minimum of 12 semester credit hours must be successfully completed at DMACC before the CLEP credit will be applied to the student's permanent record. CLEP testing is available on the Ankeny and Boone Campuses. For more information, visit our website at

#### www.dmacc.edu/testingcenter/cleptesting.asp.

#### **Cross-Enrollment**

Under a special agreement, a limited number of students may enroll, tuition-free, in one course at Drake University, Grand View University or lowa State University during the 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 semester.

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

#### **High School Articulated Courses**

DMACC has entered into joint enrollment agreements with some of the high schools in the district. Specific courses are offered in the high schools under curriculum guidelines jointly approved by DMACC and the high school. Credit earned through these agreements is recorded as transfer (TFR) 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 semester and eight hours in total may be earned through independent study.

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

#### International Travel/Study Courses

Many DMACC faculty have traveled extensively and 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 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 lowa's Postsecondary Enrollment Options Act.

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

#### Study 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 lowa 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.

## **REPEAT COURSEWORK**

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

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

#### **Repeat Symbols**

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

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

Example:			
FL 10-11	PSY 111	D	3.00 E
SP 11-12	PSY 111	А	3.00 I

#### Incomplete and Failing Mark Policies

Students unable to complete some portion of assigned coursework during the regular semester may sign a contract with an instructor approving an "I" (Incomplete) grade. In such cases, the students must complete the course by the midsemester date of the following semester. Incomplete grades are generally not approved by instructors unless there are extenuating circumstances 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 semester. A grade of Incomplete automatically changes to an "F" if the coursework is not satisfactorily completed within the time period specified.

### SATISFACTORY ACADEMIC PROGRESS

The following applies only to credit enrollment at DMACC.

Passing grades are required in all courses outlined in the program of study. The cumulative grade point average of 2.00 in all coursework applicable to the degree, diploma or certificate of specialization is required for satisfactory completion or progress. With appropriate approvals, a program of study at Des Moines Area Community College may establish academic progress standards higher than those specified above.

Students who have attempted 12 or more credits with grades of A, A-, B+, B, B-, C+, C, C-, D+, D, D-, F or P at Des Moines Area Community College are subject to the following academic progress standards:

- 1. Satisfactory academic progress is indicated by a cumulative grade point average (GPA) of 2.00 or higher.
- 2. Guidelines for placing a student on ACADEMIC PROBATION:
  - a. A student whose cumulative GPA falls below 2.00 at the end of any semester will be placed on ACADEMIC PROBATION for the next semester of enrollment.
  - b. Students on ACADEMIC PROBATION who are assigned more than one grade of C- or worse 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 or her cumulative GPA is raised to 2.00 or higher.
  - d. Students on ACADEMIC PROBATION will continue on probationary status if their GPA for the semester immediately following their placement on probation is 2.00 or higher but the cumulative GPA remains below 2.00. This same rule will apply for the next semester 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 or 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 semester GPA of less than 2.00 will be placed on CONDITIONAL ENROLLMENT for the next semester of enrollment.
  - b. If the student is registered for the following semester and is placed on CONDITIONAL ENROLLMENT for that semester, he or her will be required to meet with a counselor or advisor no later than the first day of the CONDITIONAL ENROLLMENT semester to review his or 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 semester, 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 semester until his or her conditional enrollment semester final grades are recorded.
  - e. A student on CONDITIONAL ENROLLMENT who earns a semester GPA of 2.00 or higher, but the cumulative GPA remains below a 2.00, will be placed on ACADEMIC PROBATION.
  - f. A student on CONDITIONAL ENROLLMENT who earns a semester 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 semester 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 semester.
- 5. Guidelines for REENROLLMENT OF SUSPENDED students:

- a. After the nonenrollment 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 re-enrollment must develop an Educational Achievement Plan with a counselor or advisor, 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 re-enrollment requirements.
- A student placed on ACADEMIC SUSPENSION may appeal. Students wishing to appeal should contact the Director of Student Development, Ankeny Campus, 515-964-6222.

### STUDENT RECORDS— CONFIDENTIALITY

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

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

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

With the exception of the Directory Information items listed above, all student records are considered to be confidential and are open only to designated school officials 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 to the DMACC Student Handbook.

## TRANSFER CREDIT

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

## **TRANSCRIPT REQUESTS**

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

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

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

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

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

#### TRANSFERRING FROM DMACC TO ANOTHER INSTITUTION

- Students considering transfer to another college or university should contact an admissions or transfer counselor at that institution early in the planning process.
- The transferability of Des Moines Area Community College courses to other colleges and universities is determined by the receiving institution.
- Official college or university transcripts and high school transcripts are required during the application process. Students should request that 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 lowa 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**

## PROGRAM REQUIREMENTS & GRADUATION

## **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 coursework, 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 24 semester credit hours, no more than oneeighth of the total number of credits may be substituted. In programs of fewer than 24 semester credit hours, only one course of up to four semester credit hours may be substituted.

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

## DEGREES AWARDED

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

#### Degrees

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

#### Associate in Arts Degree (AA)

To receive an AA degree, students must: 1. Maintain a 2.00 grade point average on all

- work applicable for the AA degree.
- 2. Earn at Des Moines Area Community College a minimum of 1/3 of the semester credit hours applicable to the degree being pursued. No more than 43 transfer semester credit hours may be applied toward the degree.
- 3. Complete the final 10 semester credit hours at DMACC (or petition to the Registrar for, and receive, an exception).
- 4. Complete a minimum of 64 semester credit hours.
- 5. Include at least 45 semester credit hours of core courses.
  - Communications ...... 9 credits
  - Social & Behavioral Sciences ........ 9 credits

  - Humanities ......9 credits

  - Diversity Requirement ......\*3 credits
     \*The course taken to fulfill the Diversity Requirement may be "double counted" in any of the categories above.

6. Include at least 19 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 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, and receive, an exception).
- 4. Complete a minimum of 64 semester credit hours.
- 5. Include at least 28 semester credit hours of core courses.

  - Social & Behavioral Sciences ....... 6 credits
  - Math & Sciences ...... 6 credits
  - Humanities ...... 3 credits
  - Distributed Requirements...... 4 credits
  - Diversity Requirement .....\*3 credits
     \*The course taken to fulfill the Diversity Requirement may be "double counted" in any of the categories above.
- 6. Include at least 36 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; up to 4 semester credit hours of independent study may be earned in any single semester.

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

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

To receive an AGS degree, students must:

- 1. Maintain a 2.00 grade point average on all work applicable for the AGS degree.
- 2. Earn at Des Moines Area Community College a minimum of 1/3 of the semester credit hours applicable to the degree being pursued at DMACC. No more than 43 transfer semester credit hours may be applied toward the degree.
- 3. Complete the final 10 semester credit hours at DMACC (or petition to the Registrar for, and receive, an exception).
- 4. Complete a minimum of 12 semester credit hours at DMACC after the effective date of the AGS degree (January 1, 1992).
- 5. Complete a minimum of 64 semester credit hours.
- 6. Complete the following AGS degree requirements:

## **PROGRAM REQUIREMENTS & GRADUATION**

Communications 3 credits
Social & Behavioral
Science/ Humanities
Math & Sciences 3 credits
<ul> <li>Distributed Requirements</li></ul>
7. Electives

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 AAS degree education requirements listed below. Refer to individual AAS programs of study in this catalog to learn the courses required in addition to these general requirements. Students must complete a specific program in order to receive the AAS degree.

To receive an AAS degree, students must:

- 1. Maintain a 2.00 grade point average on all work applicable for the AAS degree.
- Earn at Des Moines Area Community College a minimum of 1/3 of the semester credit hours applicable to the degree being pursued at DMACC. No more than 43 transfer semester credit hours may be applied toward the degree.
- 3. Complete the final 10 semester credit hours at DMACC (or petition to the Registrar for, and receive, an exception).
- 4. Complete all required courses in a particular program of study. (Minimum of 64 semester credit hours.)
- 5. Satisfy the following AAS degree requirements:

a. Communications—3 credits ENG 105, 106, 108 COM 703

COM 703 ADM 157

- b. Social & Behavioral Sciences/ Humanities—3 credits AGB 101 ANT 100, 105 ART 101, 184, 186 DRA 101
  - ECN 120, 130 FLA 141, 142, 241, 242
  - FLC 141, 142, 241, 242 FLC 141, 142, 241, 242
  - FLF 151, 152, 241, 242
  - FLF 151, 152, 241, 24 FLC 141 142 241 24
  - FLG 141, 142, 241, 242
  - FLI 141, 142, 241, 242
  - FLJ 141, 142, 241, 242

FLS 151, 152, 241, 242, 181, 281 GEO 111, 125, 124 HIS 112, 113, 150, 153, 257 HUM 120, 116, 121 LIT 101, 142, 110, 111, 185, 166, 188, 193, 130, 190 MGT 145 MUS 100, 102, 202 PHI 101, 110, 105 POL 111, 112, 121, 125, 171 PSY 102, 111, 121, 241, 251, 261 REL 101 SOC 110, 115, 120, 200

c. Mathematics or Sciences-3 credits

ENV 115, 116, 145 BIO 138, 156, 732, 733, 734, 104, 112, 113, 135, 186, 164, 168, 173

BUS 211 or MAT 157, BUS 112

CHM 105, 122, 132, 165, 175, 263, 273

ELT 106, 108

MAT 110, 114, 116, 121, 141

MAT 157 or BUS 211

MAT 162, 166, 130, 129, 211, 217, 219, 227, 772, 773

PHS 152, 166

PHY 106, 160, 161, 213, 223, 710

d. Distributed Requirement-3 credits

Choose one course from a, b or c 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 DMACC a minimum of 1/3 of the semester credit hours applicable to the degree being pursued.
- 3. Complete the final 10 semester credit hours at DMACC (or petition to the Registrar for, and receive, an exception).
- 4. Complete all required courses in a particular program of study. (Minimum of 30 semester credit hours.)
- 5. Complete the following general requirements:One Communications course
  - One Social & Behavioral Science or Humanities course
  - One Math or Science course

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

#### **Advanced Standing Diploma**

To receive an advanced standing diploma, students must:

1. Prior to entry into the program, complete

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

#### **Certificate of Specialization**

To receive a certificate, students must:

- 1. Maintain a 2.00 grade point average on all work applicable for the certificate.
- 2. Earn at DMACC a minimum of 1/3 of the semester credit hours applicable to the certificate being pursued.
- 3. Complete the number of semester credit hours required in a particular program of study.
- 4. Complete all required courses in a particular program of study.
- 5. Complete the final 10 semester credit hours at DMACC (or petition to the Registrar for, and receive, an exception).

#### **Certificate of Completion**

A certificate of completion is issued to signify that a student has satisfactorily completed a program of instruction other than those listed above. Certificates are normally issued to students at the completion of a specific shortsemester program of study offered through the Continuing Education Department or the Transportation Institute.

## **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:

## **PROGRAM REQUIREMENTS & GRADUATION**

#### **Liberal Arts**

- General Education curriculum is designed for students intending to transfer to a fouryear 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 Career Education**

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

#### **Continuing Education**

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

#### **Pre-College Programs of Study**

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

- One credit in American Government
- Three credits in Mathematics
- Two credits in Science
- Six credits in English
- I8 credits of elective courses to meet the 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.

### **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.
  - 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.

### **GRADUATION HONORS**

#### Phi Theta Kappa

Phi Theta Kappa is a national scholastic honor society for students at two-year colleges. There are chapters on all DMACC campuses. Membership may be conferred upon students who have completed at least 12 semester hours of coursework with a 3.50 grade point

## **PROGRAM REQUIREMENTS & GRADUATION**

average in courses that apply toward a two-year associate degree program. In addition, potential members must have high moral character and desirable qualities of citizenship and leadership. Interested students should contact the Phi Theta Kappa advisor at their campus for details about their campus chapter.

#### **Graduation with Program Honors**

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

#### 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 semester of enrollment in their program of study, students can no longer use those requirements and must instead complete the program requirements effective at the time of their graduation.

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

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

#### **Degree Audit**

Students may visit the credentials/graduation office or mail requests to receive reports of their progress toward completion of requirements for their programs of study. Students are encouraged to request a Degree Audit at least one semester prior to their planned graduation date to assist with planning their final semester. Some programs' degree audit reports are available via DMACC's Web Info System.

#### **Application for Graduation**

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

Candidates for graduation should submit their applications to the credentials/graduation office, using the online application, or 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 ceremoni	
Summer	June 1

#### **Commencement Ceremonies**

Students who graduate at the end of Fall, Spring or Summer semesters are invited to participate in the annual commencement ceremonies in May. Participation in commencement ceremonies is free.

Ankeny, Newton, Urban and West Campuses have a combined commencement ceremony. The Boone and Carroll Campuses have individual ceremonies.

#### **Diplomas and Academic Awards**

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

### TRANSFER INFORMATION

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

Articulation agreements and major transfer plans have been developed to assist students in transferring. Four-year colleges and universities vary in the required number and nature of preprofessional and general education courses that should be completed at DMACC. The information included in the AA degree will change as four-year colleges/universities change their degree requirements, so students should contact the admissions office at the four-year institution they expect to attend as soon as possible after beginning at DMACC. Because other colleges can change their requirements, articulation agreements and transfer plans cannot be considered an agreement or contract between students and DMACC or its staff.

Transfer plans are available for some vocational programs to selected colleges and DMACC partners with other institutions.

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

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

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

## 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 homework help, 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 noncredit studies for academic upgrading, prerequisites or enrichment.

Computer-assisted instruction is also available in many academic areas. 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 Board of Directors, the Association strives to maintain contact with and provide services and benefits to alumni and friends. Through annual fundraising activities, the Association provides scholarships to deserving DMACC students. For more information or to get involved, contact the Alumni Association office at 515-965-7331, via email at **alumni@dmacc.edu** or online **www.dmacc.edu/alumni**.

### ACADEMIC ADVISING

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

### **ASSESSMENT TESTING**

The COMPASS assessment is available for current and prospective students at each of the following DMACC locations.

Ankeny Campus	515-964-6595
Boone Campus	515-433-5096
Carroll Campus	712-792-8303
Hunziker Center	. 515-663-6700
Newton Campus	641-791-3622
Success Center	515-287-8700
Urban Campus	515-248-7218
West Campus	515-633-2408

DMACC offers English as a Second Language (ESL) Test in COMPASS tests for students whose native language is not English. All full-time and part-time students whose native language is not English are required to take and pass the ESL Test in COMPASS test as a requirement for admission. Placement in ESL courses, college preparatory courses or college-level courses is based on minimum scores. Please contact the DMACC Testing Centers at the campus nearest you for more information concerning other tests for program entry requirements, or check the website at **www.dmacc.edu**.

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

#### CAMPUS RECREATION PROGRAMS

Fitness and intramural sports opportunities are available for students at Des Moines Area Community College. Facilities are located in Building 5 on the Ankeny Campus and on the Boone Campus. A schedule of intramural events and rules for participation are available online and in the Campus Recreation 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 are eligible to utilize the Campus Recreation Center, as are paid Alumni Association members (with a valid membership card). Basketball. vollevball and other court sports as well as fitness classes take place on the gym floor. A walking/running track is also available in the gym. The fitness center houses a variety of cardiovascular and strength training equipment. Locker rooms and shower facilities are also available. Locker rentals and towel services are

available for a nominal fee per semester. The gym is also available for rentals. See staff for details.

The facility hours are posted online at

www.dmacc.edu/campusrecreation and are subject to change. Guests are welcome for a \$2.00 fee. Family members and other guests are welcome as long as they are accompanied by a valid DMACC student or eligible Alumni Association member. No children under 12 years of age are allowed in the fitness center. Patrons must follow all posted facility rules. For more information and current hours of operation, contact 964-6333.

### **CAMPUS SECURITY**

Law enforcement and security are provided to help ensure the safety and security of our campuses. DMACC provides 24-hour/7-day security officer patrol of the Ankeny Campus. At the Urban Campus, security officer patrol is 7 a.m. to 10:30 p.m., Monday through Thursday; 7:00 a.m. to 5:00 p.m., Friday; and 8:00 a.m. to 3:00 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 on the Ankeny Campus offers assistance and informational resources to students, prospective students and career changers, for all stages of career planning. The CTRC has up-to-date information about hundreds of occupations. There are many resources available about Iowa's two-year and four-year colleges and universities, as well as information on colleges throughout the United States. Students will find tips and information for transfer planning. CHOICES, a computerized career-guidance system, is an excellent resource.

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 an appointment at 515-964-6474.

### CHILD CARE

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

There is generally a waiting list. To request an application or for more information, call 515-964-6588.

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

### **COLLEGE BOOKSTORES**

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

In addition to course requirements, the bookstores stock supplemental study aids, paper products, office supplies, calculators, computers and computer supplies, 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 receipt is required for a full refund or exchange of any textbook. Textbooks may be returned within seven 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 seven days before a refund will be processed.

Students whose books do not qualify for a refund are encouraged to use our everyday buyback. Check with the bookstore for further details regarding the Buyback Policy.

Textbook purchases should be made at the campus location of your class. Online orders can be picked up at any DMACC Bookstore location. Please allow two extra business days for the transfer. Online class book purchases may be made through the DMACC website:

 $www.dmacc.edu/student\_services/bookstore.$ 

Online class books are available ONLY at the Ankeny Campus bookstore. MasterCard, VISA, American Express 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 Bookstore.

Picture IDs are required for all Financial Aid, third-party agency, voucher purchases and buyback transactions.

### COLLEGE PREPARATORY EDUCATION

College Preparatory Education offers a variety of courses to help students succeed in reaching their educational and career goals. The preparatory reading, writing and math courses are particularly designed for students who need to strengthen their academic skills before enrolling in college-level courses. Although credits from the preparatory reading, writing and math courses do not count toward a degree or diploma, they do count toward semester load and are figured into the GPA.

Other preparatory courses, such as SDV 108, The College Experience; SDV 115, Study Strategies; and SDV 130, Career Exploration, do count toward a degree or diploma as elective credits, and are transferable.

Preadmission chemistry and preadmission biology are also offered as self-paced, noncredit courses for students who did not complete these courses in high school or who need to strengthen their skills before enrolling in a college-level biology or chemistry course. Enrollment in these courses is through the Academic Achievement Centers.

### **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.

### FOOD SERVICES

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

### INTRAMURAL RECREATION

Intramural sports are available for students, faculty and staff on the Ankeny and Boone Campuses. Opportunities exist year-round for both individual and team recreational sports and activities. Applications for participation are available online at

**www.dmacc.edu/campusrecreation** and in the Campus Recreation Center in Building 5 on the Ankeny Campus.

### **INFORMATION CENTER**

The main DMACC Information Center is located in Building 1 on the Ankeny Campus. The Center is designed to help students, prospective students and visitors to the College. Material is available on all college programs, current course listings and general DMACC information. Information can also be obtained at the Student Life or Student Development/Counseling & Advising offices of the Boone, Carroll, Newton, Urban and West Campuses. Contact 964-6200 or 1-877-TO-DMACC.

### LIBRARIES

Library services are provided at the Ankeny, Boone, Carroll, Newton, Urban and West Campuses. The DMACC Libraries' website provides access to information from any computer on the College network at **www.dmacc.edu/library**. Off-campus access to our electronic resources is available to patrons who have registered their DMACC OneCard with the Libraries.

The DMACC Libraries are full members of the Online Computer Library Center, Inc. (OCLC), an internationally recognized bibliographic utility that 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. Materials not owned by the Library can be obtained through Inter-Library Loan (ILL) services at no charge to the user.

#### **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, coinoperated photocopiers, group study rooms, video viewing area and library orientation sessions. In addition, at least one section of Library Instruction (SDV 171) is offered on campus each semester.

#### **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 Ioan at no charge. It also participates in the Open Access program through the State Library. The Library also provides access to the 40-station student computer lab at the Boone Campus. In addition, a Library Instruction class (SDV 171) is offered by the staff each semester.

#### **Carroll Campus**

The Carroll Campus Library has a collection of approximately 4,000 circulating and reference books, more than 100 periodical subscriptions and a variety of audiovisual materials, including DVDs, videotapes, compact disks and audio books. In addition, DMACC Libraries Online provides access to all the DMACC campuses' library catalogs, research databases containing full-text reference sources for academic and popular periodical articles and other online information resources, electronic books and audio books. Beyond the DMACC libraries, we provide access to Interlibrary Loan (ILL) to obtain materials not owned by the College. There is a special collection of curriculum materials, especially for use by the 2 + 2 Elementary Education program. Additionally, the library provides access to a student computer lab where students can work on assignments using Microsoft Office 2007, search the web, or research using library resources.

#### **Newton Campus**

The Library 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.dmacc.edu/ **library** at the computer stations located in the Library, or from their home computers. The Library also houses instructor reserve materials and is the designated location for students to take makeup exams and guizzes. Students enrolled in telecourses may view telecourse videotapes for these courses in the Library. Students may borrow materials housed at any of the other DMACC libraries by processing an Interlibrary loan request at the Library.

#### **Urban Campus**

The Urban/Des Moines Campus Library is a fullservice academic library. The print collection supports courses, research and activities at the Urban/Des Moines Campus. Areas of particular strength in our collection include African-American history, multicultural topics, environmental science, surgical technology and paralegal education. In addition to our print periodical collection, patrons with a valid library card have online access to thousands of journals and articles. Items not owned by the Urban/Des Moines Campus Library can usually be obtained through Interlibrary Loan. This service is provided without charge to DMACC students, faculty and staff. Professional librarians are available to provide reference services. Upon instructor request, the librarians are available to provide library orientations or other research-related instruction. A one-credit library instruction course (SDV 171) is offered each semester by the Urban/Des Moines librarians. The library has a self-service photocopier and viewing stations for watching a/v items. In addition to these services, the Urban/Des Moines Campus Library contains a Library Research Lab. When not in use for library instruction, the 25 computers in this room are available for student use.

#### West Campus

The Academic Resource Center (ARC) at West Campus will assist students in accessing the resources available through the Ankeny Campus and other participating libraries.

### 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/ jobplacement.

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.

#### SERVICES FOR STUDENTS WITH DISABILITIES

DMACC is committed to providing an accessible environment that helps students with disabilities reach their full potential. Support services are available for all students with disabilities to ensure equal access to educational opportunities.

DMACC employs a Disability Services 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 Disability Services Coordinator at 515-964-6850 or e-mail at **hlcoon@dmacc.edu** or contact the counseling and advising office on any of the six campuses for an Application for Accommodation.
- Submit the completed application and supporting documentation to: Des Moines Area Community College Attention: Disability Services Coordinator 2006 South Ankeny Blvd., Bldg. 6-10b Ankeny, Iowa 50023-3993
- 3. Schedule a time to meet with the Disability Services Coordinator, counselor or advisor to discuss coordination of these services.
- 4. Contact the Disability Services Coordinator with any questions during this process.

### STUDENT HANDBOOK

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

Student Health Services is located on the Ankeny Campus in Building 24, Room 103, with some services extending to other campus locations.

Student Health Services offers students limited medical care, immunizations, emergency treatment and referrals. The Student Health Specialist is available M–F, 8:00 a.m.–4:30 p.m. during student contact days. A Nurse Practitioner is available two days a week for four hours during the Fall and Spring semesters. Information regarding Student Health Insurance is available along with health education and support materials. Contact 515-964-6352 for more information.

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### **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, B.J. McGinn, at 515-433-5046. For information about the independently owned and operated housing on the Ankeny Campus, contact the manager of Campus View Apartments at 515-964-7474. The College Information Center in Building 1 of the Ankeny Campus also provides information about other housing options near the Ankeny and Urban Campuses.

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

### **TESTING CENTERS**

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

Students must arrange with their instructors to have tests sent to a Testing Center. When students arrive to take their exams, they must present a picture identification, such as a driver's license, and know the instructor's last name. For Testing Center information, visit our website at **www.dmacc.edu/testingcenter**.

### **TOBACCO-FREE DMACC**

Des Moines Area Community College has been a tobacco-free campus since July 2008. For the purpose of promoting a healthy environment and in accordance with lowa law, the use of tobacco products is prohibited on the grounds of the College, including all outdoor areas, inside any vehicle located on school grounds and including a perimeter area of ten feet beyond the grounds of the College. Violators may be charged penalties in accordance with lowa statute.

### TUTORING

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

#### **Employment Opportunities**

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

#### VOCATIONAL REHABILITATION COUNSELING

Through an agreement with Iowa Vocational Rehabilitation Services, a vocational rehabilitation counselor is assigned to the College to provide rehabilitation services to eligible students with disabilities. Individualized services to help the student achieve his or 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.

## **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. Chamber Ensemble (MUS 150; 1 credit) is offered to everyone on the Ankeny Campus by audition only. Auditions are held the first two days of the Fall and Spring semesters. All students who want to sing in Chamber Ensemble must audition every semester. Students who are accepted into Chamber Ensemble may also sing in Concert Choir. 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 Student Services 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.

### GAME ROOM

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

### INTERCOLLEGIATE ATHLETICS

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

### **STUDENT ACTIVITIES**

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

#### STUDENT ACTIVITIES COUNCIL

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

### STUDENT CENTERS

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

### STUDENT ORGANIZATIONS

Students are encouraged to participate in student organizations. Students may form a new organization by contacting the Student Activities Coordinator on their respective campus for information. Most recognized organizations fall into one of the following classifications:

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

### STUDENT PUBLICATIONS

Working on a college newspaper staff can benefit students in any program of study. The teamwork required to produce a student publication regularly throughout the semester provides an educational experience that greatly enhances the classroom experience. You can also build your portfolio with work published using professional newsroom standards. DMACC has three independent student publications: The Banner News on the Boone Campus: The Campus Chronicle on the Ankeny Campus; and The Urban Vibe on the Urban Campus. These student news organizations emphasize news, features, entertainment, sports, opinion, photography, graphic design, advertising and new media. No experience is necessary. Training is provided. Opportunities to get involved include enrolling in JOU 125 Newspaper Production (3 credits), freelancing or interning. Work study positions also may be available. For more information, contact the faculty advisor at the Ankeny, Boone or Urban Campuses.

### **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,

## **BUSINESS RESOURCES/CONTINUING EDUCATION**

Carmike Movie Theaters, Iowa Energy and Buccaneers hockey in Des Moines. The Carroll Campus offers Adventureland Park, Carroll Community Theatre, Worlds/Oceans of Fun, and Carroll Theater V discounted tickets.

Urban Campus offers discount tickets to Adventureland Park and Carmike Theaters, and discounted bus passes for DART. Ticket offerings vary at the Boone, Newton and West Campuses. Check in the main offices for details. Cash and personal checks are accepted at all campuses. Credit cards are accepted at the Urban Campus.

## DMACC BUSINESS RESOURCES (DBR)

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

## CONTINUING EDUCATION AND SPECIALIZED PROGRAMS

## ADULT BASIC EDUCATION ABE/HSE/ESL

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

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

GED classes, or High School Equivalency (HSE) preparation, provide instruction to prepare adults for the General Equivalency Diploma 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.

There are GED Testing Centers on all six campuses and at the Success Center located in south Des Moines.

#### 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. Serving groups from 5 to 350, the DMACC Newton Conference Center offers a 325-seat, stateof-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, audiovisual equipment and other conference services.

For further information, please contact the conference center staff at 641-791-1729.

### CONTINUING EDUCATION

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

The Continuing Education division works with local businesses, service agencies, institutions, organizations and associations to tailor courses or conferences specifically for employees or members. For information, call 515-965-6024 or visit our website at **ce.dmacc.edu**.

### DISTANCE LEARNING

Distance learning provides an 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 television courses carried on Mediacom Cable, College Channel 16. For more information, see the Distance Learning home page at **www.dmacc.edu/online** or call 515-964-6422.

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

## **CONTINUING EDUCATION & SPECIALIZED PROGRAMS**

### ENGLISH AS A SECOND LANGUAGE

English as a Second Language is a program for people who speak, read and write best in a language other than English and desire to improve their use of the English language. DMACC offers English as a Second Language (ESL) COMPASS tests for students whose native language is not English. All full-time and part-time students whose native language is not English may be required to take the ESL COMPASS test as a requirement for admission. Placement in ESL courses, college preparatory courses or college-level courses is based on minimum scores. Please contact the DMACC Testing Center at the campus nearest you for more information.

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

### 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 office provides support to the full range of services offered for students, faculty and staff during evening and weekend hours. These include Registration, Student Accounts, Financial Aid, Student Records and Admissions. Support is also provided for 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, call their main campus numbers.

#### TRANSPORTATION INSTITUTE/COMMERCIAL VEHICLE

#### Commercial Vehicle Operator Program

The Transportation Institute commercial vehicle operator program is one of approximately 80 in the U.S. certified by the Professional Truck Drivers Institute. This 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 Webbased course for DOT-mandated entry-level driver certification.

#### **RV Safety and Education Program**

In this program, students receive training in all phases of driving, maneuvering and backing a recreational vehicle, and as a result become confident about situations they may encounter in the RV lifestyle. The RV program includes three hours in the classroom and five hours of hands-on driving. Additional driving time and private lessons are available. The program specializes in safety, respect, patience and confidence in a variety of vehicles of all sizes: class A, B and C motor homes, fifth-wheel trailers, and travel trailers.

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

#### MOTORCYCLE/MOPED SAFETY RIDER COURSES

#### Basic Motorcycle Safety Rider Course

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

#### **Moped Rider Course**

Learn how to operate and care for a moped. Learn about rights and responsibilities as a moped operator. Students must be 13 years or older to take this course.

## EDUCATIONAL PROGRAMS

#### • = Associate Degree

Diploma

#### **G** = Certificate

#### Accounting

- **A**..... Accounting Information Systems
- **A**..... Accounting Paraprofessional
- **A**..... Accounting Specialist
- D ..... Accounting & Bookkeeping
- **O**..... Accounting Certificate I **O**..... Accounting Certificate II
- **O**..... Accounting Income Tax Preparer **O**..... Accounting Payroll

### Administrative Assistant

#### /Legal/ Secretarial Careers

- **A**..... Administrative Assistant
- **AG**..... Legal Assistant
- AD ...... Medical Office Specialist
- D ..... Office Assistant
- **G**..... Medical Insurance & Coding
- **G**..... Medical Transcriptionist
- **©**..... Information Processing Support
- **O**..... Office Specialist **G**..... Supervision

#### Automotive/Diesel

- **A**..... ASEP—General Motors
- A..... ASSET-Ford
- **A**D ...... Auto Collision Technology
- Auto Mechanics Technology
- **A**..... CAP—Chrysler
- **A**..... Caterpillar Technology
- (A) ...... Diesel Technology
- D. ......... Auto Chassis & Power Train
- D ..... Auto Engines & Tune-Up
- D ..... Auto Maintenance & Light Repair
- **G**..... Maintenance (Diesel)

#### Aaribusiness

- **A**..... Agribusiness
- **A**..... Veterinary Technology
- **G**..... Agronomy
- €..... Animal Science
- **⊙**..... Farm Management
- **G**..... Sales and Service
- **G**..... Sustainable Agriculture

#### Art

- **A**..... Graphic Design
- D ..... Photography
- D ..... Visual Communications
- €..... Air Brush Art
- **G**..... Basic Visual Communications
- **⊙**..... Corel Painter **G**..... Digital Illustration
- **G**.....InDesign
- O..... Interactive Media for Graphic Design

#### Biotechnology

- **A**..... Biotechnology
- **A**..... Environmental Science
- **A**..... Water Environmental Technology\*
- D ..... Water & Wastewater
- Treatment Technology\*
- **G**...... Wastewater Treatment Technology\*

\*These programs will be offered subject to the approval of the Iowa Department of Education.

€..... Water Treatment Technology\*

#### **Business**

- **A**..... Business Administration
- **ADG** ..... Fashion/Design
- A..... Marketing **AG**..... Management
- **DG**..... Entrepreneurship
- D ..... Mortuary Science
- (Advanced Standing Diploma) DC..... Retailing

**Engineering & Electronics Technology** 

**A**..... Civil Engineering Technology

Servicing Technology

**A**..... Telecommunications Technology

**A**..... Fitness & Sports Management

**A**..... Aging Services Management

Associate Degree Nursing (RN) Advanced Standing Nursing (RN)

**A**..... Health Information Technology

Medical Laboratory Technology

D.....Licensed Practical Nursing (LPN)

Optometric/Ophthalmic Technician

Technician-Basic (EMT-B)

€.....Long-Term Care Administrator

Administrator-Practicum

A..... Electronic Systems

A..... Electronics, Robotics &

Automation

**A**..... Land Surveying

**A**..... Dental Hygiene

**AG**...... Paramedic Specialist

**A**...... Respiratory Therapy

Dental Assistant

D ..... Medical Assistant

D ..... Pharmacy Technician

Surgical Technology

**G**..... Emergency Medical

**G**..... Gerontology Specialist

**A**..... Commercial Horticulture

**G**..... Greenhouse Production

**A**..... Interpretation & Translation

Translation-Business

Translation-Education

Translation-Healthcare

Translation-Judiciary

Mechanical Technology

**G**..... Biomass Operations Technology

**O**..... Graphic Sales & Customer Service

VISIT US ONLINE: www.DMACC.edu 43

A..... Manufacturing Technology

**A**D ...... Fluid Power Technology

(A) ...... Graphic Technologies

A..... Industrial Electro-

**A**..... Tool and Diemaking

Diemaking

**G**..... CNC Operator

**O**..... Digital Publishing

**G**..... Printing Technologies

D C..... Welding

D ...... Machinist Technology

D..... Visual Communications

Translation-Human Services

**G**..... Landscape Design

Interpretation & Translation

**G**..... Interpretation &

€..... Interpretation &

**G**..... Interpretation &

**G**..... Interpretation &

©..... Interpretation &

Manufacturing

G..... Adult Services

**G**..... Long-Term Care

Administrato **G**..... Phlebotomy

Horticulture

**Health Professions** 

Fitness

- DO ...... Sales and Management
- **O**..... Human Resource Management
- **G**..... Interior Design Consultant

#### **Building Trades**

<b>A</b> D	Heating, Air Conditioning
	& Refrigeration Technology
D	Architectural Millwork

- 🖲 ..... Building Trades
- D..... Electrical Construction Trades

### **O**..... Building Maintenance

### College Transfer—Liberal Arts

- **A**..... Associate in Arts **A**..... Associate in Science

#### **Community Services**

- **AOO**..... Early Childhood Education
- A..... Criminal Justice
- **A**..... Fire Science Technology
- **A**..... Human Services
- €..... Chemical Dependency Counseling
- **O**..... Digital Forensic Investigation
- **G**..... Fire Specialist

#### **Computers and Computer Info Systems**

- €..... Advanced Web Developer\*
- **A**..... Business Information Systems
- **A**..... Information Technology/
- Network Administration
- A..... Management Information Systems
- **O**..... Computer Applications
- **G**..... Data Base Specialist

**O**..... Network Security

A..... Web Development\*

Culinary Arts, Hotel Management,

D ..... Hospitality & Business

**A**D ...... Architectural Technologies

(A) .......... Computer-Aided Design Technology

**G**..... Dietary Manager

**A**..... Hotel & Restaurant Management

DG..... Web Developer\*

- G..... Data Entry
- **G**..... Computer Languages
- **G**..... Informatics **G**..... Microcomputers

**Dietary Management** 

C ..... Enology

Drafting/Design

G..... Viticulture

**G**..... Wine Service

(AD) ...... Culinary Arts

# Choose a Career Path

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



Complete this Personal Career Profile. Check each item that describes you in the categories listed below. 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
- $\Box$  To think creatively
- $\Box$  To be flexible

## 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  $\Box$  Serving the customer Other \_\_\_\_\_

## **School Subjects**

The subjects I did well in and enjoy are:

- □ Office courses
- □ Math
- English
- □ Science
- □ Social Sciences
- □ Fine Arts

## Interests

The interest areas I enjoy most are:

Peopl	le

- □ Things (hands-on)
- 🗌 Data

🗌 Ideas	
□ Other	

□ Computers

□ Business courses

□ Foreign Language

🗆 Other

□ Family/Consumer Science

□ Voc/Tech, e.g., construction, mechanics

### 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:

□ To acquire knowledge/skills

□ To be physically challenged

□ To have power/prestige

□ To be financially secure

Other \_\_\_\_\_

## 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, decisionmaking 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

#### 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

#### 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

#### **Business & Information Management**

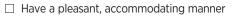
- $\hfill\square$  Have organizational and accuracy skills
- Operate computers and other business machines
- □ Help customers
- Work with detailed forms, records and claims
- Manage a business
- Persuade others
- □ Enjoy using numerical concepts
- □ Enjoy business/office subjects
- $\hfill\square$  Like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

#### Health

- □ Like to help people
- People trust me
- □ Enjoy biology, chemistry or physics
- □ Like working a flexible schedule
- $\hfill\square$  Like to work with the sick or injured
- Think critically and creatively
- □ Can be physically demanding
- $\Box$  Like to work with data
- $\Box$  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



- □ Make creative designs with food
- Good organizational skills

#### Industrial Technology

- $\hfill\square$  Enjoy working with data
- □ Like to install/repair/service equipment
- □ Enjoy operating equipment
- 🗆 Like math
- $\hfill\square$  Have good problem-solving skills
- □ Like computers
- $\hfill\square$  Work alone
- $\hfill\square$  Like vocational technical classes
- □ Customer service skills

#### **Public & Human Services**

- Can take the initiative
- □ Be involved in helping people with personal problems
- $\Box$  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.

## Degrees and Diplomas

## **Liberal Arts and Sciences**

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

#### DMACC students will acquire skills for lifelong learning by:

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

#### **Professional Preparation**

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

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

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

#### Examples of professional preparation (pre)programs:

Education	Pharmacy
Engineering	Physician's Assistant
Law	Social Work
Medicine	Veterinary Medicine
Nursing	
Optometry	
	Engineering Law Medicine Nursing

## Associate in Arts Degree (AA)

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

Students should contact the desired four-year institution about any unique requirements. The DMACC Advising and Counseling staff can also assist students with the transfer process. (See transfer tips in the Tips for Student Success section of the catalog.)

#### College transfer work is offered in the following disciplines:

To assist students, many four-year colleges/universities have joined with DMACC to develop articulation agreements and specific major transfer guides to assist students. Students should contact personnel from each college for the most current information.

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

For more information about the Associate in Arts (AA) degree, please visit our website at www.dmacc.edu/programs/programinformation.asp

#### 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 the Registrar for, and receive, an exception).
- D. Complete a minimum of 64 semester credit hours.
- E. Include at least 45 semester credit hours of Core courses:
  - Communications 9 credits Social & Behavioral Sciences 9 credits
  - Math & Sciences 9 credits
  - Humanities
    - 9 credits
  - 9 credits Distributed Requirements

#### F. Include at least 19 semester credit hours of elective credit.

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

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

#### Communications

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**

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

ANT 100	Introduction to Anthropology	POL 112	American State & Local Government
ANT 105	Cultural Anthropology	POL 121	International Relations
ECN 120	Principles of Macroeconomics	POL 125	Comparative Gov't & Politics
ECN 130	Principles of Microeconomics	POL 171	Intro to Public Administration
GEO 111	Intro to Geography	PSY 111	Introduction to Psychology
GEO 124	Reg Geography of the Non West World	PSY 121	Developmental Psychology
GEO 125	Regional Geography of the Dev World	PSY 241	Abnormal Psychology
HIS 112	Western Civ: Ancient to Early Modern	PSY 251	Social Psychology
HIS 113	Western Civ: Early Modern to Present	PSY 261	Human Sexuality
HIS 150	US History to 1877	SOC 110	Intro to Sociology
HIS 153	US History since 1877	SOC 115	Social Problems
HIS 257	African-American History	SOC 120	Marriage & Family
POL 111	American National Government	SOC 200	Minority Group Relations

#### **Mathematics & Sciences**

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

ENV 115	Environmental Science	BIO 104	Introductory Biology w/Lab
ENV 116	Environmental Science Lab	BIO 112	General Biology I
	(if student has credit for ENV 115)	BIO 113	General Biology II
ENV 145	Conservation Biology	BIO 135	Intro to Botany

#### 9 Credits

9 Credits

9 Credits

BIO 138	Field Ecology	MAT 141	Finite Mathematics
BIO 156	Human Biology w/Lab	MAT 129	Precalculus
BIO 164	Essentials Anatomy/Physiology	MAT 130	Trigonometry
BIO 168	Anatomy & Physiology I	MAT 157	Statistics (OR BUS 211 Business Statistics)
BIO 173	Anatomy & Physiology II	MAT 162	Prin. of Business Statistics
BIO 186	Microbiology	MAT 166	Calculus for Business/Social Science
BUS 211	Business Statistics (OR MAT 157 Statistics)	MAT 211	Calculus I
CHM 105	Survey of Chemistry	MAT 217	Calculus II
CHM 122	Intro to General Chemistry	MAT 219	Calculus III
CHM 132	Intro to Organic/Biochemistry	MAT 227	Differential Equations with Laplace
CHM 165	General/Inorganic Chemistry I	PHS 152	Astronomy
CHM 175	General/Inorganic Chemistry II	PHS 166	Meteorology, Weather & Climate
CHM 263	Organic Chemistry I	PHY 106	Survey of Physics
CHM 273	Organic Chemistry II	PHY 160	General Physics I
MAT 110	Math for Liberal Arts	PHY 161	General Physics II
MAT 114	Math for Elementary Teachers Math I	PHY 213	Classical Physics I
MAT 116	Math for Elementary Teachers Math II	PHY 223	Classical Physics II

#### **Humanities**

ART 101	Art Appreciation	FLS 152	Elementary Spanish II
DRA 101	Intro to Theatre	FLS 241	Intermediate Spanish I
FLA 141	Elementary Arabic I	FLS 242	Intermediate Spanish II
FLA 142	Elementary Arabic II	FLS 181	Spanish for Heritage Speakers I
FLA 241	Intermediate Arabic I	FLS 281	Spanish for Heritage Speakers II
FLA 242	Intermediate Arabic II	HIS 112	Western Civ.: Ancient to Early Modern
FLC 141	Elementary Chinese I	HIS 113	Western Civ.: Early Modern to Present
FLC 142	Elementary Chinese II	HUM 116	Encounters in Humanities
FLC 241	Intermediate Chinese I	HUM 120	Introduction to Film
FLC 242	Intermediate Chinese II	HUM 121	America in the Movies
FLF 151	Elementary French I	LIT 101	Intro to Literature
FLF 152	Elementary French II	LIT 110	American Literature to Mid 1800s
FLF 241	Intermediate French I	LIT 111	American Literature since Mid 1800s
FLF 242	Intermediate French II	LIT 130	African-American Literature
FLG 141	Elementary German I	LIT 142	Major British Writers
FLG 142	Elementary German II	LIT 166	Science Fiction
FLG 241	Intermediate German I	LIT 185	Contemporary Literature
FLG 242	Intermediate German II	LIT 188	Detective Fiction
FLI 141	Elementary Italian I	LIT 190	Women Writers
FLI 142	Elementary Italian II	LIT 193	Humor in Literature
FLI 241	Intermediate Italian I	MUS 100	Music Appreciation
FLI 242	Intermediate Italian II	MUS 102	Music Fundamentals
FLJ 141	Elementary Japanese I	MUS 202	World Music
FLJ 142	Elementary Japanese II	PHI 101	Intro to Philosophy
FLJ 241	Intermediate Japanese I	PHI 105	Introduction to Ethics
FLJ 242	Intermediate Japanese II	PHI 110	Introduction to Logic
FLS 151	Elementary Spanish I	REL 101	Survey of World Religions

#### **Distributed Requirement**

Complete 9 additional credits from any of the courses in categories of Communications, Social & Behavioral Sciences, Math & Sciences, and Humanities.

## Degrees and Diplomas

9 Credits

#### **Electives**

#### **19 Credits**

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

#### **Diversity Requirement**

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

*ANT 100	Introduction to Anthropology	HSV 135	Women's Issues
*ANT 105	Cultural Anthropology	HSV 185	Discrimination and Diversity
ANT 110	Faces of Culture	*HUM 116	Encounters in Humanities
ANT 125	Applications of Anthropology	*HUM 120	Introduction to Film
ANT 150	Global Issues–Logic Perspec	*HUM 121	America in the Movies
ASM 150	Communication with the Elderly	ITP 133	Deaf Culture and Community
ASM 155	Impact of Demographics	ITR 101	Intro Interp & Translation
ASM 160	Aspects of Aging	*LIT 101	Intro to Literature
ASM 165	Healthy Aging	*LIT 111	Amer Literature since Mid 1800
ASM 180	Cultural Diversity	*LIT 130	African-American Literature
ASM 200	Depression, Death & Grieving	*LIT 142	Major British Writers
	(Three ASM courses must be taken	*LIT 190	Women Writers
	because the courses are one credit each.)	MGT 145	Human Relations in Business
BUS 220	Intro International Business	*MUS 202	World Music
ESL 160	ESL Multicultural Literature	PEH 178	Sports Diversity
*FL	All Foreign Language Courses	*POL 111	American National Government
*GE0 111	Intro to Geography	*POL 121	International Relations
*GE0 124	Reg Geog of the NonWest World	*POL 125	Comparative Gov't & Politics
GLS 200	Country Study	POL 129	Politics of Terrorism
GLS 220	The Middle East and Islam	*PSY 241	Abnormal Psychology
GLS 230	Latin America	*PSY 251	Social Psychology
GLS 235	Intro to International Studies	*REL 101	Survey of World Religions
*HIS 112	Western Civ.: Ancient to Early Mod	*SOC 110	Intro to Sociology
*HIS 113	Western Civ.: Early Modern to Pres	*SOC 115	Social Problems
*HIS 150	US History to 1877	*SOC 200	Minority Group Relations
*HIS 153	US History since 1877	SOC 225	Social Gerontology
HIS 201	Iowa History	SPC 120	Intercultural Communication
*HIS 257	African-American History	*SPC 126	Interpersonal & Small Grp Comm

#### TOTAL AA DEGREE REQUIREMENTS ...... 64 CREDITS

## Associate in Science Degree (AS)

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

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

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

For more information about the Associate in Science (AS) degree, please visit our website at **www.dmacc.edu/programs/programinformation.asp**.

#### **Associate in Science Requirements**

To receive an AS degree, students must:

- A. Maintain a 2.0 grade point average on all work applicable to the AS degree.
- B. Earn at Des Moines Area Community College a minimum of 1/3 of the semester credit hours applicable to the degree being pursued. No more than 43 transfer semester credit hours may be applied toward the degree.
- C. Complete the final 10 semester credit hours at DMACC (or petition the Registrar for, and receive, 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.

- 1. Students may include no more than 16 semester credit hours of vocational/ technical credit.
- 2. Students may have up to 8 semester credit hours of Independent Study Courses; up to 4 semester credit hours of Independent Study may be earned in any single semester.
- G. Complete 3 semester credit hours to satisfy the Diversity Requirement with a minimum grade of "C". The Diversity Requirement does not increase the number of credits required for graduation. The course used to fulfill the Diversity Requirement may also be used to fulfill three credits of Core requirements in Communications, Social & Behavioral Sciences, Humanities or Distributed Requirements if the diversity course is listed as fulfilling Core requirements in Communications, Social & Behavioral Sciences or the Humanities. If the course does not fall under any of the Core groups, the course used to fulfill the Diversity Requirement may count as an elective.

Courses that satisfy the Diversity Requirement at Des Moines Area Community College may or may not satisfy diversity requirements at other academic institutions. Students planning to transfer should contact their transfer institutions to verify the transferability of courses. *Information on each program is found in this catalog. See Index for page numbers.* 

#### **Core Requirements**

#### 28 credits

9 credits

#### Communications

Students must take three courses:

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

#### **Social & Behavioral Sciences**

#### 6 credits

ANT 100	Introduction to Anthropology	POL 112	American State & Local Government
ANT 105	Cultural Anthropology	POL 121	International Relations
ECN 120	Principles of Macroeconomics	POL 125	Comparative Gov't & Politics
ECN 130	Principles of Microeconomics	POL 171	Intro to Public Administration
GEO 111	Intro to Geography	PSY 111	Introduction to Psychology
GEO 124	Reg Geography of the Non West World	PSY 121	Developmental Psychology
GEO 125	Regional Geography of the Dev World	PSY 241	Abnormal Psychology
HIS 112	Western Civ: Ancient to Early Modern	PSY 251	Social Psychology
HIS 113	Western Civ: Early Modern to Present	PSY 261	Human Sexuality
HIS 150	US History to 1877	SOC 110	Intro to Sociology
HIS 153	US History since 1877	SOC 115	Social Problems
HIS 257	African-American History	SOC 120	Marriage & Family
POL 111	American National Government	SOC 200	Minority Group Relations

#### Mathematics & Sciences

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

MAT 110

ENV 115 **Environmental Science** ENV 116 **Environmental Science Lab** ENV 145 Conservation Biology BIO 104 Introductory Biology w/Lab BIO 112 General Biology I BIO 113 General Biology II BIO 135 Intro to Botany BIO 138 Field Ecology BIO 156 Human Biology w/Lab BIO 164 Essential Anatomy/Physiology BIO 168 Anatomy & Physiology I BIO 173 Anatomy & Physiology II BIO 186 Microbiology BUS 211 Business Statistics (OR MAT 157 Statistics) CHM 105 Survey of Chemistry CHM 122 Intro to General Chemistry CHM 132 Intro to Organic/Biochemistry CHM 165 General/Inorganic Chemistry I CHM 175 General/Inorganic Chemistry CHM 263 Organic Chemistry I CHM 273 Organic Chemistry II

- MAT 114 Math for Elementary Teachers Math I (if student has credit for ENV 115) MAT 116 Math for Elementary Teachers Math II MAT 129 Precalculus MAT 130 Trigonometry Finite Mathematics MAT 141 MAT 157 Statistics (OR BUS 211 Business Statistics) MAT 162 Prin. of Business Statistics Calculus for Business/Social Science MAT 166 MAT 211 Calculus I MAT 217 Calculus II MAT 219 Calculus III MAT 227 Differential Equations with Laplace PHS 152 Astronomy PHS 166 Meteorology, Weather and Climate Survey of Physics General Physics I General Physics II Classical Physics I
- PHY 223 Classical Physics II

## 6 Credits

## FL! Math for Liberal Arts

- PHY 106
- PHY 160
- PHY 161
- PHY 213

#### **Humanities**

Students must select from the following courses:

		-	
ART 101	Art Appreciation	FLS 241	Intermediate Spanish I
DRA 101	Intro to Theatre	FLS 242	Intermediate Spanish II
FLA 141	Elementary Arabic I	FLS 181	Spanish for Heritage Speakers I
FLA 142	Elementary Arabic II	FLS 281	Spanish for Heritage Speakers II
FLA 241	Intermediate Arabic I	HIS 112	Western Civ: Ancient to Early Modern
FLA 242	Intermediate Arabic II	HIS 113	Western Civ: Early Modern to Present
FLC 141	Elementary Chinese I	HUM 116	Encounters in Humanities
FLC 142	Elementary Chinese II	HUM 120	Introduction to Film
FLC 241	Intermediate Chinese I	HUM 121	America in the Movies
FLC 242	Intermediate Chinese II	LIT 101	Intro to Literature
FLF 151	Elementary French I	LIT 110	American Literature to Mid 1800s
FLF 152	Elementary French II	LIT 111	American Literature since Mid 1800s
FLF 241	Intermediate French I	LIT 130	African-American Literature
FLF 242	Intermediate French II	LIT 142	Major British Writers
FLG 141	Elementary German I	LIT 166	Science Fiction
FLG 142	Elementary German II	LIT 185	Contemporary Literature
FLG 241	Intermediate German I	LIT 188	Detective Fiction
FLG 242	Intermediate German II	LIT 190	Women Writers
FLI 141	Elementary Italian I	LIT 193	Humor In Literature
FLI 142	Elementary Italian II	MUS 100	Music Appreciation
FLI 241	Intermediate Italian I	MUS 102	Music Fundamentals
FLI 242	Intermediate Italian II	MUS 202	World Music
FLJ 141	Elementary Japanese I	PHI 101	Intro to Philosophy
FLJ 142	Elementary Japanese II	PHI 105	Intro to Ethics
FLJ 241	Intermediate Japanese I	PHI 110	Intro to Logic
FLJ 242	Intermediate Japanese II	REL 101	Survey of World Religions
FLS 151	Elementary Spanish I		
FLS 152	Elementary Spanish II		

#### **Distributed Requirement**

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

#### **Electives**

#### **36 Credits**

**4 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.

**3 Credits** 

## Degrees and Diplomas

**3 credits** 

**3 credits** 

#### **Diversity Requirement**

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

*ANT 100	Intro to Anthropology	*HIS 257	African-American History
*ANT 105	Cultural Anthropology	HSV 135	Women's Issues
ANT 110	Faces of Culture	HSV 185	Discrimination and Diversity
ANT 125	Applications of Anthropology	*HUM 116	Encounters in Humanities
ANT 150	Global Issues–Logic Perspec	*HUM 120	Introduction to Film
ASM 150	Communication with the Elderly	*HUM 121	America in the Movies
ASM 155	Impact of Demographics	ITP 133	Deaf Culture and Community
ASM 160	Aspects of Aging	ITR 101	Intro Interp & Translation
ASM 165	Healthy Aging	*LIT 101	Intro to Literature
ASM 180	Cultural Diversity	*LIT 111	Amer Literature since Mid 1800
ASM 200	Depression, Death & Grieving	*LIT 130	African-American Literature
	(Three ASM courses must be taken	*LIT 142	Major British Writers
	because the courses are one credit	*LIT 190	Women Writers
	each.)	MGT 145	Human Relations in Business
BUS 220	Intro International Business	*MUS 202	World Music
ESL 160	ESL Multicultural Literature	PEH 178	Sports Diversity
*FL_ —	All Foreign Language Courses	*POL 111	American National Government
*GE0 111	Intro to Geography	*POL 121	International Relations
*GE0 124	Reg Geog of the NonWest World	*POL 125	Comparative Gov't & Politics
GLS 200	Country Study	POL 129	Politics of Terrorism
GLS 220	The Middle East and Islam	*PSY 241	Abnormal Psychology
GLS 230	Latin America	*PSY 251	Social Psychology
GLS 235	Intro to International Studies	*REL 101	Survey of World Religions
*HIS 112	Western Civ.: Ancient to Early Mod	*SOC 110	Intro to Sociology
*HIS 113	Western Civ.: Early Modern to Pres	*SOC 115	Social Problems
*HIS 150	US History to 1877	*SOC 200	Minority Group Relations
*HIS 153	US History since 1877	SOC 225	Social Gerontology
HIS 201	Iowa History	SPC 120	Intercultural Communication
	· · ·	*SPC 126	Interpersonal & Small Grp Comm

### Associate in General Studies Degree (AGS)

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

#### **Associate in General Studies Requirements**

To receive an AGS degree, students must:

- A. Maintain a 2.0 grade point average on all work applicable to the AGS degree.
- B. Earn at DMACC 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 the Registrar for, and receive, an exception).
- 50 DES MOINES AREA COMMUNITY COLLEGE CATALOG 2011-2012

- 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 12 semester credit hours at DMACC after the AGS program approval effective date of January 1, 1992.
- F. Satisfy the following AGS Degree Requirements:
  - Communications 3 credits
  - Social & Behavioral Sciences 3 credits
  - Math & Sciences 3 credits
  - Distributed Requirements 3 credits

For more information about the Associate in General Studies (AGS) Degree, please visit our website at

www.dmacc.edu/programs/programinformation.asp.

#### Communications

ADM 157	Business English	ENG 106	Composition II
COM 703	Communication Skills	ENG 108	Comp II: Technical Writing
ENG 105	Composition I		

#### Social & Behavioral **Sciences/Humanities**

	,			• • • • • •
AGB 10	)1 Agricult	tural Economics	FLS 151	Elementary Spanish I
ANT 10	0 Introdu	ction to Anthropology	FLS 152	Elementary Spanish II
ANT 10	5 Cultural	Anthropology	FLS 241	Intermediate Spanish I
ART 10	1 Art App	reciation	FLS 242	Intermediate Spanish II
ART 18	4 Principl	es of Photography	FLS 181	Spanish for Heritage Speakers I
ART 18	6 Principl	es of Digital Photography	FLS 281	Spanish for Heritage Speakers II
DRA 10	)1 Intro to	Theatre	GEO 111	Intro to Geography
ECN 12	0 Principl	es of Macroeconomics	GEO 124	Reg Geography of the Non West World
ECN 13	0 Principl	es of Microeconomics	GEO 125	Regional Geography of the Dev World
FLA 14	1 Elemen	tary Arabic I	HIS 112	Western Civ: Ancient to Early Modern
FLA 14	2 Elemen	tary Arabic II	HIS 113	Western Civ: Early Modern to Present
FLA 24	1 Interme	ediate Arabic I	HIS 150	US History to 1877
FLA 24	2 Interme	ediate Arabic II	HIS 153	US History since 1877
FLC 141	Elemen	tary Chinese I	HIS 257	African-American History
FLC 142	2 Elemen	tary Chinese II	HUM 116	Encounters in Humanities
FLC 24	l Interme	ediate Chinese I	HUM 120	Introduction to Film
FLC 24	2 Interme	ediate Chinese II	HUM 121	America in the Movies
FLF 151	Elemen	tary French I	LIT 101	Intro to Literature
FLF 152	2 Elemen	tary French II	LIT 110	American Literature to Mid 1800s
FLF 24	l Interme	ediate French I	LIT 111	American Literature since Mid 1800s
FLF 24	2 Interme	ediate French II	LIT 130	African-American Literature
FLG 14	l Elemen	tary German I	LIT 142	Major British Writers
FLG 142	2 Elemen	tary German II	LIT 166	Science Fiction
FLG 24	1 Interme	ediate German I	LIT 185	Contemporary Literature
FLG 24	2 Interme	ediate German II	LIT 188	Detective Fiction
FLI 141	Elemen	tary Italian I	LIT 190	Women Writers
FLI 142	Elemen	tary Italian II	LIT 193	Humor in Literature
FLI 241	Interme	ediate Italian I	MGT 145	Human Relations in Business
FLI 242	2 Interme	ediate Italian II	MUS 100	Music Appreciation
FLJ 141	Elemen	tary Japanese I	MUS 102	Music Fundamentals
FLJ 142	2 Elemen	tary Japanese II	MUS 202	World Music
FLJ 241	l Interme	ediate Japanese I	PHI 101	Intro to Philosophy
FLJ 242	2 Interme	ediate Japanese II	PHI 105	Introduction to Ethics

PSY 241

PSY 251

PSY 261

REL 101

SOC 110

SOC 115

SOC 120

Abnormal Psychology

Survey of World Religions

**3 Credits** 

Social Psychology

Human Sexuality

Intro to Sociology

Social Problems

SOC 200 Minority Group Relations

Marriage & Family

PHI 110	Introduction to Logic
POL 111	American National Government
POL 112	American State & Local Government
POL 121	International Relations
POL 125	Comparative Gov't & Politics
POL 171	Intro to Public Administration
PSY 102	Human and Work Relations
PSY 111	Introduction to Psychology
PSY 121	Developmental Psychology

#### **Mathematics & Sciences**

ENV 115	Environmental Science	ELT 108	Math–Electronics & Computers
ENV 116	Environmental Science Lab	MAT 110	Math for Liberal Arts
ENV 145	Conservation Biology		(if student has credit for ENV 115)
BIO 104	Introductory Biology w/Lab	MAT 114	Math for Elementary Teachers Math I
BIO 112	General Biology I	MAT 116	Math for Elementary Teachers Math II
BIO 113	General Biology II	MAT 121	College Algebra
BIO 135	Intro to Botany	MAT 129	Precalculus
BIO 138	Field Ecology	MAT 130	Trigonometry
BIO 156	Human Biology w/Lab	MAT 141	Finite Mathematics
BIO 164	Essential Anatomy/Physiology	MAT 157	Statistics (OR BUS 211 Business Statistics)
BIO 168	Anatomy & Physiology I	MAT 162	Prin. of Business Statistics
BIO 173	Anatomy & Physiology II	MAT 166	Calculus for Business/Social Science
BIO 186	Microbiology	MAT 211	Calculus I
BIO 732	Health Science Microbiology	MAT 217	Calculus II
BIO 733	Health Science Anatomy	MAT 219	Calculus III
BIO 734	Health Science Physiology	MAT 227	Differential Equations with Laplace
	(OR MAT 157 Statistics)	MAT 772	Applied Math
BUS 112	Business Math	MAT 773	Applied Math II
BUS 211	Business Statistics	PHS 152	Astronomy
CHM 105	Survey of Chemistry	PHS 166	Meteorology, Weather and Climate
CHM 122	Intro to General Chemistry	PHY 106	Survey of Physics
CHM 132	Intro to Organic/Biochemistry	PHY 160	General Physics I
CHM 165	General/Inorganic Chemistry I	PHY 161	General Physics II
CHM 175	General/Inorganic Chemistry	PHY 213	Classical Physics I
CHM 263	Organic Chemistry I	PHY 223	Classical Physics II
CHM 273	Organic Chemistry II	PHY 710	Technical Physics
ELT 106	Basic Math for Electronics		

#### **Distributed Requirement**

#### **3 Credits**

Students must select one course from any of the courses in categories of Communications, Social & Behavioral Sciences/Humanities or Math & Sciences or SPC 101 or SPC 126 or ELT 368.

### Electives 52 Credits

TOTAL AGS DEGREE REQUIREMENTS ...... 64 CREDITS

## **ASEP-General Motors**

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

For more information about the ASEP-General Motors program, please visit our website at **www.dmacc.edu/programs/automotive/gm**.

#### Location: Ankeny

#### **Program Entry Requirements**

- 1. Complete an application for admission.
- 2. Satisfy the assessment requirement.
- 3. Attend any required information/registration session.
- 4. Be accepted by General Motors as a participant.
- 5. All program participants must be employed by a participating General Motors dealership.

#### Students start in October.

#### **Graduation Requirements**

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

#### Semester 1

	-	
AUT 114	Shop Fund & Minor Service	4
ATG 322	GM Steering & Suspension	3
MAT 772	Applied Math	3
PSY 102	Human and Work Relations	3
Semester 2	2	
ATG 320	GM Brake Systems	4
ATG 312	GM Specialized Electronics Trn	4
ATG 326	GM Auto AC Systems	3 3
PHY 710	Technical Physics	3
ATG 329	Technical Internship I (March–May at dealer)	3
Semester	3	
ATG 330	Technical Internship II (May & June at dealer)	3
ATG 328	Diagnosis/Repair-GM Elect Sys	3 3
ATG 327	Minor Svc/Repair/GM Engines	3
ATG 336	GM Fuel Systems	3
Semester -	4	
ATG 337	GM Tune-Up Proc & Emission Control	4
ATG 344	GM Manual Drivetrains	4
ATG 345	GM Automatic Drivetrains	4
ATG 340	Technical Internship III (Oct & Dec at dealer)	3
Semester	5	
ATG 350	Technical Internship IV (Jan–March at dealer)	3
ATG 354	Advanced GM Motor Systems	5
COM 703	Communication Skills	5 3 3 3
ATG 333	Major Service Proc/GM Engines	3
BUS 102	Introduction to Business	3
(DMACC reser	ves the right to change the sequence in which these courses are offered.	)

#### TOTAL CREDITS REQUIRED

TO COMPLETE THIS AAS DEGREE74
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Degrees and Diplomas

## Degrees and Diplomas

## **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 prepare students to be competent and professional entry-level Ford or Lincoln dealership technicians. 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.

For more information about the ASSET Ford program, please visit our website at **www.dmacc.edu/programs/automotive/ford**.

#### **Location: Ankeny**

#### **Program Entry Requirements**

1. Complete an application for admission.

- 2. Satisfy the assessment requirement, aptitude and ability tests.
- 3. Be accepted by Ford Motor Company as a participant.
- 4. All program participants must be employed by a participating Ford or Lincoln dealership.

#### Students start Fall semester.

#### **Graduation Requirements**

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

#### **Required Courses**

#### Semester 1

AUT 615	Auto Electricity/Electronics	4
AUT 114	Shop Fund & Minor Service	4
AUT 404	Basic Suspension & Steering	4
ATF 320	Technical Internship I	3

#### Semester 2

AUT 652	Adv Automotive Electricity	3
AUT 845	Electrical Systems Diagnosis	2
AUT 524	Auto Brake Systems & Service	4
ATF 330	Technical Internship II	3
MAT 772	Applied Math	3

#### Semester 3

ATF 326	Ford Automotive Climate Ctrl	3
ATF 333	Ford Engine Diagnosis/Repair	4
ATF 345	Ford Manual Transmissions	2
PHY 710	Technical Physics	3

#### Semester 4

ATF 340	Technical Internship III	3
ATF 336	Ford Fuel Systems & Injection	3
ATF 337	Ford Driveability & Emissions	4
ATF 346	Ford Transmissions and Transaxles	4
COM 703	Communication Skills	3

#### Semester 5

ATF 350	Technical Internship IV	3
ATF 354	Ford Advanced Engine Controls, Electronics	5
ATF 344	Ford Driveline and 4X4 Diagnosis and Repair	2
PSY 102	Human and Work Relations	3

#### 

## Accounting & Bookkeeping

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

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

For more information about the Accounting & Bookkeeping program, please visit our website at

#### www.dmacc.edu/programs/accounting/acctbook.

#### Locations: Boone, Urban

Selected courses in this program are offered at other campuses.

#### Program Entry Requirements

- 1. Complete an application for admission.
- 2. Satisfy the assessment requirement.
- 3. Attend any required information/registration session.
- ADM 105 Intro to Keyboarding at DMACC or equivalent is strongly recommended.

#### Students start Fall semester.

#### **Graduation Requirements**

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

#### Semester 1-Select 1 Course from Option 1 and 1 Course from Option 2

	•		
ACC 131	Principles of Accounting I		4
ACC 124	Accounting Professionalism		3
BUS 112	Business Math		3
CSC 110	Intro to Computers		3
MGT 145	Human Relations in Business	Opt 1	3
PSY 111	Introduction to Psychology	Opt 1	3
ECN 120	Principles of Macroeconomics	Opt 1	3
ECN 130	Principles of Microeconomics	Opt 1	3
ENG 105	Composition I	Opt 2	3
ADM 157	Business English	Opt 2	3

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

#### Semester 2

ACC 132	Principles of Accounting II	4
ACC 193	Accounting Procedures/Mgmt	3
ACC 311	Computer Accounting	3
ACC 361	Accounting Spreadsheets	3
ACC 161	Payroll Accounting	3

#### Semester 3-Select 1 Course from Option 3

ACC 946	Accounting Career Seminar		1
ACC 932	Accounting Internship		3-4
ENG 106	Composition II	Opt 3	3
ENG 108	Comp II: Technical Writing	Opt 3	3
COM 703	Communication Skills	Opt 3	3
Students planning to transfer to a four-year institution should select ENG 106.			

#### TOTAL CREDITS REQUIRED

### Accounting Certificate I & Accounting Certificate II

(see Certificate Section, page 122)

## **Accounting Information Systems**

The Accounting Information Systems program prepares you for a career in accounting and for a liaison position between the accounting and information systems departments. 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.

For more information about the Accounting Information Systems program, please visit our website at

www.dmacc.edu/programs/accounting/ais.

#### Locations: Ankeny, Boone, Carroll, Urban

Selected courses in this program are offered at other campuses.

#### **Program Entry Requirements**

- 1. Complete an application for admission.
- 2. Satisfy the assessment requirement.
- 3. Attend any required information/registration session.
- High school algebra II or higher with a grade of "C" or better or MAT 073 and/or MAT 141 at DMACC.
- ADM 105 Intro to Keyboarding at DMACC or equivalent is strongly recommended.
- CSC 110 Intro to Computers at DMACC or equivalent is strongly recommended.

#### Students start Fall semester at Boone and Urban Campuses.

#### Students start Spring semester at Ankeny and Carroll Campuses. Course sequences may vary; see a counselor/advisor for details.

#### **Graduation Requirements**

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

## Degrees and Diplomas

#### Semester 1

ACC 131	Principles of Accounting I	4
CIS 125	Intro to Program Logic w/lang	3
ECN 120	Principles of Macroeconomics	3
ENG 105	Composition I	3
Any AA/AS	degree Core MAT or BUS 211 course	3-4
0.1		

(Note: Students must take a 4-credit math course in either Semester 1 or Semester 3.)

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

#### Semester 2

Principles of Accounting II	4
Composition II	3
Computer Accounting	3
Introduction to Database	3
Principles of Microeconomics	3
	Composition II Computer Accounting Introduction to Database

#### Semester 3-Select 1 Course from Option 1

ACC 231	Intermediate Accounting I		4
ACC 261	Income Tax Accounting		3
CIS 161	C++	Opt 1	3
CIS 402	COBOL	Opt 1	3
CIS 604	Visual Basic	Opt 1	3
CIS 152	Data Structures	Opt 1	3
Any AA/AS degree Core Humanities course			3
Any AA/AS degree Core MAT or BUS 211 course			3-4

(Note: Students must take a 4-credit math course in either Semester 1 or Semester 3.) Students planning to transfer to a four-year institution should check with that institution regarding requirements for math and humanities before selecting courses for this program.

#### Semester 4-Select 1 Course from Option 2 and 1 Course from Option 3

SPC 101	Fundamentals of Oral Communication		3
ACC 272	Accounting Information Systems		4
ACC 361	Accounting Spreadsheets		3
ACC 161	Payroll Accounting	Opt 2	3
ACC 191	Financial Analysis	Opt 2	3
BCA 113	Computer Network Literacy	Opt 3	3
MGT 248	Systems & Information Mgmt	Opt 3	3
Any AA/AS o	degree Core BIO, CHM, ENV or PHY cour	rse	3

Note: To complete this program, you must meet the Diversity Requirement with a grade of "C" or higher. See the AA/AS section of this catalog for more information about which courses can count toward this requirement.

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

#### TOTAL CREDITS REQUIRED

TO COMPLETE THIS	AS DEGREE	7

## **Accounting Paraprofessional**

The Accounting Paraprofessional program prepares you for an accounting career. You will be on a pre-CPA/CMA track that is articulated with selected four-year institutions to facilitate the completion of a Bachelor's degree. You will be able to identify, analyze, summarize, communicate, record, and interpret business transactions and financial statements. You will become proficient in commercial and customized accounting software and spreadsheets. The program is 68 credits and you can complete it in four regular semesters.

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

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

For more information about the Accounting Paraprofessional program, please visit our website at **www.dmacc.edu/programs/accounting/acctpara**.

#### Locations: Ankeny, Boone, Carroll, Urban

Selected courses in this program are offered at other campuses.

#### **Program Entry Requirements**

1. Complete an application for admission.

- 2. Satisfy the assessment requirement.
- 3. Attend any required information/registration session.
- 4. High school algebra II or higher with a grade of "C" or better or MAT 073 and/or MAT 141 at DMACC.
- 5. ADM 105 Intro to Keyboarding at DMACC or equivalent is strongly recommended.

#### Students start Fall semester at Boone and Urban Campuses.

#### Students start Spring semester at Ankeny and Carroll Campuses. Course sequence may vary; see a counselor/ advisor for details.

#### **Graduation Requirements**

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

#### Semester 1

ACC 131	Principles of Accounting I	4
CSC 110	Intro to Computers	3
ECN 120	Principles of Macroeconomics	3
ENG 105	Composition I	3
Any AA/AS degree Core MAT or BUS 211 course		3-4

(Note: Students must take a 4-credit math course in either Semester 1 or Semester 3.)

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

#### Semester 2

ACC 132	Principles of Accounting II	4
ACC 311	Computer Accounting	3
BUS 185	Business Law I	3
ENG 106	Composition II	3
Any AA/AS degree Core Humanities course		3

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

54 DES MOINES AREA COMMUNITY COLLEGE CATALOG 2011-2012

#### Semester 3

ACC 231	Intermediate Accounting I	4
ACC 222	Cost Accounting	4
ECN 130	Principles of Microeconomics	3
SPC 101	Fundamentals of Oral Communication	3
Any AA/AS	degree Core MAT or BUS 211 course	3-4

(Note: Students must take a 4-credit math course in either Semester 1 or Semester 3.)

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

#### Semester 4-Select 1 Course from Option 1

ACC 261	Income Tax Accounting		3
ACC 361	Accounting Spreadsheets		3
ACC 191	Financial Analysis		3
ACC 272	Accounting Information Systems	Opt 1	4
ACC 161	Payroll Accounting	Opt 1	3
Any AA/AS	degree Core BIO, CHM, ENV or PHY cou	irse	3-5

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

Note: To complete this program, you must meet the Diversity Requirement with a grade of "C" or higher. See the AA/AS section of this catalog for more information about which courses can count toward this requirement.

#### TOTAL CREDITS REQUIRED

TO COMPLETE THIS AS DEGREE
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## **Accounting Payroll**

(see Certificate Section, page 122)

## 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, and will attain the oral and written communication skills 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.

For more information about the Accounting Specialist program, please visit our website at **www.dmacc.edu/programs/accounting/acctspecial**.

#### Locations: Boone, Urban

Selected courses in this program are offered at other campuses.

#### **Program Entry Requirements**

- 1. Complete an application for admission.
- 2. Satisfy the assessment requirement.
- 3. Attend any required information/registration session.
- 4. High school algebra II or higher with a grade of "C" or better or MAT 073 and/or MAT 141 at DMACC.
- 5. ADM 105 Intro to Keyboarding at DMACC or equivalent is strongly recommended.

#### Students start Fall semester at Boone and Urban Campuses.

Students start Spring semester at Ankeny and Carroll Campuses. Course sequence may vary; see a counselor/ advisor for details.

#### **Graduation Requirements**

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

#### Semester 1-Select 1 Course from Option 1

ACC 131	Principles of Accounting I		4
ACC 124	Accounting Professionalism		3
CSC 110	Intro to Computers		3
ENG 105	Composition I	Opt 1	3
ADM 157	Business English	Opt 1	3
Any AA/AS	degree Core MAT or BUS 211 course		3-4

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

Students planning to transfer to a four-year institution should select ENG 105 for Option 1.

#### Semester 2-Select 1 Course from Option 2 and 1 Course from Option 3

ACC 132	Principles of Accounting II		4
ACC 311	Computer Accounting		3
ACC 161	Payroll Accounting		3
ENG 106	Composition II	Opt 2	3
ENG 108	Comp II: Technical Writing	Opt 2	3
COM 703	Communication Skills	Opt 2	3
BUS 185	Business Law I	Opt 3	3
ECN 120	Principles of Macroeconomics	Opt 3	3

Students planning to transfer to a four-year institution should select ENG106 for Option 2. ECN 120 is strongly recommended for business majors.

#### Semester 3-Select 1 Course from Option 4

SPC 101	Fundamentals of Oral Communicati	on	3
ACC 272	Accounting Information Systems		4
MGT 145	Human Relations in Business	Opt 4	3
PSY 111	Introduction to Psychology	Opt 4	3
ECN 130	Principles of Microeconomics	Opt 4	3
Chudanta ulan	uiua ta tuanafan ta a farmusan institution drauld	ale ast with the stinet	testion

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

Students planning to transfer to a four-year institution should select PSY 111 or ECN 130 for Option 4. ECN 130 is strongly recommended for business majors.

#### Semester 4

ACC 231	Intermediate Accounting I	4
ACC 222	Cost Accounting	4
ACC 361	Accounting Spreadsheets	3
Any AA/AS	degree Core MAT or BUS 211 course	3-4

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

#### Semester 5

ACC 261	Income Tax Accounting	3
ACC 191	Financial Analysis	3
ACC 946	Accounting Career Seminar	1
ACC 932	Accounting Internship	3-4

TOTAL CREDITS REQUIRED		
TO COMPLETE THIS AAS DEGREE		

## **Administrative Assistant**

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

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

To successfully complete this program, 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 the first course of a sequential course offering before enrolling in the second-level course of the sequence or in a prerequisite course. That includes ADM 157, ADM 162, BCA 133, BCA 213 and BCA 212 or CSC 110.

For more information about the Administrative Assistant program,

https://go.dmacc.edu/programs/btec/pages/adminassistant.aspx.

#### Locations: Ankeny, Boone, Carroll, Urban

Selected courses in this program are offered at other campuses.

#### **Program Entry Requirements**

please visit our website at

1. Complete an application for admission.

- 2. Satisfy the assessment requirement.
- 3. Attend any required information/registration session.

#### Students start any semester.

#### **Graduation Requirements**

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

#### Semester 1

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

MGT 115	Administrative Management	3
ADM 162	Office Procedures	3
ADM 154	Business Communication	3
BCA 137	Word Processing Skill Development II	3
BCA 213	Intermed. Computer Business Applications	3
ADM 259	Professional Development	3

## Degrees and Diplomas

#### Semester 3–In addition to the required course, students must Select 1 Course from Option 1, 1 Course from Option 2, and 2 Courses from Option 3.

ADM 221	Career Development Skills		2
ACC 131	Principles of Accounting I	Opt 1	4
ACC 111	Intro to Accounting	Opt 1	3
SPC 101	Fundamentals of Oral Communication	Opt 2	3
SPC 126	Interpersonal & Small Group Comm	Opt 2	3
BUS 102	Intro to Business	Opt 3	3
FIN 121	Personal Finance	Opt 3	3
BUS 148	Small Business Management	Opt 3	3
BUS 185	Business Law I	Opt 3	3
BCA 113	Computer Network Literacy	Opt 3	3
MGT 248	Systems & Information Management	Opt 3	3
MKT 110	Principles of Marketing	Opt 3	3

#### Semester 4-Select 3 Credits from Option 4

ADM 164	Administrative Office Applications		3	
BCA 111	Emerging Technologies		3	
BCA 250	Desktop Publishing		3	
ADM 265	Supervised Practical Experience		2	
ADM 937	Prof Office Careers Seminar		1	
Any ACC cou	Any ACC course (except adjunct) Opt 4			
Any BUS course (except adjunct) Opt 4				
Any BCA, CSC, CIS or NET course (except adjunct) Opt 4				
Any ECN course (except adjunct) Opt 4				
Any FIN course (except adjunct) Opt 4				
Any MGT course (except adjunct) Opt 4				
Any MKT course (except adjunct) Opt 4				
Any ADM, MTR, MAP course (except adjunct) Opt 4				

#### 

### **Adult Services**

(see Certificate Section, page 123)

### **Advanced Web Developer**

(see Certificate Section, page 123)

## **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 healthcare administrator in Long-Term care facilities and residential care facilities; a 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 nontraditional students.

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

IMPORTANT NOTE: Students are strongly advised to contact one of the staff members in Aging Services Management in Bldg. 24, Room 208A on the Ankeny Campus or call 515-964-6814 or 515-964-6262 regarding additional important information to meet state licensure requirements for nursing home administrator.

For more information about the Aging Services Management program, please visit our website at **www.dmacc.edu/programs/aging**.

#### **Location: Ankeny**

#### **Program Entry Requirements**

1. Complete an application for admission.

- 2. Satisfy the assessment requirement.
- 3. Attend a required information/registration session.

#### Students may start any semester.

#### **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 must 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. To be eligible to be a nursing home administrator in lowa, students will need to transfer to a four-year college or university and complete a BS/BA degree. Administrators play a vital role in planning, organizing, staffing, directing and controlling the operation of a Long-Term care facility.

#### **Required Courses**

## COMPLETE AS DEGREE CORE REQUIREMENTS 28 ASM 278 Management in Senior Care Services 3

ASIM Z/8	Management in Senior Care Services	3
ASM 279	Healthcare Human Resources	3
ASM 280	Healthcare Delivery Systems	2
ASM 282	Aging Services	2
ASM 283	Aging Policies & Government Programs	2
SOC 225	Social Gerontology/Applications	4
SOC 226	Issues in Aging	2

#### Practicum:

ASM 261	Regulation of NF/SNF	3
ASM 262	Regulation of Supported Living	3
ASM 263	Practicum I: Quality of Life	2
ASM 264	Practicum II: Human Resources	1
ASM 265	Practicum III: Finance	1
ASM 266	Practicum IV: Environment	1
ASM 267	Practicum V: Leadership & Mgmt	1

#### Option Courses—Select a

#### Minimum of 10 Credits from Option 1

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

## **Adult Services Track**

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

directing and controlling the operation of adult services programs.

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

#### **Required Courses**

#### 

ASM 278	Management in Senior Care Services	3
ASM 279	Healthcare Human Resources	3
ASM 280	Healthcare Delivery Systems	2
ASM 282	Aging Services	2
ASM 283	Aging Policies & Government Programs	2
SOC 225	Social Gerontology/Applications	4
SOC 226	Issues in Aging	2
ASM 239	Information Systems in Healthcare	2
ASM 262	Regulation of Supported Living	3
ASM 256	Agency Experience	2
ASM 274	Law and Ethics in Healthcare	3

#### Option Courses—Select 1 Course from Option 2 and a Minimum of 10 Credits from Option 3

ACC 131	Principles of Accounting I	Opt 2	4
ACC 111	Intro to Accounting	Opt 2	3
ASM 261	Regulation of NF/SNF	Opt 3	3
ASM 238	Financial Management in Aging Services	Opt 3	3
ASM 295	Death and Dying	Opt 3	3
ASM 291	Activity Coordinator	Opt 3	4
DTM 355	Food Production Management	Opt 3	1
DTM 356	Food Service Management	Opt 3	2
HSC 240	Human Nutrition	Opt 3	3
HSV 130	Interviewing/Interpersonal Relations	Opt 3	3

## Degrees and Diplomas

MAP 129	Medical Terminology	Opt 3	1
MKT 110	Principles of Marketing	Opt 3	3
PEH 102	Health	Opt 3	3

Note: If the student completes SOC 225 with a grade of "C" or higher, the course will meet the Diversity Requirement. See the AA/AS section of this catalog for more information.

#### TOTAL CREDITS REQUIRED TO COMPLETE THIS AS DEGREE WITH

#### THE LONG-TERM CARE ADMINISTRATION TRACK ......... 68

THE ADULT SERVICES	TRACK
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## Long-Term Care Administrator

(see Certificate Section, page 138)

## Agribusiness

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

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

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

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

The Agribusiness degree offers students transfer opportunities to several four-year institutions. Students should visit with program instructors and counselors for information regarding transfer to four-year institutions and their specific program requirements.For more information about the Agribusiness program, please visit our website at **www.dmacc.edu/programs/ag**.

#### Location: Ankeny

Selected courses in this program are offered at other campuses.

#### **Program Entry Requirements**

- 1. Complete an application for admission.
- 2. Satisfy the assessment requirement.
- 3. Attend any required information/registration session.

#### Students start any semester.

#### **Graduation Requirements**

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

#### **Required Courses**

#### Fall-Select 1 Course from Option 1

AGS 113	Survey of the Animal Industry		3
AGA 114	Principles of Agronomy		3
AGA 154	Fundamentals of Soil Science		3
AGA 157	Soil Fertility		1
AGC 314	Leadership in Agriculture		2
ENG 105	Composition	Opt 1	3
COM 703	Communication Skills	Opt 1	3

#### Spring-Select 1 Course from Option 2

AGA 284	Pesticide Application Certification		3
AGB 235	Intro to Agricultural Markets		3
AGB 802	Agribusiness Internship I		2
AGS 319	Animal Nutrition		3
SPC 101	Fund of Oral Communication	Opt 2	3
SPC 126	Interpersonal & Small Grp Communication	Opt 2	3

#### Summer-Select 2 Courses from Option 3

AGA 381	Crop Scouting		3
AGP 333	Precision Agriculture Applications		3
AGS 225	Swine Science	Opt 3	3
AGS 226	Beef Cattle Science	Opt 3	3
AGB 331	Agribusiness Management	Opt 3	3
AGM 336	Alternative Energy in Ag	Opt 3	3
BUS 185	Business Law I	Opt 3	3
CSC 110	Intro to Computers	Opt 3	3

#### Fall-Select 1 Course from Option 4

AGA 222	Grain Management		2
AGB 101	Agricultural Economics		3
AGS 242	Animal Health		3
AGT 120	Agricultural Applications of Biotech		3
MAT 141	Finite Math	Opt 4	4
MAT 772	Applied Math	Opt 4	3

## Spring-Select 4 Courses from Option 5 and 1 from Option 6

AGB 812	Agribusiness Internship II		2
AGC 420	Agricultural Issues	Opt 5	3
AGB 440	Agricultural Niche Marketing	Opt 5	3
AGA 129	Intro to Sustainable Agricul	Opt 5	3
AGS 323	Animal Nutrition II	Opt 5	3
AGA 211	Grain and Forage Crops	Opt 5	3
AGB 330	Farm Business Management	Opt 5	3
AGS 222	Survey of Aquaculture Industry	Opt 5	3
MKT 140	Selling	Opt 5	3
ACC 131	Principles of Accounting I	Opt 5	4
ACC 111	Intro to Accounting	Opt 5	3
MGT 145	Human Relations in Business	Opt 6	3
PSY 111	Introduction to Psychology	Opt 6	3
SOC 110	Introduction to Sociology	Opt 6	3
SOC 115	Social Issues	Opt 6	3

#### TOTAL CREDITS REQUIRED TO COMPLETE THIS AAS DEGREE......72

#### Agribusiness Agronomy, Agribusiness Animal Science, Agribusiness Farm Management, Agribusiness Sales/Service & Sustainable Agriculture

(see Certificate Section, page 123)

### **Adult Services Certificates**

(see Certificate Section, page 125)

### **Airbrush Art**

(see Certificate Section, page 116)

## **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 countertops. Students will receive classroom instruction as well as hands-on training and will use modern millwork equipment. Graduates of the program will earn a diploma, which will prepare them for entry-level positions in the architectural millwork field.

For more information about the Architectural Millwork program, please visit our website at **www.dmacc.edu/programs/architecturalmillwork**.

#### **Location: Ankeny**

#### **Program Entry Requirements**

1. Complete an application for admission.

- 2. Satisfy the assessment requirement.
- 3. Attend any required information/registration session.

#### Students start Fall semester.

#### **Graduation Requirements**

To earn an Architectural Millwork diploma, students must complete all coursework 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.

#### Semester 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
Semester 2	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
Semester 3	3	
MLW 448	Advanced Millwork Applications I	5
MLW 449	Advanced Millwork Applications II	5

## TOTAL CREDITS REQUIRED TO

COMPLETE THIS DIPLOMA
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## **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.

For more information about the Architectural Technologies program, please visit our website at **http://arch.dmacc.edu/**.

#### Location: Ankeny

Selected courses offered at Urban Campus.

#### **Program Entry Requirements**

1. Complete an application for admission.

- 2. Satisfy the assessment requirement.
- 3. 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 semester.

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 chairperson.

#### **Graduation Requirements**

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

#### Semester 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

#### Semester 2-Select 1 Course from Option 1

	•		
ARC 127	Architectural Drafting II		5
ARC 167	Materials & Assemblies II		3
CAD 126	Intermediate CADD-Architectural		3
ENG 105	Composition I		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

#### Semester 3-Select 1 Course from Option 2

ARC 128	Architectural Drafting III	5
ARC 169	Materials & Assemblies III	3
ARC 180	Building Codes	2
ARC 181	Construction Documents Technology	2

## Degrees and Diplomas

MAT 773	Applied Math II	Opt 2	3
MAT 129	Precalculus	Opt 2	5
MAT 130	Trigonometry	Opt 2	3
MAT 211	Calculus I	Opt 2	5

#### TOTAL CREDITS REQUIRED TO

COMPLETE THE DIPLOMA...... 45

## Additional Courses Required to Complete the AAS degree (Select 1 Course from Option 3 and 1 from Option 4)

HIS 112	Western Civ: Ancient to Early Moder	'n	4
HIS 113	Western Civ: Early Modern to Preser	nt	4
BCA 113	Computer Network Literacy		3
ARC 190	Presentation Graphics	Opt 3	3
CAD 162	Introduction to Multimedia	Opt 3	3
ENG 106	Composition II	Opt 4	3
ENG 108	Comp II: Technical Writing	Opt 4	3

Elective Credit (Students who choose a 3-credit course for Option 2 must take an additional 2 credits)......2

#### 

## **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 one who wants only specific segments of the complete program.

For more information about the Auto Collision Technology program, please visit our website at

https://go.dmacc.edu/programs/automotive/autocollision.

#### Location: Ankeny

#### **Program Entry Requirements**

- 1. Complete an application for admission.
- 2. Satisfy the assessment requirement.
- 3. Attend any required information/registration session.

#### Students start Fall or Spring semester.

#### **Graduation Requirements**

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

## Degrees and Diplomas

#### **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
COMPLETE THE DIPLOMA

#### **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 615	Auto Electricity/Electronics	4
AUT 652	Advanced Automotive Electricity	3
AUT 704	Auto Heating & AC	4
AUT 524	Auto Brake Systems & Service	4
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 148	Small Business Management	Opt 2	3
BUS 185	Business Law I	Opt 2	3

### TOTAL CREDITS REQUIRED TO

COMPLETE THE AAS DEGREE	.75	5	

## **Auto Mechanics Technology**

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

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

There are three separate diploma options, which 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.

For more information about the Auto Mechanics Technology program, please visit our website at

#### www.dmacc.edu/programs/automotive/automechanics

#### **Location: Ankeny**

Selected courses offered at the other campuses.

## Auto Maintenance & Light Repair diploma is available only at the Urban Campus.

#### **Program Entry Requirements**

- 1. Complete an application for admission.
- 2. Satisfy the assessment requirement.
- 3. Attend any required information/registration session.

#### Ankeny Campus students start Fall and Spring semester. Urban Campus students start Fall semester.

#### **Graduation Requirements**

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

### Automotive Mechanics Technology—AAS degree

#### **Required Courses**

AUT 114	Shop Fund & Minor Service	4
AUT 834	Automotive Fuel Systems	4
AUT 615	Auto Electricity/Electronics	4
AUT 652	Advanced Automotive Electricity	3
AUT 704	Auto Heating & AC	4
AUT 163	Automotive Engine Repair	3
AUT 842	Auto Computerized Eng Controls	4
AUT 845	Electrical Systems Diagnosis	2
AUT 823	Advanced Automotive Tune-Up	4
AUT 870	Automotive Service Management	2

Advanced Automotive Engine Repair		3
Basic Automotive Power Train		6
Auto Brake Systems & Service		4
Basic Suspension & Steering		4
Advanced Automotive Power Train		6
Advanced Auto Brakes & Alignment		5
Emergency Care		1
Communication Skills		3
Applied Math		3
Technical Physics		3
Human Relations in Business	Opt 1	3
Introduction to Psychology	Opt 1	3
Human and Work Relations	Opt 1	3
Introduction to Sociology	Opt 1	3
	Basic Automotive Power Train Auto Brake Systems & Service Basic Suspension & Steering Advanced Automotive Power Train Advanced Auto Brakes & Alignment Emergency Care Communication Skills Applied Math Technical Physics Human Relations in Business Introduction to Psychology Human and Work Relations	Basic Automotive Power Train Auto Brake Systems & Service Basic Suspension & Steering Advanced Automotive Power Train Advanced Auto Brakes & Alignment Emergency Care Communication Skills Applied Math Technical Physics Human Relations in Business Opt 1 Introduction to Psychology Opt 1 Human and Work Relations Opt 1

## TOTAL CREDITS REQUIRED TO COMPLETE



#### **Auto Engines & Tune-Up**

This diploma option prepares graduates for job entry in current automotive technology tune-up and engine repair.

#### **Required Courses**

AUT 114	Shop Fund & Minor Service	4
AUT 834	Automotive Fuel Systems	4
AUT 615	Auto Electricity/Electronics	4
AUT 652	Advanced Automotive Electricity	3
AUT 704	Auto Heating & AC	4
AUT 163	Automotive Engine Repair	3
AUT 842	Auto Computerized Eng Controls	4
AUT 823	Advanced Automotive Tune-Up	4
AUT 870	Automotive Service Management	2
AUT 173	Advanced Automotive Engine Repair	3
COM 703	Communication Skills	3
MAT 772	Applied Math	3
PHY 710	Technical Physics	3

#### 

#### **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 114	Shop Fund & Minor Service		4
AUT 242	Basic Automotive Power Train		6
AUT 524	Auto Brake Systems & Service		4
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
MGT 145	Human Relations in Business	Opt 1	3
PSY 111	Introduction to Psychology	Opt 1	3
PSY 102	Human and Work Relations	Opt 1	3
SOC 110	Introduction to Sociology	Opt 1	3

#### 

#### Automotive Maintenance & Light Repair Technology at the Urban Campus

This diploma option prepares graduates for a career in automotive maintenance and minor repair. This will include the light repair and maintenance of electrical systems, brakes, suspension, steering, alignment, heating, air conditioning and engines.

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

-	-		
AUT 114	Shop Fund & Minor Service		4
AUT 615	Auto Electricity/Electronics		4
AUT 652	Advanced Automotive Electricity		3
AUT 704	Auto Heating & AC		4
AUT 163	Automotive Engine Repair		3
AUT 870	Automotive Service Management		2
AUT 524	Auto Brake Systems & Service		4
AUT 404	Basic Suspension & Steering		4
AUT 535	Advanced Auto Brakes & Alignment		5
COM 703	Communication Skills		3
HSC 102	Emergency Care		1
MAT 772	Applied Math		3
MGT 145	Human Relations in Business	Opt 1	3
PSY 111	Introduction to Psychology	Opt 1	3
PSY 102	Human and Work Relations	Opt 1	3
SOC 110	Introduction to Sociology	Opt 1	3

#### 

## **Basic Visual Communications**

(see Certificate Section, page 125)

## **Biomass Operations Technology**

(see Certificate Section, page 125)

## Biotechnology

The Biotechnology program is designed to prepare students to work as Biotechnology technicians in this rapidly expanding field that spans many different disciplines including agriculture, environmental products, medical diagnostic tests and treatments, industrial products and criminal investigation. Technicians may work in the areas of laboratory research, product development, quality control, manufacturing and testing. 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 enable 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 Biotechnology program chairperson or an advisor for additional assistance.

For more information about the Biotechnology program, please visit our website at **www.go.dmacc.edu/programs/biotechnology**.

#### Location: Ankeny

Selected courses in this program are offered at other campuses.

#### **Program Entry Requirements**

- 1. Complete an application for admission.
- 2. Satisfy the assessment requirement.
- 3. Attend any required information/registration session.
- 4. Must submit proof of one year of high school chemistry or Academic Achievement Chemistry I & II or successful completion of CHM 122.
- 5. Must submit proof of two years of high school algebra or MAT 063 & MAT 073.
- 6. Demonstrate satisfactory writing skills on college entrance or assessment exam.

#### Students start Fall or Spring semester.

#### **Graduation Requirements**

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

#### **Required Courses**

BIO 104	Introductory Biology w/Lab	3
	5 05 7	-
ENG 105	Composition I	3
BIO 112	General Biology I	4
ENG 106	Composition II	3
MAT 157	Statistics	4
BIO 113	General Biology II	4
BIO 186	Microbiology	4
SPC 101	Fundamentals of Oral Communication	3
BIO 250	Cell & Molecular Biology-Nucleic Acids	5
BIO 251	Cell and Molecular Biology-Proteins	5
BIO 146	Genetics	3
BIO 249	Biotechnology Internship	3
0		

#### **Option Courses—Select 3 Credits from Option 1**

Select 1 Course from Option 3	AA/AS Core Humanities		Opt 1	3
Select 1 Course from Option 3CSC 110Intro to ComputersOpt 3	Select 6 (	Credits From Option 2		
CSC 110 Intro to Computers Opt 3	AA/AS Core	e Social & Behavioral Sciences	Opt 2	6
	Select 1 C	ourse from Option 3		
ENG 108 Comp II: Technical Writing Opt 3	CSC 110	Intro to Computers	Opt 3	3
	ENG 108	Comp II: Technical Writing	Opt 3	3

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

CHM 122*	Intro to General Chemistry	Opt 4	4
CHM 132*	Intro Organic/Biochemistry	Opt 4	4
CHM 165	General/Inorg Chemistry I	Opt 5	4
CHM 175	General/Inorg Chemistry II	Opt 5	4

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

Note: To complete this program, you must meet the Diversity Requirement with a grade of "C" or higher. See the AA/AS section of this catalog for more information about which courses can count toward this requirement.

#### TOTAL CREDITS REQUIRED

TO COMPLETE THIS AS DEGREE ......64

## **Building Maintenance**

(see Certificate Section, page 125)

## **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 semester is devoted to applying classroom theory and lab skills in an actual construction job, either residential or commercial.

For more information about the Building Trades program, please visit our website at **www.dmacc.edu/programs/bldgtrades**.

#### Location: Ankeny

#### **Program Entry Requirements**

- 1. Complete an application for admission.
- 2. Satisfy the assessment requirement.
- 3. Attend any required information/registration session.

#### Students start Fall semester.

#### **Graduation Requirements**

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

#### Semester 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
Any AAS d	egree core Math course	3

#### Semester 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
Any AAS de	egree core Communications course	3

#### Semester 3

TOTAL CREDITS REQUIRED TO COMPLETE THIS DIPLOMA			
CON 482	Construction Procedure/Application III	5	
CON 481	Construction Procedure/Application II	5	

### **Business**

Students planning to major in business administration or related fields at a four-year college/university can satisfy many of their general education requirements at Des Moines Area Community College. Since degree requirements vary at senior institutions, students should become familiar with the specific course requirements of their selected transfer institution.

Students are also encouraged to contact the four-year major advisor as early as possible to develop a transfer plan. DMACC advisors and/ or counselors can also help by providing transfer materials and course planning assistance.

## **Business Administration-AA or AS**

The Business Administration program offers the student a number of career and educational opportunities. The program allows students to choose either an AA or AS degree. Students who plan to transfer to a four-year college or university should consider the AA degree. The AA degree will satisfy the freshman and sophomore Business Administration requirements of most four-year colleges if planned carefully with an advisor. The AS degree is designed for students who want to prepare for an immediate career in business.

Unique features of the Business Administration curriculum include an introduction to American and international business practices, accounting practices and business law concepts. The Student Development Office can provide 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.

For more information about the Business Administration program, please visit our website at **www.dmacc.edu/programs/businessad**.

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

#### **Program Entry Requirements**

- 1. Complete an application for admission.
- 2. Satisfy the assessment requirement.
- 3. Attend any required information/registration session.

#### Students may start any semester.

#### **Graduation Requirements**

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

### **AA Degree**

#### **Required Courses**

ACC 131	Principles of Accounting I	4
ACC 132	Principles of Accounting II	4
BUS 102	Intro to Business	3
BUS 185	Business Law I	3
BUS 220	Intro to International Business	3
ECN 1201	Principles of Macroeconomics	3
ECN 1301	Principles of Microeconomics	3

<sup>1</sup> ECN 120 and ECN 130 are required courses for this program and shall also be used to fulfill 3 credits of Social & Behavioral Sciences AA Core and 3 credits of Distributive AA Core.

#### COMPLETE REMAINING AA DEGREE CORE REQUIREMENTS AS FOLLOWS:

Communications	9
Social & Behavioral Sciences	6
(6 credits + 3 credits for ECN 120 from above)	
Math & Sciences <sup>2</sup>	9
Humanities	9
Distributive <sup>2</sup>	6
(6 credits + 3 credits for ECN 130 from above)	
Electives <sup>2</sup>	2

<sup>2</sup> Students should check with a DMACC advisor or an advisor at the four-year institution to which they plan to transfer before selecting math and science courses, distributive courses, elective and courses in other areas because certain courses are course prerequisites and/or admission requirements into the College of Business at different colleges and universities.

Note: If the student completes BUS 220 with a grade of "C" or higher, the course will meet the Diversity Requirement. See the AA/AS section of this catalog for more information.

#### 

### **AS degree**

#### **Required Courses**

ACC 131	Principles of Accounting I	4
ACC 132	Principles of Accounting II	4
BUS 102	Intro to Business	3
BUS 220	Intro to International Business	3
BUS 185	Business Law I	3
BUS 902	Career Seminar	1
BUS 932	Internship	2
CSC 110	Intro to Computers	3
ECN 120	Principles of Macroeconomics	3
ECN 130	Principles of Microeconomics	3

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

#### Select 3 Courses from Option 1 below

FIN 121	Personal Finance	Opt 1	3
FIN 101	Principles of Banking	Opt 1	3
FIN 180	Intro to Investments	Opt 1	3
BUS 231	Quantitative Methods/Bus Decisions	Opt 1	4
BUS 260	Introduction to Insurance	Opt 1	3
BUS 148	Small Business Management	Opt 1	3
BUS 186	Business Law II	Opt 1	3
MGT 101	Principles of Management	Opt 1	3
MGT 248	Systems & Info Management	Opt 1	3
MKT 110	Principles of Marketing	Opt 1	3
BUS 240	Virtual Business Firm	Opt 1	3

#### COMPLETE AS DEGREE CORE REQUIREMENTS ...... 28

Note: If the student completes BUS 220 with a grade of "C" or higher, the course will meet the Diversity Requirement. See the AA/AS section of this catalog for more information.

#### 

### **Business Information Systems**

The Business Information Systems program is intended for the student who is interested in an entry-level 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 PC-related programming fields, as well as the newer fields of electronic commerce and databases.

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

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 flexible course selection and exposure to a variety of programming skills and tools.

For more information about the Business Information Systems program, please visit our website at **www.dmacc.edu/programs/bis**.

#### Location: Ankeny, Urban, West

Selected courses in this program are offered at other campuses.

#### **Program Entry Requirements**

1. Complete an application for admission.

- 2. Satisfy the assessment requirement.
- 3. Attend any required information/registration session.
- 4. Successful completion of CSC 110 or equivalent.

5. Successful completion of ADM 105 or equivalent strongly recommended.

#### Students start any semester.

## Degrees and Diplomas

3

3

#### **Graduation Requirements**

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

#### **Required Courses**

#### Semester 1

CIS 125	Intro to Programming Logic w/Language	3
CIS 303	Introduction to Database	3
ACC 131	Principles of Accounting I	4
BUS 102	Intro to Business	3
MGT 248	Systems & Information Management	3
Semester 2	2	
BCA 113	Computer Network Literacy	3
BCA 113 CIS 332	Computer Network Literacy Database and SQL	3

#### Semester 3

(It is recommended that students take one course as a Summer semester course.)

AAS degree Core Communications Course

Option 1-Language Package #1: Course #1

Somostor	A	
Option 2–Choose One Course		3
Option 1–La	nguage Package #2: Course #1	3
Option 1–La	nguage Package #1: Course #2	3-4
AAS degree	e Core Social/Behavioral/Humanities Course	3
CIS 505	Structured Systems Analysis	4
CIS 338	SQL/Oracle	3

#### Semester 4

NET 612	Fundamentals of Network Security	3
AAS degre	e Core Distributed Course	3
Option 1-La	anguage Package #2: Course #2	3-4
Option 2-C	Choose One Course	3
Option 2-C	Choose One Course	3

Option 1 Courses-Language Package-Students are required to complete any 2 Language Packages as shown below.

#### **COBOL Programmer Package:**

CIS 402	COBOL	Opt 1a	3
CIS 413	COBOL II	Opt 1a	4
Visual Ba	sic Programmer Package:		
CIS 604	Visual Basic	Opt 1b	3
CIS 612	Advanced Visual Basic	Opt 1b	3
Java Dev	eloper Package:		
CIS 171	Java	Opt 1c	3
CIS 182	JSP and Servlets	Opt 1c	3
C++ Prog	rammer Package:		
CIS 161	C++	Opt 1d	3
CIS 164	Advanced C++	Opt 1d	3
Web Dev	eloper Package:		
CIS 204	Intro to Website Development	Opt 1e	3
CIS 215	Server Side Web Programming	Opt 1e	3

#### C# Programmer Package:

CIS 169	C#	Opt 1f	3
CIS 174	Advanced C# Programming	Opt 1f	3
•	Courses-Students are required te at least 3 of these courses.		
BCA 250	Desktop Publishing	Opt 2	3
CIS 152	Data Structures	Opt 2	3
CIS 154	Computational Structures	Opt 2	3
CIS 247	Intro to XML	Opt 2	3
CIS 346	Database Design	Opt 2	3
CIS 588	Computer Organization	Opt 2	3
NET 715	Database Security & Auditing	Opt 2	3
CIS 720	Help Desk Operations	Opt 2	3
GRD 459	Illustrator	Opt 2	3
GRD 462	Computer Graphics II	Opt 2	3
* 1.11.1		1 0.1011	

In addition to the courses listed above that can fulfill Option 2, students may fulfill part of Option 2 by taking 6–7 credits from the courses listed under the Language Packages. This allows students to study an additional language or take individual courses from the packages. Students may not double-count courses for both Option 1 and Option 2.

TOTAL CREDITS REQUIRED TO	
COMPLETE THIS AAS DEGREE	

## **CAP-Chrysler**

The Chrysler Automotive Program (CAP), cosponsored by DMACC and Chrysler LLC Company, is a two-year automotive program designed to upgrade the technical competence and professional level of the incoming Chrysler dealership technician. The curriculum, designed by Chrysler and DMACC, leads to the associate degree in Automotive Technology. The program involves classroom lecture, laboratory experience and dealership work experience.

For more information about the CAP-Chrysler program, please visit our website at **www.dmacc.edu/programs/automotive/chrysler**.

#### Location: Ankeny

#### **Program Entry Requirements**

- 1. Complete an application for admission.
- 2. Satisfy the assessment requirement, aptitude and ability tests.
- 3. Be accepted by Chrysler as a participant.
- 4. All program participants must be employed by a participating Chrysler, Dodge or Jeep dealership.

## Students start in October each year. Students interested in a late start should contact the program chairperson.

#### **Graduation Requirements**

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

#### **Required Courses**

#### Semester 1

AUT 615	Auto Electricity/Electronics	4
AUT 114	Shop Fund & Minor Service	4
MAT 772	Applied Math	3
PSY 102	Human and Work Relations	3

## Degrees and Diplomas

#### Semester 2

AUT 524Auto Brake Systems & Service4AUT 404Basic Suspension & Steering4PHY 710Technical Physics3COM 703Communication Skills3ATC 320Technical Internship I3Semester 3ATC 330Technical Internship II3ATC 335Service/Repair Chrysler Engines5ATC 336Chrysler Fuel Systems3Semester 4ATC 347Chrysler Heating & A/C3ATC 346Chrysler Engine Performance5ATC 340Technical Internship III3Semester 5ATC 350Technical Internship III3Semester 53ATC 350Technical Internship IV3ATC 355Chrysler Manual Drivetrains4ATC 356Advanced Chrysler Systems5Semester 6ATC 360Technical Internship V2ATC 360Technical Internship V2			
PHY 710Technical Physics3COM 703Communication Skills3ATC 320Technical Internship I3Semester 33ATC 330Technical Internship II3ATC 335Service/Repair Chrysler Engines5ATC 336Chrysler Fuel Systems3Semester 4ATC 347Chrysler Heating & A/C3ATC 346Chrysler Engine Performance5ATC 340Technical Internship III3Semester 5ATC 350Technical Internship IVI3ATC 354Chrysler Manual Drivetrains4ATC 355Chrysler Automatic Drivetrains4ATC 356Advanced Chrysler Systems5Semester 65ATC 360Technical Internship V2	AUT 524	Auto Brake Systems & Service	4
COM 703Communication Skills3ATC 320Technical Internship I3Semester 3ATC 330Technical Internship II3ATC 335Service/Repair Chrysler Engines5ATC 336Chrysler Fuel Systems3Semester 4ATC 347Chrysler Heating & A/C3ATC 346Chrysler Engine Performance5ATC 346Chrysler Electrical Systems Repair4ATC 340Technical Internship III3Semester 5Semester 53ATC 354Chrysler Manual Drivetrains4ATC 355Chrysler Automatic Drivetrains4ATC 356Advanced Chrysler Systems5Semester 6Atrc 360Technical Internship V2	AUT 404	Basic Suspension & Steering	4
ATC 320Technical Internship I3Semester 33ATC 330Technical Internship II3ATC 335Service/Repair Chrysler Engines5ATC 336Chrysler Fuel Systems3Semester 43ATC 347Chrysler Heating & A/C3ATC 346Chrysler Engine Performance5ATC 328Chrysler Electrical Systems Repair4ATC 340Technical Internship III3Semester 53ATC 350Technical Internship IV3ATC 355Chrysler Automatic Drivetrains4ATC 356Advanced Chrysler Systems5Semester 63ATC 360Technical Internship V2	PHY 710	Technical Physics	3
Semester 3ATC 330Technical Internship II3ATC 335Service/Repair Chrysler Engines5ATC 336Chrysler Fuel Systems3Semester 4ATC 347Chrysler Heating & A/C3ATC 346Chrysler Engine Performance5ATC 328Chrysler Electrical Systems Repair4ATC 340Technical Internship III3Semester 5ATC 350Technical Internship IV3ATC 355Chrysler Automatic Drivetrains4ATC 356Advanced Chrysler Systems5Semester 6ATC 360Technical Internship V2	COM 703	Communication Skills	3
ATC 330Technical Internship II3ATC 335Service/Repair Chrysler Engines5ATC 336Chrysler Fuel Systems3Semester 4ATC 347Chrysler Heating & A/C3ATC 346Chrysler Engine Performance5ATC 328Chrysler Electrical Systems Repair4ATC 340Technical Internship III3Semester 5ATC 350Technical Internship IV3ATC 355Chrysler Automatic Drivetrains4ATC 356Advanced Chrysler Systems5Semester 6ATC 360Technical Internship V2	ATC 320	Technical Internship I	3
ATC 335Service/Repair Chrysler Engines5ATC 336Chrysler Fuel Systems3Semester 4ATC 347Chrysler Heating & A/C3ATC 346Chrysler Engine Performance5ATC 328Chrysler Electrical Systems Repair4ATC 340Technical Internship III3Semester 5SATC 350Technical Internship IV3ATC 355Chrysler Automatic Drivetrains4ATC 356Advanced Chrysler Systems5Semester 6ATC 360Technical Internship V2	Semester	3	
ATC 336Chrysler Fuel Systems3Semester 4ATC 347Chrysler Heating & A/C3ATC 346Chrysler Engine Performance5ATC 328Chrysler Electrical Systems Repair4ATC 340Technical Internship III3Semester 53ATC 350Technical Internship IV3ATC 354Chrysler Manual Drivetrains4ATC 355Chrysler Automatic Drivetrains4ATC 356Advanced Chrysler Systems5Semester 63ATC 360Technical Internship V2	ATC 330	Technical Internship II	
Semester 4ATC 347Chrysler Heating & A/C3ATC 346Chrysler Engine Performance5ATC 328Chrysler Electrical Systems Repair4ATC 340Technical Internship III3Semester 5ATC 350Technical Internship IV3ATC 354Chrysler Manual Drivetrains4ATC 355Chrysler Automatic Drivetrains4ATC 356Advanced Chrysler Systems5Semester 6ATC 360Technical Internship V2	ATC 335	Service/Repair Chrysler Engines	
ATC 347Chrysler Heating & A/C3ATC 346Chrysler Engine Performance5ATC 328Chrysler Electrical Systems Repair4ATC 340Technical Internship III3Semester 5ATC 350Technical Internship IV3ATC 354Chrysler Manual Drivetrains4ATC 355Chrysler Automatic Drivetrains4ATC 356Advanced Chrysler Systems5Semester 6ATC 360Technical Internship V2	ATC 336	Chrysler Fuel Systems	3
ATC 346Chrysler Engine Performance5ATC 328Chrysler Electrical Systems Repair4ATC 340Technical Internship III3Semester 5ATC 350Technical Internship IV3ATC 354Chrysler Manual Drivetrains4ATC 355Chrysler Automatic Drivetrains4ATC 356Advanced Chrysler Systems5Semester 6ATC 360Technical Internship V2	Semester	4	
ATC 328Chrysler Electrical Systems Repair4ATC 340Technical Internship III3Semester 53ATC 350Technical Internship IV3ATC 354Chrysler Manual Drivetrains4ATC 355Chrysler Automatic Drivetrains4ATC 356Advanced Chrysler Systems5Semester 63ATC 360Technical Internship V2	ATC 347	Chrysler Heating & A/C	3
ATC 340Technical Internship III3Semester 53ATC 350Technical Internship IV3ATC 354Chrysler Manual Drivetrains4ATC 355Chrysler Automatic Drivetrains4ATC 356Advanced Chrysler Systems5Semester 633ATC 360Technical Internship V2	ATC 346	Chrysler Engine Performance	5
Semester 5ATC 350Technical Internship IV3ATC 354Chrysler Manual Drivetrains4ATC 355Chrysler Automatic Drivetrains4ATC 356Advanced Chrysler Systems5Semester 6ATC 360Technical Internship V2	ATC 328	Chrysler Electrical Systems Repair	4
ATC 350Technical Internship IV3ATC 354Chrysler Manual Drivetrains4ATC 355Chrysler Automatic Drivetrains4ATC 356Advanced Chrysler Systems5Semester 6ATC 360Technical Internship V2	ATC 340	Technical Internship III	3
ATC 354Chrysler Manual Drivetrains4ATC 355Chrysler Automatic Drivetrains4ATC 356Advanced Chrysler Systems5Semester 6Semester 6ATC 360Technical Internship V2	Semester	5	
ATC 355Chrysler Automatic Drivetrains4ATC 356Advanced Chrysler Systems5Semester 6Technical Internship V2	ATC 350	Technical Internship IV	3
ATC 356Advanced Chrysler Systems5Semester 6ATC 360Technical Internship V2	ATC 354	Chrysler Manual Drivetrains	4
Semester 6ATC 360Technical Internship V2	ATC 355	Chrysler Automatic Drivetrains	4
ATC 360 Technical Internship V 2	ATC 356	Advanced Chrysler Systems	5
	Semester	6	
	ATC 360	Technical Internship V	2

#### TOTAL CREDITS REQUIRED TO

## COMPLETE THIS AAS DEGREE......75

## **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 other components of trucks and construction equipment.

This program is accredited by the AED Associated Equipment Distributors, **www.AEDNET.org**.

For more information about the Caterpillar program, please visit our website at **www.dmacc.edu/programs/cat**.

#### Location: Ankeny

#### **Program Entry Requirements**

- 1. Complete an application for admission.
- 2. Satisfy the assessment requirement.
- 3. Complete a mechanical aptitude and ability test.
- 4. Attend any required information/registration session.

#### Students start any semester. This program is taught between 8:00 a.m.-4:00 p.m.

#### **Graduation Requirements**

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

## Degrees and Diplomas

#### **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
Outline C		

#### **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

### **Chemical Dependency Counseling**

(see Certificate Section, page 126)

## **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. 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.

For more information about the Civil Engineering program, please visit our website at **www.dmacc.edu/programs/civilengineering**.

#### Location: Boone

#### **Program Entry Requirements**

- 1. Complete an application for admission.
- 2. Satisfy the required assessment by taking the reading and English COMPASS test or equivalent.
- 3. Minimum COMPASS test algebra score of 39 or a minimum math score of 19 on the ACT exam. (Scores may not be more than three years old.) These scores reflect the suggested level of math skills necessary to be successful in the field of Civil Engineering Technology. Students who do not currently meet the minimum scores required must meet with an advisor to develop an action plan for improving their math skills.
- 4. Attend any required information/registration session.

#### This program is designed to start in the Fall semester.

Students who desire to start in other semesters may be accepted, but may not graduate in four semesters due to the sequencing of coursework. If starting other than Fall, please contact the Civil Engineering Technology department.

#### **Graduation Requirements**

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

#### **Required Courses**

#### Semester 1-Select 1 Course from Option 1

CET 102	Fundamentals of Civil Engineering		3
CET 119	Survey I		3
CET 135	Materials I		3
MAT 773	Applied Math II		3
CSC 110	Intro to Computers		3
Any AAS de	egree General Requirement		
Commun	ications Course	Opt 1	3
Semester	2-Select 1 Course from Option	1	
CET 138	Construction I		3
CET 178	Automated Design I		4
CET 169	Survey II		4
ADM 221	Career Development Skills		2
Any AAS d	egree General Requirement		
Commun	ications Course	Opt 1	3
Semester	3-Select the Course in Option 3	3	
CET 304	Field Coop	Opt 3	4
(With Depart Option 5 cour	ment approval, students may complete BOTH ( ses in place of Option 3.)	Option 4 courses OR	BOTH
CET 307	Field Orientation	Opt 4	2
MGT 145	Human Relations in Business	Opt 4	3
CET 307	Field Orientation	Opt 5	2
PSY 102	Human and Work Relations	Opt 5	3
Semester	4-Select 1 Course from Option	2	
CET 173	Highway Design I		4
CET 192	Statics		4
CET 219	Survey III		4
CET 244	Materials II		3

Any AAS degree General Requirement Social & Behavioral or Humanities Course Opt 2 3

#### Semester 5

CET 283	Highway Design II	4
CET 222	Soils and Foundations	3
CET 235	Construction II	3
CET 291	Structure Design and Construction	3
CET 278	Automated Design II	4
TOTAL CREDITS REQUIRED TO		

## COMPLETE THIS AAS DEGREE

Recommended Electives (not required for the AAS degree)			
CAD 119	Intro to Computer-Aided Drafting	3	
SPC 101	Fund of Oral Communication	3	

3 2

JFC IUI		
MAT 130	Trigonometry	
SRV 215	Intro to Land Information Systems	

### **CNC Operator**

(see Certificate Section, page 126)

## **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 and AGH 241 Sports Turf.

For more information about the Commercial Horticulture program, please visit our website at

www.dmacc.edu/programs/ag/commercialhorticulture.

#### Location: Ankeny

#### **Program Entry Requirements**

1. Complete an application for admission.

- 2. Satisfy the assessment requirement.
- 3. Attend any required information/registration session.

#### Students start any semester.

#### **Graduation Requirements**

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

#### **Required Courses**

AGH 147	Soil Fertility for Hort.	1
AGH 159	Landscape Drafting	2
AGH 221	Principles of Horticulture	3

## Degrees and Diplomas

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		3
AGH 805	Horticulture Internship I		2
AGH 233	Plant Propagation I		3
AGH 155	Landscape Design II		2
AGH 251	Insects and Diseases		2
AGH 120	Herbaceous Plant Materials		3
AGH 283	Pesticide Application Certification*		2
ADM 221	Career Development Skills		2
AGH 281	Arboriculture		3
AGH 292	Garden Center Management		3
AGH 815	Horticulture Internship II		2
AAS degr	ee Core Science Course		3
For the T	ut Maintenance Frankasia		
	urf Maintenance Emphasis,		
	ring course is required		_
AGH 211	Advanced Turfgrass Management*		3
	reenhouse Production Emphasis	,	
the follow	ring course is required		
AGH 133	Greenhouse Production Techniques		3
Option Co	ourses Either Plan—		
	ourse from Option 1, 2 and 3		
MAT 141	Finite Mathematics	Opt 1	4
MAT 772	Applied Math*	Opt 1	3
ENG 105	Composition I	Opt 2	3
COM 703	Communication Skills	Opt 2	3
MGT 145	Human Relations in Business	Opt 3	3
PSY 111	Introduction to Psychology	Opt 3	3
PSY 102	Human and Work Relations	Opt 3	3
	n—Select 2 Courses from Optior		_
ACC 111	Intro to Accounting	Opt 4	3
MKT 140	Selling	Opt 4	3
CSC 110	Intro to Computers	Opt 4	3
<b>Either Pla</b>	n—Select 1 Course from Option	5	
AGH 262	Fruit and Vegetable Science	Opt 5	3
AGH 272	Nursery Production I	Opt 5	3
Eithor Dla	n—Select 1 Course from Option	6	
	Fundamentals of Soil Science		7
AGA 154 AGH 146	Soil Science for Horticulture	Opt 6 Opt 6	3
AGH 140	Soli Science for Horticulture	Opt 6	3
TOTAL CF	REDITS REQUIRED TO COMPLET	ΓE	
THE GREE	ENHOUSE PRODUCTION EMPHA	\SIS	71
	REDITS REQUIRED TO COMPLET		
THE TURE	F MAINTENANCE EMPHASIS		71
	o the courses required for this degree, st		
following co	urses to enhance their background or for	r personal enrich	ment:
AGH 160	Irrigation Systems*		2
AGH 241	Sports Turf*		2
AGH 103	Floral Design I		1

AGH 104 Floral Design II

(Courses marked with \* are required for the Turf Maintenance Certificate.)

1

### **Computer-Aided Design Technology**

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

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

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

For more information about the Computer-Aided Design Technology program, please visit our website at **www.dmacc.edu/programs/cad**.

#### Location: Ankeny

Selected courses in this program are offered at other campuses.

#### **Program Entry Requirements**

1. Complete an application for admission.

- 2. Satisfy the assessment requirement.
- 3. Attend any required information/registration session.
- 4. Successful completion of CSC 110 (Introduction to Computers) or equivalent or approval of the program counselor.

#### Students start Fall semester.

#### **Graduation Requirements**

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

#### Semester 1-Select 1 Course from Option 1

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

#### Semester 2

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

#### Semester 3

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

#### 

## Degrees and Diplomas

#### Semester 4

CAD 153	CAD Applications I	3
CAD 246	Parametric CAD I	3
CAD 215	Mechanical Systems	3
CAD 252	Design Project I	4
ENG 108	Comp II: Technical Writing	3
Semester	5	
CAD 148	Introduction to Finite Elem Analysis	3
CAD 154	CAD Applications II	3
CAD 248	Parametric CAD II	3
CAD 254	Design Project II	5

#### TOTAL CREDITS REQUIRED TO

### **Computer Applications and Computer Languages Certificates**

(see Certificate Section, page 126)

## **Corel Painter**

(see Certificate Section, page 127)

## **Criminal Justice-AA or AS**

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

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

For more information about the Criminal Justice program, please visit our website at https://go.dmacc.edu/programs/criminaljustice.

#### Location: Ankeny

Selected courses in this program are offered at other campuses.

#### **Program Entry Requirements**

- 1. Complete an application for admission.
- 2. Satisfy the assessment requirement.
- 3. Attend any required information/registration session.

#### Students start any semester.

#### **Graduation Requirements**

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

### AA Degree-Law Enforcement Emphasis

Semester	1	
CRJ 100	Intro to Criminal Justice	3
CRJ 132	Constitutional Law	3
Select 3 Co	urses from AA Degree Core Requirements	9
Semester		
CRJ 130	Criminal Law	3
Select 3 Co	urses from AA Degree Core Requirements	9
Select 1 Cou	Irse from Option Courses	3
Semester	3	
Select 4 Co	urses from AA Degree Core Requirements	12
Select 2 Co	urses from Option Courses	6
Semester	4	
SOC 200*	Minority Group Relations	3
Select 4 Co	urses from AA Degree Core Requirements	12
Select a 1-C	redit Course from Option Courses	1
AA Degre	e Core Requirements	
(mention	ed above) are as follows:	
Communica	ations	9
Social & Be	havioral Sciences (Each course must be	
	nct discipline [different acronyms].)	9
*SOC 200 is a Social & Beha used to fulfill 3	a required course for this program that may be used to fulfill 3 c vioral Sciences AA Core. And POL 171 is an option course that credits of Social & Behavioral Sciences AA Core.	redits of may also be
Math & Scie	ences	9
Humanities		9
Distributive		9
(Students are which Option	Durses—Select 10 Credits from Option 1 encouraged to talk to a full-time Criminal Justice instructor courses they should choose, depending upon which area of C ish to pursue—law enforcement, corrections, etc.)	regarding riminal

CRJ 101	Ethics in Criminal Justice	Opt 1	3
CRJ 107	Survey/Criminal Justice Agencies	Opt 1	3
CRJ 109	Theories of Interviewing	Opt 1	3
CRJ 111	Police and Society	Opt 1	3
CRJ 128	Victimology	Opt 1	3
CRJ 137	Juvenile Law	Opt 1	3
CRJ 141	Criminal Investigation	Opt 1	3
CRJ 178	E-Crime Investigative Methods	Opt 1	3
CRJ 195	Crime Scene Investigation	Opt 1	4
CRJ 248	Scientific Investigation	Opt 1	3
CRJ 264	Effective Courtroom Testimony	Opt 1	1
CRJ 292	Police Phys Fitness & Conditioning	Opt 1	1
CRJ 293	Crim Justice Report Writing	Opt 1	1
POL 171*	Intro to Public Administration	Opt 1	3
SOC 240	Criminology	Opt 1	3
1	1		411

Note: If the student completes SOC 200 with a grade of "C" or higher, the course will meet the Diversity Requirement. See the AA/AS section of this catalog for more information.

#### TOTAL CREDITS REQUIRED TO COMPLETE THE AA DEGREE-LAW ENFORCEMENT EMPHASIS ....... 64

### AS Degree-Law Enforcement Emphasis

Semester	1		
CRJ 100	Intro to Criminal Justice		3
CRJ 132	Constitutional Law		3
Select 2 Co	urses from AS degree Core Requirement	S	7
(one must l	pe a 4-credit course)		
Select 1 Cou	urse from Option Courses		3
Semester	2		
CRJ 130	Criminal Law		3
CRJ 141	Criminal Investigation		3
Select 3 Co	urses from AS degree Core Requirements	S	9
Select 1 Cou	urse from Option Courses		3
Semester	3		
CRJ 248	Scientific Investigation		3
SOC 200*	Minority Group Relations		3
Select 2 Co	urses from AS degree Core Requirements	S	6
Select 1 Cou	urse from Option Courses		3
Semester	4		
CRJ 932	Internship		3
Select 2 Co	urses from AS degree Core Requirement	S	6
Select 2 Co	urses from Option Courses		6
(mention	e Core Requirements ed above) are as follows:		
Communica			9
	havioral Sciences	- 11 - 1	6
*SOC 200 an and Social &	d POL 171 CANNOT be used to fulfill both Progra Behavioral Sciences AS Core.	im Credit Requir	ements
Math & Scie	ences		6
Humanities			3
Distributive	!		4
(Students are which Option	ourses—Select 15 Credits from Op encouraged to talk to a full-time Criminal Justic courses they should choose, depending upon whi ish to pursue—law enforcement, corrections, etc.	e instructor rega ch area of Crimi	rding inal
CRJ 101	Ethics in Criminal Justice	Opt 1	3
CRJ 107	Survey/Criminal Justice Agencies	Opt 1	3
CRJ 109	Theories of Interviewing	Opt 1	3
CRJ 111	Police and Society	Opt 1	3
CRJ 128	Victimology	Opt 1	3
CRJ 137	Juvenile Law	Opt 1	3
CRJ 178	E-Crime Investigative Methods	Opt 1	3
CRJ 195	Crime Scene Investigation Lab	Opt 1	4

Note: If the student completes SOC 200 with a grade of "C" or higher, the course will meet the Diversity Requirement. See the AA/AS section of this catalog for more information.

Intro to Public Administration

Criminology

POL 171\*

SOC 240

#### 

Opt 1

Opt 1

3

3

### **AA Degree-Corrections Emphasis**

#### Semester 1

Jeinestei	1	
CRJ 100	Intro to Criminal Justice	3
CRJ 132	Constitutional Law	3
Select 3 Co	urses from AA Degree Core Requirements	9
Semester	2	
CRJ 136	Correctional Law	3
Select 3 Co	urses from AA Degree Core Requirements	9
Select 1 Cou	urse from Option Courses	3
Semester	3	
CRJ 222	Correctional Treatment Methods	3
Select 3 Co	urses from AA Degree Core Requirements	9
Select 1 Cou	urse from Option Courses	3
SOC 200*	Minority Group Relations	3
Semester	4	
Select 5 Co	urses from AA Degree Core Requirements	15
Select 1 Cou	urse from Option Courses	1
AA Degre	ee Core Requirements	
(mention	ed above) are as follows:	
Communica	ations	9
Social & Be	havioral Sciences (Each course	
	m a distinct discipline [different acronyms].)	9
*SOC 200 is Social & Beha also be used to	a required course for this program that may be used to fulfill 3 credits vioral Sciences AA Core. And POL 171 is an option course that may fulfill 3 credits of Social & Behavioral Sciences AA Core.	, of
Math & Scie	ences	9
Humanities		9
		9

(Students are encouraged to talk to a Jui-time Criminal Justice instructor regarating which Option courses they should choose, depending upon which area of Criminal Justice they wish to pursue—law enforcement, corrections, etc.)

CRJ 101	Ethics in Criminal Justice	Opt 1	3
CRJ 107	Survey/Criminal Justice Agencies	Opt 1	3
CRJ 109	Theories of Interviewing	Opt 1	3
CRJ 111	Police and Society	Opt 1	3
CRJ 128	Victimology	Opt 1	3
CRJ 137	Juvenile Law	Opt 1	3
CRJ 141	Criminal Investigation	Opt 1	3
CRJ 178	E-Crime Investigative Methods	Opt 1	3
CRJ 195	Crime Scene Investigation	Opt 1	4
CRJ 229	Penology	Opt 1	3
CRJ 264	Effective Courtroom Testimony	Opt 1	1
CRJ 292	Police Phys Fitness & Conditioning	Opt 1	1
CRJ 293	Crim Justice Report Writing	Opt 1	1
POL 171*	Intro to Public Administration	Opt 1	3
SOC 240	Criminology	Opt 1	3

Note: If the student completes SOC 200 with a grade of "C" or higher, the course will meet the Diversity Requirement. See the AA/AS section of this catalog for more information.

#### 

## **AS degree-Corrections Emphasis**

Semester	1		
CRJ 100	Intro to Criminal Justice		3
CRJ 132	Constitutional Law		3
Select 2 Co	urses from AS degree Core Requirement	S	6
Select 1 Cou	Irse from Option Courses		3
Semester	2		
CRJ 136	Correctional Law		3
CRJ 229	Penology		3
Select 3 Co	urses from AS degree Core Requirement	S	9
Select 1 Cou	Irse from Option Courses		3
Semester	3		
CRJ 222	Correctional Treatment Methods		3
SOC 200*	Minority Group Relations		3
Select 2 Co	urses from AS degree Core Requirement	S	7
(one must b	be a 4-credit course)		
Select 1 Cou	Irse from Option Courses		3
Semester	4		
CRJ 932	Internship		3
Select 2 Co	urses from AS degree Core Requirement	S	6
Select 2 Co	urses from Option Courses		6
AS degre	e Core Requirements		
(mention	ed above) are as follows:		
Communica	ations		9
Social & Bel	havioral Sciences		6
*SOC 200 an and Social &	d POL 171 CANNOT be used to fulfill both Progr Behavioral Sciences AS Core.	am Credit Requir	ements
Math & Scie	ences		6
Humanities			3
Distributive			4
Option Co (Students are which Option Justice they w	Durses—Select 15 Credits from Op encouraged to talk to a full-time Criminal Justic courses they should choose, depending upon whi ish to pursue—law enforcement, corrections, etc.	<b>ition 1</b> xe instructor regan ich area of Crimi )	rding nal
CRJ 101	Ethics in Criminal Justice	, Opt 1	3
CRJ 107	Survey/Criminal Justice Agencies	Opt 1	3
CRJ 109	Theories of Interviewing	Opt 1	3
CRJ 111	Police and Society	Opt 1	3
CD   120	Victimology	Opt 1	z

5 1	1 5	/	
CRJ 101	Ethics in Criminal Justice	Opt 1	3
CRJ 107	Survey/Criminal Justice Agencies	Opt 1	3
CRJ 109	Theories of Interviewing	Opt 1	3
CRJ 111	Police and Society	Opt 1	3
CRJ 128	Victimology	Opt 1	3
CRJ 137	Juvenile Law	Opt 1	3
CRJ 141	Criminal Investigation	Opt 1	3
CRJ 178	E-Crime Investigative Methods	Opt 1	3
CRJ 195	Crime Scene Investigation	Opt 1	4
POL 171*	Intro to Public Administration	Opt 1	3
SOC 240	Criminology	Opt 1	3

Note: If the student completes SOC 200 with a grade of "C" or higher, the course will meet the Diversity Requirement. See the AA/AS section of this catalog for more information.

#### 

### AS Degree-Electronic Crime Emphasis

#### Semester 1

CRJ 100	Intro to Criminal Justice	3
NET 123	Computer Hardware Basics	4
CRJ 167	Operating Sys. for Forensics	3
Select 1 Co	urse from AS degree Core Communications	3
Select 1 Co	urse from AS degree	
Social & Behavioral Sciences		3

#### Semester 2

CRJ 132	Constitutional Law	3
CRJ 178	E-Crime Investigative Methods	3
CRJ 176	Computer Forensics I	3
Select 1 Co	urse from AS degree Core Communications	3
Select 1 Co	urse from AS degree Core Math & Sciences	3

#### Semester 3-Select 3 Credits from Option 1

#### and 1 Course from Option 2

(Students are encouraged to talk to a full-time Criminal Justice instructor regarding which Option courses they should choose, depending upon which area of Criminal Justice they wish to pursue—law enforcement, corrections, etc.)

CRJ 276	Computer Forensics II		3
Any CRJ Co	urse(s) not already required		
(3 1-credit o	r 1 3-credit)	Opt 1	3
POL 171	Intro to Public Administration	Opt 1	3
SOC 240	Criminology	Opt 1	3
NET 213	CISCO Networking	Opt 2	4
NET 484	NETPLUS Certification	Opt 2	4
Select 1 Course from AS degree Core Communications		3	
Select 1 Cou	rse from AS degree Core Humanities		3

#### Semester 4

3
4
3
3

# AS degree Core Requirements (mentioned above) are as follows:

Communications	9
Social & Behavioral Sciences	6
Math & Sciences	6
Humanities	3
Distributive	4

Note: To complete this program with an Electronic Crime Emphasis, you must meet the Diversity Requirement with a grade of "C" or higher. See the AA/AS section of this catalog for more information about which courses can count toward this requirement.

#### 

### AA Degree-Homeland Security Emphasis

Semester	1
----------	---

Jennester	-	
CRJ 100	Intro to Criminal Justice	3
CRJ 132	Constitutional Law	3
Select 3 Co	urses from AA Degree Core Requirements	9
Semester	2	
CRJ 301	Intro to Homeland Security	3
Select 5 Co	urses from AA Degree Core Requirements	15
Semester	3	
CRJ 302	Transportation & Border Sec	3
Select 4 Co	urses from AA Degree Core Requirements	12
Semester	4	
CRJ 303	Intel Analysis & Sec Mgmt	3
Select 4 Co	urses from AA Degree Core Requirements	12
Select 1 Cre	dit from Option 1 Courses	1
AA Degre	ee Core Requirements	
(mention	ed above) are as follows:	
Communica	ations	9
Social & Be	havioral Sciences (Each course must be	
from a disti	nct discipline [different acronyms].)	9
Math & Scie	ences	9
Humanities		9
Distributive		9

(Students are encouraged to talk to a full-time Criminal Justice instructor regarding which Option courses they should choose, depending upon which area of Criminal Justice they wish to pursue—law enforcement, corrections, etc.)

Any 1-credit	t CRJ course not otherwise required	Opt 1	1
CRJ 179	White Collar Crime	Opt 1	1
CRJ 267	E-Discovery I-Overview	Opt 1	1
CRJ 268	E-Discovery II–Data Collect	Opt 1	1
CRJ 269	E-Discovery III-Data Process	Opt 1	1
CRJ 278	Apple/Macintosh Forensics	Opt 1	1
CRJ 279	Malware Forensics	Opt 1	1
CRJ 330	Forensic Photography I	Opt 1	1
CRJ 331	Forensic Photography II	Opt 1	1
CRJ 332	Forensic Photography III	Opt 1	1

Note: To complete this program with a Homeland Security Emphasis, you must meet the Diversity Requirement with a grade of "C" or higher. See the AA/AS section of this catalog for more information about which courses can count toward this requirement.

#### 

### AS Degree-Homeland Security Emphasis

#### Semester 1

3
7
3

#### Semester 2

CRJ 301	Intro to Homeland Security	3
CRJ 101	Ethics in Criminal Justice	3
Select 4 C	ourses from AS degree Core Requirements	12

#### Semester 3

CRJ 302	Transportation & Border Sec	3
CRJ 109	Theories of Interviewing	3
Select 2 Co	urses from AS degree Core Requirements	6
Select 3 Credits from Option 1 Courses		3

#### Semester 4

CRJ 303	Intel Analysis & Sec Mgmt	3
CRJ 932	Internship	3
Select 1 Co	urse from AS degree Core Requirements	3
Select 6 Credits from Option 1 Courses		6

### AS degree Core Requirements

#### (mentioned above) are as follows:

Communications	9
Social & Behavioral Sciences	6
*POL 171 CANNOT be used to fulfill both Program Credit Requirements and Social & Behavioral Sciences AS Core.	
	<i>c</i>

Math & Sciences	6
Humanities	3
Distributive	4

#### **Option 1 Courses**

(Students are encouraged to talk to a full-time Criminal Justice instructor regarding which Option courses they should choose, depending upon which area of Criminal Justice they wish to pursue—law enforcement, corrections, etc.)

5 1		,	
CRJ 179	White Collar Crime	Opt 1	1
CRJ 267	E-Discovery I – Overview	Opt 1	1
CRJ 268	E-Discovery II – Data Collect	Opt 1	1
CRJ 269	E-Discovery III – Data Process	Opt 1	1
CRJ 278	Apple/Macintosh Forensics	Opt 1	1
CRJ 279	Malware Forensics	Opt 1	1
CRJ 330	Forensic Photography I	Opt 1	1
CRJ 331	Forensic Photography II	Opt 1	1
CRJ 332	Forensic Photography III	Opt 1	1
CRJ 107	Survey/Crim Justice Agencies	Opt 1	3
CRJ 111	Police and Society	Opt 1	3
CRJ 128	Victimology	Opt 1	3
CRJ 130	Criminal Law	Opt 1	3
CRJ 136	Correctional Law	Opt 1	3
CRJ 137	Juvenile Law	Opt 1	3
CRJ 141	Criminal Investigation	Opt 1	3
CRJ 167	Operating Sys. for Forensics	Opt 1	3
CRJ 176	Computer Forensics I	Opt 1	3

# Degrees and Diplomas

CRJ 178	E-Crime Investigative Methods	Opt 1	3
CRJ 195	Crime Scene Investigation	Opt 1	4
CRJ 222	Correctional Treatment Methods	Opt 1	3
CRJ 229	Penology	Opt 1	3
CRJ 248	Scientific Investigation	Opt 1	3
CRJ 276	Computer Forensics II	Opt 1	3
CRJ 277	Adv. Digital Forensic Methods	Opt 1	4
POL 171*	Intro to Public Administration	Opt 1	3
SOC 240	Criminology	Opt 1	3
		1 1	1

Note: To complete this program with a Homeland Security Emphasis, you must meet the Diversity Requirement with a grade of "C" or higher. See the AA/AS section of this catalog for more information about which courses can count toward this requirement.

#### 

### **Culinary Arts**

The DMACC Culinary Arts program has been designated the Iowa Culinary Institute, signifying the world-class prominence of the program. The Culinary Arts program is accredited by the American Culinary Federation.

The Culinary Arts program prepares students to enter culinary positions with hotels, restaurants, clubs or institutions. Some select jobs in dining room service, catering or management. By the end of the program, graduates will have taken courses in food preparation, nutrition, menu planning, purchasing, garde manger and baking. International cuisine, restaurant management and advanced culinary cuisine are practicum courses and a valuable part of the training. These courses are management designed and offer students practical knowledge of the restaurant industry.

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

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

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

#### Wait List Class Recommendations

While a student is on the wait list for the Culinary Arts program, it is highly recommended that they complete the following courses:

- 1. MGT 145 Human Relations in Business
- 2. SPC 101 Fund. of Oral Communication or SPC 126 Interpersonal & Small Group Communication
- 3. COM 703 Communication Skills or ENG 105 Composition I or any other AAS Communications class
- 4. BUS 112 Business Math or MAT 772 Applied Math or any other AAS math course

These courses apply toward requirements needed to complete the Culinary Arts degree.

For more information about the Culinary Arts program, please visit our website at **www.dmacc.edu/programs/culinary/culinaryarts.asp**.

#### Location: Ankeny

#### **Program Entry Requirements**

1. Complete an application for admission.

- 2. Satisfy the assessment requirement.
- 3. Attend any required information/registration session.

#### Students start Fall or Spring semester.

(Most classes in this program meet in the daytime hours, but a few will involve some evenings and weekends.)  $\!\!\!$ 

#### **Graduation Requirements**

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

#### Semester A—Select 1 Course from Option 1

HCM 100	Sanitation and Safety (lec)		2
HCM 104	Sanitation and Equipment Lab		1
HCM 143	Food Preparation I (lec)		3
HCM 144	Food Preparation I Lab		3
HCM 320*	Intro to Hospitality Industry (lec)		2
SPC 101*	Fund of Oral Communication	Opt 1	3
Any SPC Cour	rse designated as AAS Core		
(see paragrap	h above for explanation)	Opt 1	3

#### Semester B—Select 1 Course from Option 2 and 1 Course from Option 3

HCM 200	Dining Room Service (lec)		2
HCM 231	Nutrition (lec)		2
HCM 510	Work Experience		3
MGT 145	Human Relations in Business		3
COM 703	Communication Skills	Opt 2	3
Any ENG Cou	rse designated as AAS Core	Opt 2	3
BUS 112	Business Math	Opt 3	3
MAT 772	Applied Math	Opt 3	3
Any MAT or B	US Course designated as AAS Core	Opt 3	3

#### Semester 3

HCM 152	Food Preparation II (lec)	2
HCM 153	Food Preparation II Lab	2
HCM 110	Baking (lab)	2
HCM 270	Garde Manger (lab)	2

#### TOTAL CREDITS REQUIRED TO

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COMPLETE THE DIPLOMA...... 38
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#### Semester 4

HCM 250	Purchasing (lec)	2
HCM 173	International Cuisine (lec)	2
HCM 172	International Cuisine (lab)	3
HCM 210	Dining Management (lec)	2
HCM 167	Culinary Skills Development (lab)	3
Semester !	5	
HCM 240	Menu Planning & Design (lec)	2
HCM 175	International Cuisine Lab II	3
HCM 124	Advanced Baking/Buffet Decorating (lab)	2

# Degrees and Diplomas

HCM 169	Culinary Cuisine Lab	4
HCM 168	Advanced Culinary Cuisine (lec)	2
HCM 300	Beverage Management (lec)	2
ADM 221	Career Development Skills	2

#### TOTAL CREDITS REQUIRED TO

COMPLETE THE AAS DEGREE	67

### Data Entry I and Database Specialist Certificates

(see Certificate Section, page 127)

### **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, laboratory and business office assisting.

An integral part of the educational program is clinical experience; this is provided by rotation through various dental facilities.

The Dental Assistant program is accredited by the Commission on Dental Accreditation, a specialized accrediting body recognized by the Council of Postsecondary Accreditation and the United States Department of Education.

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

For more information about the Dental Assistant program, please visit our website at **www.dmacc.edu/programs/dentalassistant**.

#### **Location: Ankeny**

#### **Program Entry Requirements**

- 1. Complete an application for admission.
- 2. Satisfy the assessment requirement.
- 3. Attend any required information/registration session.
- Keyboard skills of 35 NWPM with no more than five errors is strongly recommended.
- 5. Submit proof of high school graduation or GED prior to enrollment.
- 6. High school biology or equivalent with a grade of "C" or better is required.

#### Students start Fall semester.

#### **Graduation Requirements**

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

#### Semester 1

DEA 253	Dental Science I	4
DEA 256	Dental Anatomy	2
DEA 424	Dental Materials Lab	1
DEA 507	Principles of Dental Assisting	6
DHY 221	Dental Materials	2
DHY 161	Oral Radiology	3

#### Semester 2

DEA 321	Dental Radiography II	2
DEA 591	Dental Assisting Seminar	1
DEA 576	Dental Assisting Clinic I	3
DEA 263	Dental Science II	2
DEA 615	Clinical Dental Assisting	5
DEA 702	Dental Office Procedures	2
ENG 105	Composition I	3

#### Semester 3

DEA 297	Ethics/Jurisprudence Seminar	1
DEA 577	Dental Assisting Clinic II	4
PSY 102	Human & Work Relations	3
SPC 101	Fund of Oral Communication	3

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

#### TOTAL CREDITS REQUIRED TO

### **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, and on 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.

For more information about the Dental Hygiene program, please visit our website at **www.dmacc.edu/programs/dentalhygiene**.

#### Location: Ankeny

#### **Program Entry Requirements**

1. Complete an application for admission.

- 2. Attend a Dental Hygiene program information session.
- 3. Provide proof of high school graduation or GED completion.
- 4. 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).
- 5. Complete BIO 164 Essential Anatomy/Physiology OR BOTH BIO 733 Health Science Anatomy AND BIO 734 Health Science Physiology with a grade of "C" (not C-) or better.
- 6. Complete CHM 122 Introduction to General Chemistry with a grade of "C" (not C-) or better.
- 7. Complete BIO 186 Microbiology OR BIO 732 Health Science Microbiology with a grade of "C" (not C-) or better.

When transferring equivalent courses to DMACC, an official transcript must be sent to the Admissions Office as courses are completed.

#### Wait List Processing

Position on the Wait List will be determined by the number of support courses completed. Support courses are:

CHM 132 Introduction to Organic/Biochemistry, PSY 111 Introduction to Psychology, SOC 110 Introduction to Sociology, ENG 105 Composition I, SPC 101 Fundamentals of Oral Communication OR SPC 126 Interpersonal & Small Group Communication

When there is no completion of any remaining support courses for three years from the date the student's name went on the Wait List, the applicant will be deleted from the list.

#### **Graduation Requirements**

To earn a Dental Hygiene AAS degree, a student must successfully complete all dental hygiene and liberal arts support courses required in the curriculum, achieving a grade of "C" (not C-) or better in each course. In order to progress to the next semester of the Dental Hygiene program, all required courses in the current semester 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.

#### Semester 1–CPR Certification

CHM 132	Intro to Organic/Biochemistry	4
DHY 170	Principles of Dental Hygiene	2
DHY 171	Principles of Dental Hygiene Practicum	3
DHY 121	Oral Histology and Embryology	2
DHY 114	Dental Anatomy Anatomical Sciences	4
DHY 161	Dental Radiography	3

# Semester 2-Select the Option 1 Course or Both Option 2 Courses

DHY 181	Dental Hygiene I		2
DHY 182	Clinical Dental Hygiene I		4
DHY 164	Oral Radiology II		2
DHY 141	General and Oral Pathology		3
DHY 232	Nutrition & Preventative Dentistry	Opt 1	4
HSC 240	Human Nutrition	Opt 2	3
DHY 234	Nutrition/Dental Counseling	Opt 2	1
DHY 234	Nutrition/Dental Counseling	Opt 2	1

Semester 3

DHY 281	Dental Hygiene II	2
DHY 282	Clinical Dental Hygiene II	2
DHY 211	Periodontology	2
DHY 133	Pharmacology	3
PSY 111	Intro to Psychology	3

#### Semester 4

DHY 221	Dental Materials	2
DHY 223	Dental Materials Lab	1
DHY 261	Dental Health Education	3
DHY 291	Dental Hygiene III	2
DHY 292	Clinical Dental Hygiene III	5
SOC 110	Introduction to Sociology	3

#### Semester 5-Select 1 Course from Option 3

DHY 251	Community Oral Health		3
DHY 301	Dental Hygiene IV		2
DHY 302	Clinical Dental Hygiene IV		5
ENG 105	Composition I		3
SPC 101	Fund of Oral Communication	Opt 3	3
SPC 126	Interpersonal & Small Group Communication	Opt 3	3

#### TOTAL CREDITS REQUIRED TO

### Diemaking

(See Tool & Diemaking, page 109)

### **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.

For more information about the Diesel Technology program, please visit our website at **www.dmacc.edu/programs/diesel**.

#### Location: Ankeny

#### **Program Entry Requirements**

1. Complete an application for admission.

- 2. Satisfy the assessment requirement.
- 3. Complete a mechanical aptitude and ability test.
- 4. Attend any required information/registration session.

# Students start any semester. This program is taught between 8:00 a.m. and 4:00 p.m.

#### **Graduation Requirements**

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

#### **Required Courses-Diploma**

DSL 356	Diesel Engines I	6
DSL 366	Diesel Engines II	6
DSL 546	Power Trains I	6
DSL 605	Hydraulics and Brakes	5
DSL 145	Basic Electricity	5
DSL 733	Air Conditioning	3
DSL 830	Operation and Maintenance	5

#### Select 1 Course from Each Option

COM 703	Communication Skills	Opt 1	3
ENG 105	Composition I	Opt 1	3
MAT 772	Applied Math	Opt 2	3
MAT 141	Finite Math	Opt 2	4
MAT 130	Trigonometry	Opt 2	3

TOTAL CREDITS REQUIRED TO	
COMPLETE THE DIPLOMA 42	2

#### **Required Courses-AAS**

-		
DSL 356	Diesel Engines I	6
DSL 366	Diesel Engines II	6
DSL 546	Power Trains I	6
DSL 605	Hydraulics and Brakes	5
DSL 145	Basic Electricity	5
DSL 733	Air Conditioning	3
DSL 830	Operation and Maintenance	5
DSL 555	Power Trains II	5
DSL 409	Diesel Electronics	5
DSL 407	Diesel Fuel Systems	6
DSL 155	Advanced Electricity	4
DSL 845	Heavy Equipment Repair	5
DSL 855	Truck Repair	5
AUT 140	Welding for Automotive Mechanics	2
Select 1 Course from Each Option		

#### 3 COM 703 **Communication Skills** Opt 1 ENG 105 Composition I Opt 1 3 MAT 772 Applied Math Opt 2 3 Finite Math Opt 2 4 MAT 141 3 MAT 130 Trigonometry Opt 2 3 Human Relations in Business Opt 3 MGT 145 PSY 111 Introduction to Psychology Opt 3 3 3 Human and Work Relations Opt 3 PSY 102 SOC 110 Introduction to Sociology Opt 3 3 3 PHY 106 Survey of Physics Opt 4 3 PHY 710 Technical Physics Opt 4

#### TOTAL CREDITS REQUIRED TO

COMPLETE THE AAS DEGREE...... 80

### **Dietary Manager**

(see Certificate Section, page 127)

### **Digital Forensic Investigation**

(see Certificate Section, page 128)

### **Digital Illustration**

(see Certificate Section, page 128)

### **Digital Publishing**

(see Certificate Section, page 128)

### **Early Childhood Education**

(see Certificate Section, page 128)

### **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 requirements are competent to assume a position of responsibility in early childhood education.

Coursework introduces students to the early childhood field and includes child growth and development, guidance techniques, curriculum planning and assessment, infant and toddler care, and health, safety and nutrition in the context of families and communities.

Students will have the opportunity to participate in the Des Moines Area Community College Child Care Center as they develop their competencies in the field of early childhood education.

When coursework is completed, students will assume positions in a variety of settings such as child care centers, preschools, child development homes and public and private schools, working with infants and toddlers, preschoolers or school-age children. A second option, the Early Childhood Education–Associate degree, is also available.

Current health and immunization records are required for each student. In addition, DHS criminal history record checks and fingerprinting will be required. Criminal convictions or documented history of abuse will prevent students from participating in lab and field experiences. Students unable to complete these classes will not receive a degree in Early Childhood Education.

Students who possess the following personal characteristics are generally successful in the Early Childhood program:

- 1. Effective written and verbal communication skills
- 2. Physical stamina
- 3. Ability to make quick decisions
- 4. Ability to establish positive relationships with diverse people
- 5. Responsibility and dependability

For more information about the Early Childhood Education program, please visit our website at

#### http://go.dmacc.edu/programs/earlychildhood/diploma.

#### **Location: Ankeny**

Selected courses in this program are offered at other campuses.

#### **Program Entry Requirements**

1. Complete an application for admission.

- 2. Satisfy the assessment requirement.
- 3. Attend any required information/registration session.

#### Students start Fall or Spring semester.

#### **Graduation Requirements**

To earn an Early Childhood Education diploma, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

#### **Recommended Course of Study**

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

# Degrees and Diplomas

#### Semester 1

ECE 103	Intro to Early Childhood Ed	3
ECE 158	Early Childhood Curriculum I	3
ECE 243	Early Childhood Guidance	3
ECE 343	Early Childhood Guidance Lab	1
ECE 133	Child Health, Safety & Nutrition	3
*Select 1 Course from AS or AAS degree Core Communications		3

### Total 16

Semester	2	
ECE 159	Early Childhood Curriculum II	3
ECE 359	ECE Curriculum II Lab	1
ECE 170	Child Growth & Development	3
ECE 221	Infant/Toddler Care and Educ.	3
*Select 1 Co	ourse from AS or AAS degree Core Math & Sciences	3
*Select 1 Co	ourse from AS or AAS degree Core	
Social &	Behavioral Sciences	3
		Total 16

#### Semester 3

		Total 4
ECE 944	Field Experience Seminar	1
ECE 262	Early Childhood Field Exper	3
	-	

#### TOTAL CREDITS REQUIRED TO

\*NOTE: Core courses chosen from the AAS degree list may not be accepted for the Early Childhood Education AS degree, if students choose to go beyond the diploma to earn the AS degree.

### **Early Childhood Education-Associate**

The Early Childhood Education-Associate program is designed to extend and expand on those skills developed in the Early Childhood Education diploma program and to broaden the student's background in general education. Further competence in early childhood education is developed through coursework in building relationships between home, program and community, administration of programs for children and a community-based internship.

Students completing the Early Childhood Education–Associate in Science degree may take one of the many jobs available in early childhood education, including lead teachers, program directors and child development home business owners. Students who intend to transfer should contact the Early Childhood Education program chairperson or program counselor regarding transfer agreements with four-year institutions. This program best transfers for students who intend to pursue an Early Childhood Education Bachelor's degree rather than Elementary Education.

Current health and immunization records are required for each student. In addition, DHS criminal history record checks and fingerprinting are required. Criminal convictions or documented history of abuse will prevent students from participating in lab and field experiences and internship. Students unable to complete these classes will not receive a degree in Early Childhood Education.

Students who possess the following personal characteristics are generally successful in the Early Childhood program:

- 1. Effective written and verbal communication skills
- 2. Physical stamina
- 3. Ability to make quick decisions
- 4. Ability to establish positive relationships with diverse people
- 5. Responsibility and dependability

For more information about the Early Childhood Education program, please visit our website at https://go.dmacc.edu/programs/earlychildhood/asdegree.

#### Location: Ankeny

Selected courses in this program are offered at other campuses.

#### **Program Entry Requirements**

- 1. Complete an application for admission.
- 2. Satisfy the assessment requirement.
- 3. Attend any required information/registration session.

#### Students start Fall or Spring semester.

#### **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 2.50 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.

#### Semester 1

ECE 103	Intro to Early Childhood Ed	3
ECE 158	Early Childhood Curriculum I	3
ECE 243	Early Childhood Guidance	3
ECE 343	Early Childhood Guidance Lab	1
ECE 133	Child, Health, Safety & Nutrition	3
Select 1 Course from AS degree Core Communications		3

Total 16

#### Semester 2

ECE 221	Infant/Toddler Care and Educ.	3
ECE 159	Early Childhood Curriculum II	3
ECE 359	ECE Curriculum II Lab	1
ECE 170	Child Growth & Development	3
Select 1 Course from AS degree Core Math		3
Select 1 Course from AS degree Core Communications		3

#### Total 16

Semester 3		
ECE 262	Early Childhood Field Exper	3
ECE 290	Early Childhood Program Admin	3
ECE 944	Field Experience Seminar	1
Select 4 Distributed Credits from AS degree Core		4
Select 1 Cou	Irse from AS degree Core	

Social & Behavioral Sciences		3
Select 1 Course from AS degree Core Communications		3
		Total 17
Semester	4	
ECE 932	Early Childhood Internship	2
ECE 215	Home, School and Comm. Relations	3
Select 1 Course from AS degree Core Humanities		3
Select 1 Course from AS degree Core Sciences		3
Select 1 Cou	urse from AS degree Core	
Social & Be	havioral Sciences	3
Select 1 Ele	ctive Course	3
		Total 17

Note: To complete this program, you must meet the Diversity Requirement with a grade of "C" or higher. See the AA/AS section of this catalog for more information about which courses can count toward this requirement.

#### 

### Education

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

### **Electrical Construction Trades**

The Electrical Construction Trades program prepares students for entry-level positions in residential, commercial and industrial wiring. At the completion of the program, students should be able to install electrical wiring to meet National Electric Code® (NEC code) in residential and commercial settings. In addition, students should be able to install motor-controlled equipment in industrial operations using more complex systems such as Programmable Controllers.

For more information about the Electrical Construction Trades program, please visit our website at

https://go.dmacc.edu/programs/elecontrades.

#### Location: Newton

Selected courses in this program are offered at other campuses.

#### **Program Entry Requirements**

1. Complete an application for admission.

- 2. Satisfy the assessment requirement.
- 3. Attend any required information/registration session.

#### Students start Fall semester.

#### **Graduation Requirements**

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

#### Semester 1

MAT 772	Applied Math	3
CON 337	Construction Blueprint Reading	1
ELT 303	Principles of Electricity	3
ELT 147	NEC Residential	3
ELT 148	NEC Residential Lab	3

#### Semester 2

Somostor 3		
COM 703	Communication Skills	3
MAT 773	Applied Math II	3
ELT 131	Motor Controls	3
ELT 173	NEC Commercial/Industrial Lab	4
ELT 172	NEC Commercial/Industrial	3

#### Semester 3

ELT 217	Advanced Motor Controls	3
ELT 178	Electrical Grounding	2
ELT 123	Programmable Controllers	3
MGT 145	Human Relations in Business	3

#### TOTAL CREDITS REQUIRED

TO COMPLETE THIS DIPLOMA4	0
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### **Electronics, Robotics & Automation**

The Electronics, Robotics & Automation program prepares students for a career as a technician in industrial manufacturing. At the end of the program, students should be able to diagnose and repair industrial equipment ranging from the basic motor control devices used in hard automation to the sophisticated industrial robots and computer-integrated manufacturing cells that utilize microprocessors for programming and servo control.

The curriculum includes both fundamental technologies and system applications. Upon program completion, students may seek employment maintaining plant equipment with area manufacturers, or with companies that produce process control or robotic devices.

For more information about the Electronics, Robotics & Automation program, please visit our website at

https://go.dmacc.edu/programs/automationrobotics.

#### Location: Ankeny

#### **Program Entry Requirements**

- 1. Complete an application for admission.
- 2. Attend any required information/registration session.
- 3. Satisfy the required assessment by taking the reading and English COMPASS test or equivalent.
- 4. Complete the required COMPASS testing, obtaining a satisfactory score in algebra (49 or higher) or ACT scores with a math sub score of 19 or higher or completion of MAT 063 with a grade of "C" or better.
- 5. Successful completion of CSC 110 Intro to Computers or equivalent or approval of the program counselor.

#### Students start Fall semester.

#### **Graduation Requirements**

To earn an Electronics, Robotics & Automation AAS degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

# Degrees and Diplomas

#### Semester 1-Select 1 Course from Option 1

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

#### Semester 2-Select 1 Course from Option 2

ELT 325	Digital Electronics		3
ELT 326	Digital Electronics Lab		3
ELT 387	Electric Circuit Analysis II		3
ELT 388	Elec. Circuit Analysis II Lab		2
ELT 181	Adv. Math for Electronics Technicians		1
NET 213	CISCO Networking	Opt 2	4
NET 484	NETPLUS Certification	Opt 2	4

#### Semester 3

CIS 130	Computer Programming	3
ELT 131	Motor Controls	3
ELT 126	Industrial Electronics	2
ELT 143	Mechanisms	3

#### Semester 4-Select 1 Course from Option 3

ELT 614	Microproc. & Microcontrollers		3
ELT 123	Programmable Controllers		3
ELT 721	Robotics		3
MGT 145	Human Relations in Business	Opt 3	3
PSY 111	Intro to Psychology	Opt 3	3
PSY 102	Human & Work Relations	Opt 3	3
SOC 110	Introduction to Sociology	Opt 3	3
Select 1 Course from AAS degree Core Social & Behavioral			3-5
Sciences/Humanities			

#### Semester 5

ELT 791	Hydraulics and Pneumatics	3
ELT 792	Hydraulics and Pneumatics Lab	2
ELT 643	Process Control Instrument	3
ELT 644	Process Control Instrument Lab	2
ELT 125	Advanced PLC	3
ELT 870	Electronic Capstone Project	3

#### **Option 4: Technical Electives—Select 3 credits minimum**

May be scheduled any semester.

ELT 725	Intro. to Flexible Manufacturing	2
CAD 119	Intro to Computer-Aided Drafting	3
CAD 139	Intro to CAD/CAM	3
MFG 121	Machine Trade Printreading I	2
MFG 140	Geometric Dimension/Tolerance	1
MFG 172	Related Welding-Indust Maint	3
MFG 330	CNC Mill Operations Theory	1
MFG 331	CNC Mill Operations Lab	2
MFG 350	CNC Lathe Operations Theory	1
MFG 351	CNC Lathe Operations Lab	2
MFG 502	Intro Statistical Process Cntl	3
MFG 521	Measuring Devices-SPC	1

The following courses may also be completed to fulfill the Option 4 requirement, provided students obtain instructor permission after an evaluation of course prerequisites and student educational background.

MFG 171	Manufacturing Welding I	2
MFG 381	EDM Fundamentals	3
CIS 178	JAVA Programming I	2
CIS 179	JAVA Programming II	2
CIS 604	Visual Basic	3
CIS 612	Advanced Visual Basic	3
WEL 111	Welding Blueprint Reading	3
WEL 150	Arc Welding I (SMAW)	2
WEL 181	Gas Metal Arc Welding	2
MLW 440	Blueprint Reading and Layout	3

#### TOTAL CREDITS REQUIRED TO COMPLETE THIS AAS DEGREE......77

### 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 semester 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.

For more information about the Electronics Systems Servicing Technology program, please visit our website at **www.dmacc.edu/programs/esst**.

#### Location: Ankeny

#### **Program Entry Requirements**

1. Complete an application for admission.

- 2. Attend any required information/registration session.
- 3. Satisfy the required assessment by taking the reading and English COMPASS test or equivalent.
- 4. Complete the required COMPASS testing, obtaining a satisfactory score in algebra (49 or higher) or ACT scores with a math sub score of 19 or higher, or completion of MAT 063 with a grade of "C" or better.
- 5. Successful completion of CSC 110 Intro to Computers or equivalent or approval of the program counselor.

#### Students start Fall semester.

#### **Graduation Requirements**

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

Degrees and Diplomas

#### Semester 1-Select 1 Course from Option 1

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

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

ELT 325	Digital Electronics		3
ELT 326	Digital Electronics Lab		3
ELT 387	Electric Circuit Analysis II		3
ELT 388	Elec. Circuit Analysis II Lab		2
ELT 181	Adv. Math for Electronics Technicians		1
NET 213	CISCO Networking	Opt 2	4
NET 484	NETPLUS Certification	Opt 2	4

#### Semester 3-Select 1 Course from Option 3

FI T 131	Motor Controls		3
ELT 143	Mechanisms		3
NET 123			4
-	Computer Hardware Basics		
MGT 145	Human Relations in Business	Opt 3	3
PSY 111	Introduction to Psychology	Opt 3	3
PSY 102	Human & Work Relations	Opt 3	3
SOC 110	Introduction to Sociology	Opt 3	3
Semester 4			
ELT 474	Communications Systems		3
ELT 475	Communications Systems Lab		3
ELT 470	Bus. Imaging & Security Applic.		4
ELT 471	Bus. Imaging & Security App. Lab		3
Select 1 Cours	e from AAS degree Core		
Social & Beha	vioral Sciences/Humanities		3-5
Semester 5			
ELT 484	Medical Electronics Systems		4
ELT 485	Medical Electronics Systems Lab		3
ELT 816	Systems Troubleshooting		2
ELT 817	Systems Troubleshooting Lab		3
ELT 932	Internship		3

#### TOTAL CREDITS REQUIRED TO

COMPLETE THIS AAS DEGREE
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### **Emergency Medical Tech Basic**

(see Certificate Section, page 129)

# Degrees and Diplomas

### Engineering

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

### Enology

(see Certificate Section, page 129)

### Entrepreneurship

(see Certificate Section, page 129)

### Entrepreneurship

An increasing number of people are realizing the rewards and challenges of owning their own businesses. The Entrepreneurship program will help you create or improve your plans to be to be one of them. Although you may have the technical skills, or be very knowledgeable about a certain industry, the entrepreneurship program emphasizes how your passion and skills tie into the day-to-day operation of a business. In addition, this flexible program is designed to affect students in their work environments in the real world, whether they start a business or not! This is accomplished through various innovative marketing strategies, current creative financing methods and employee development skills. The program also emphasizes personal development in accounting, supervision, communication and relationship management. To make it convenient for today's busy students, courses are being offered during the day, evening and online.

For more information about the Entrepreneurship program, please visit our website at www.dmacc.edu/programs/entrepreneurship.

#### Location: Ankeny, Boone, Urban

Selected courses in this program are offered at other campuses.

#### **Program Entry Requirements**

1. Complete an application for admission.

- 2. Satisfy the assessment requirement.
- 3. Attend any required information/registration session.

#### Students start any semester.

#### **Graduation Requirements**

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

#### **Required Courses**

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

**DES MOINES AREA COMMUNITY COLLEGE CATALOG 2011-2012** 80

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

ACC 131	Principles of Accounting I	Opt 1	4
ACC 111	Intro to Accounting	Opt 1	3
ENG 105	Composition I	Opt 2	3
COM 703	Communication Skills	Opt 2	3
MGT 145	Human Relations in Business	Opt 3	3
PSY 111	Introduction to Psychology	Opt 3	3
BUS 240	Virtual Business Firm	Opt 4	3
CSC 110	Intro to Computers	Opt 4	3
MKT 140	Selling	Opt 4	3
BCA 212	Intro Computer Business Appl	Opt 4	3

#### TOTAL CREDITS REQUIRED TO

# **Environmental Science**

The Environmental Science program is designed to prepare students for a career within the field of environmental science. Students graduating from our two-year program will be immediately qualified for some related employment opportunities, including entry-level positions with local parks and recreation departments. local utilities and field technician/ monitoring positions.

Other careers in environmental science include positions as ecologists, environmental chemists, soil scientists, hydrologists, climatologists, environmental microbiologists, data collection/sampling/monitoring/field technician positions, wildlife biologists, public health officials and many others. Most of these positions require a four-year degree. Our program is designed to transfer smoothly to area institutions offering four-year degrees in environmental science and other closely related fields.

For more information about the Environmental Science program, please visit our website at www.dmacc.edu/programs/environmental.

#### Location: Ankeny, Boone, Urban

#### **Program Entry Requirements**

- 1. Complete an application for admission.
- 2. Satisfy the assessment requirement.
- 3. Attend any required information/registration session.
- 4. Complete one year of high school chemistry, or CHM 122, with a grade of "C" or better.
- 5. Complete one year of high school biology, or BIO 156 or BIO 104, with a grade of "C" or better.
- 6. Complete two years of high school algebra, or MAT 073, with a grade of "C" or better.

#### Students start any semester.

#### **Graduation Requirements**

To earn an Environmental Science AA degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

#### Semester 1 (Fall)

	• •	
ENV 115	Environmental Science	3
ENV 116	Environmental Science Lab	1
BIO 112	General Biology I	4
*BIO 138	Field Ecology	3
*ENG 105	Composition I	3
*Select 1 AA	Degree Core Social & Behavioral Sciences Course	3

# Degrees and Diplomas

#### Semester 2 (Spring)

ENV 145	Conservation Biology	4
BIO 113	General Biology II	4
ENG 106	Composition II	3
ENV 103	Sustainable Living	1
*Select 1 AA	A Degree Core Humanities Course	3

Total 15

# Semester 3 (Fall)—Select 1 Course from Option 1 for a Minimum of 3 Credits

CHM 165 General/Inorg Chemistry I	4
MAT 157 Statistics	4
*SPC 101 Fund of Oral Communication	3
*Select 1 AA Degree Core Social & Behavioral Sciences Course	3
*Select 1 Course from Option 1	3

Total 17

# Semester 4 (Spring)—Select 1 Course from Option 1, for a Minimum of 2 Credits

BIO 295	General Ecology and Lab		4
*Select 1 AA Degree Core Social & Behavioral Sciences Course		3	
*Select 2 AA	Degree Core Humanities Courses		6
BIO 100	Opportunities in Biology	Opt 1	1
BIO 135	Introduction to Botany	Opt 1	4
*BIO 145	Ecology of Iowa	Opt 1	3
BIO 146	Genetics	Opt 1	3
BIO 922	Field Studies	Opt 1	1-4
BIO 186	Microbiology	Opt 1	4
CHM 175	General/Inorg Chemistry II	Opt 1	4
CHM 263	Organic Chemistry I	Opt 1	5
*ENV 160	Restoring Plant Communities	Opt 1	3
SOC 282	Environmental Sociology	Opt 1	3
PHY 106	Survey of Physics	Opt 1	4
PHY 160	General Physics I	Opt 1	5
			Total 15

#### 

\*NOTE: Students are encouraged to take some of the courses marked with an \* during the Summer semesters, to lighten their load in the Fall and Spring semesters. But, students are cautioned not to take too many credits in the Summer, causing them to fall below the minimum credits needed in Fall and Spring semesters for financial aid purposes.

NOTE: One of the Social & Behavioral Sciences or Humanities courses must meet the Diversity Requirement. See the AA catalog for a list of appropriate course options.

NOTE: Each Social & Behavioral Science course must be from a distinct discipline (different acronyms).

### **Fashion Certificate**

(see Certificate Section, page 130)

### **Fashion/Design**

A fashion career offers you challenges and rapid advancement opportunities set in an exciting atmosphere of change, fast-paced business decisions and competition. Take part in the action where style becomes a way of expression in apparel and accessories, as well as interior design. A career in the fashion industry could include management, designing, buying, marketing or promotion, sales, customer service or visual merchandising.

The curriculum has been designed with the help of employers in both the apparel and interior design industries. Many students achieve management positions upon graduation or shortly thereafter because of the specialized coursework and individual effort. Graduates interested in apparel design or interior design usually transfer to a four-year program.

Instruction is based on lectures, labs, internships, speakers and a variety of conferences and field studies in fashion centers such as New York City. These activities offer the student a chance to interact with key industry professionals and develop an invaluable employment network.

Two awards are offered in the Fashion program. Upon successful completion of the Fashion/Design program, students will receive an AAS degree. Students with a shorter-semester educational goal may receive a diploma.

Fashion/Design emphasizes career development along with transfer options for students planning on attending a four-year college. Contact a DMACC Fashion/Design instructor, counselor or advisor for transfer planning assistance.

For more information about the Fashion/Design program, please visit our website at **www.dmacc.edu/programs/marketing**.

#### Location: Ankeny

Selected courses in this program are offered at other campuses.

#### **Program Entry Requirements**

- 1. Complete an application for admission.
- 2. Satisfy the assessment requirement.
- 3. Attend any required information/registration session.

#### Students start any semester.

#### **Graduation Requirements**

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

#### **Required Courses-Fashion/Design AAS degree**

# Semester 1-Select 1 Course from Option 2 and 1 Course from Option 6

APP 260	Fashion Analysis & Design		3
MGT 147	Leadership Development		3
MKT 140	Selling		3
MKT 160	Principles of Retailing	Opt 2	3
BUS 102	Introduction to Business	Opt 2	3
MGT 145	Human Relations in Business	Opt 6	3
PSY 111	Introduction to Psychology	Opt 6	3

Total 15

#### Semester 2-Select 1 Course from Option 4

APP 111	Visual Merchandising & Design		3
APP 211	Textiles		3
INT 124	Interior Design Analysis		3
ADM 221	Career Development Skills		2
MGT 194	Relationship Strategies in Business		2
CSC 110	Intro to Computers	Opt 4	3
GRD 301	Intro to Desktop Publishing	Opt 4	3
BCA 212	Intro Computer Business Appl	Opt 4	3
CSC 110 GRD 301	Intro to Computers Intro to Desktop Publishing	Opt 4	

#### Total 16

#### Semester 3

		Total 6
MGT 802	Business Internship Seminar I	2
MGT 800	Business Internship I	4

#### Semester 4-Select 1 Course from Option 1 and 1 Course from Option 3

MKT 110	Principles of Marketing		3
MGT 805	Business Internship II		4
MGT 807	Business Internship Seminar II		1
APP 250	Design Concepts	Opt 1	3
INT 125	Interior Design Planning	Opt 1	3
APP 270	Fashion Buying	Opt 3	3
MKT 165 3	Retail Management II (Summer ser	nester)	Opt 3
BUS 148	Small Business Management	Opt 3	3
MGT 130	Principles of Supervision	Opt 3	3

Total 14

Total 15

Total 17

#### Semester 5-Select 1 Course from Option 5, 1 Course from Option 7 and 1 Course from Option 8

MKT 150	Principles of Advertising		3
APP 230	Fashion Coordination/Promotion		3
ENG 105	Composition I	Opt 5	3
COM 703	Communication Skills	Opt 5	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

#### 

#### **Required Courses-Fashion/Design Diploma**

# Semester 1-Select 1 Course from Option 1 and 1 Course from Option 2

APP 260	Fashion Analysis & Design		3
MGT 147	Leadership Development		3
MKT 140	Selling		3
ADM 221	Career Development Skills		2
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

#### Semester 2-Select 1 Course from Option 4

APP 111	Visual Merchandising & Design		3
APP 211	Textiles		3
INT 124	Interior Design Analysis		3
MGT 194	Relationship Strategies in Business		2
MKT 110	Principles of Marketing		3
ENG 105	Composition I	Opt 4	3
COM 703	Communication Skills	Opt 4	3

#### Semester 3

MGT 800	Business Internship I		4
MGT 802	Business Internship Seminar I		2
BUS 112	Business Math	Opt 3	3
MAT 141	Finite Mathematics	Opt 3	4
		1	otal 9

#### TOTAL CREDITS REQUIRED TO

COMPLETE THE DIPLOMA 43
-------------------------

### **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 NFPA 1001 and accredited by a nationally recognized fire service accreditation agency.

For more information about the Fire Science Technology program, please visit our website at **www.dmacc.edu/programs/fire**.

#### Location: Ankeny

#### **Program Entry Requirements**

- 1. Complete an application for admission.
- 2. Satisfy the assessment requirement.
- 3. Attend any required information/registration session.

#### Students start any semester.

#### **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 must 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
ENG 108	Composition II: Technical Writing	3

# Degrees and Diplomas

Total 17

FIR 230	Fire Behavior and Investigation	3
FIR 232	Property Insurance-Fraud Investigation	3
FIR 124	Building Construction	3
FIR 152	Fire Protection Systems	3
FIR 182	Hazardous Materials	3
FIR 220	Planning for Fire Protection	3
FIR 212	Emergency Scene Management	3
FIR 200	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
POL 112	American State & Local Government	3
PSY 111	Introduction to Psychology	3
AS degree C	ore MAT Course	3
AS degree C	ore SPC Course	3
Electives		6-7

# The Courses Below are Recommended to Fulfill the Elective 6-7 Credits

MGT 130	Principles of Supervision	3
MGT 145	Human Relations in Business	3
MGT 147	Leadership Development	3
PSY 102	Human and Work Relations	3
EMS 210 Er	nergency Med Tech Basic is recommended	

Note: If the student completes MGT 145 with a grade of "C" or higher, the course will meet the Diversity Requirement. If the student does not complete MGT 145, the student must complete one of the other courses listed under the Diversity Requirement. See the AA/AS section of this catalog for more information.

#### TOTAL CREDITS REQUIRED

### **Fire Specialist**

(see Certificate Section, page 130)

### **Fitness and Sports Management**

Fitness and Sports Management is designed to give students three different areas to choose from: Fitness Management, Sports Management and Health.

This degree is designed to be a two-year degree. The degree is designed for individuals who would like to pursue a career in the fitness, sports, recreation or health fields.

The Fitness and Sports Management AS degree is a transfer degree, designed to prepare students for a Fitness Management, Sports Management and Health program at a four-year school. Graduates from the program may also be able to find entry-level positions at parks and recreation departments, YMCA/YWCAs, private health clubs, golf courses, schools, hospitals or other facility management positions.

For more information about the Fitness and Sports Management program, please visit our website at **www.dmacc.edu/programs/fitness**.

#### Location: Boone

Selected courses in this program are offered at other campuses.

# Degrees and Diplomas

#### **Program Entry Requirements**

- 1. Complete an application for admission.
- 2. Satisfy the assessment requirement.
- 3. Attend any required information/registration session.
- 4. A program orientation will be required for all students entering the program.

#### Students start any semester.

#### **Graduation Requirements**

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

#### **Required Courses-All Students**

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
HSC 240	Human Nutrition	3
PEH 162	Intro to Physical Education	3
PEH 102	Health	3
SPC 101	Fund of Oral Communication	3

#### 

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 deg	gree Core Humanities Courses	6
Any AS deg	gree Core Social Sciences Course	3
Elective		1

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

MAT 130	Trigonometry	Opt 1	3
MAT 157	Statistics	Opt 1	4
PHY 106	Survey of Physics	Opt 2	4
PHY 160	General Physics I	Opt 2	5

#### **Health Emphasis**

#### **Required Courses**

BIO 112	General Biology I	4
PEH 141	First Aid	2
MAT 157	Statistics	4
MKT 110	Principles of Marketing	3
PSY 121	Developmental Psychology	3
PSY 261	Human Sexuality	3
Any AS degr	ree Core Humanities Courses	6
Any AS degr	ree Core Social Sciences Courses	3
Elective		2

#### **Sports Management Emphasis**

#### **Required Courses**

ACC 131	Principles of Accounting I	4
PEH 255	Principles-Sports Management	3
MAT 157	Statistics	4
MGT 101	Principles of Management	3
MKT 110	Principles of Marketing	3
SOC 110	Introduction to Sociology	3
Any AS deg	gree 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
PEH 178	Sports Diversity	3
PEC 161	Sports Officiating	3
PEH 262	Wellness Programming/Planning/Organization	3
PEH 120	Principles: Personal Training I	3

Note: To complete this program, you must meet the Diversity Requirement with a grade of "C" or higher. See the AA/AS section of this catalog for more information about which courses can count toward this requirement.

#### TOTAL CREDITS REQUIRED TO COMPLETE THIS PROGRAM WITH:

FITNESS MANAGEMENT EMPHASIS	5
HEALTH EMPHASIS60	6
SPORTS MANAGEMENT EMPHASIS	4

### **Fluid Power Technology**

Fluid Power, commonly known as hydraulics and pneumatics, is an ever-increasing technology in many industries. This program is designed to cover many of the facets that a hydraulics technician would need in order to build a foundation for a successful career in this field.

This program was developed as a cooperative venture between DMACC and Sauer Danfoss, but is designed for any occupation primarily involving hydraulics. Students can obtain a one-year diploma or a two-year AAS degree in Fluid Power Technology.

For more information about the Fluid Power Technology program, please visit our website at **www.dmacc.edu/programs/fluidpowertech**.

#### Location: Ankeny

#### **Program Entry Requirements**

- 1. Complete an application for admission.
- 2. Satisfy the assessment requirement.
- 3. Attend any required information/registration session.

#### Diploma students start Fall semester.

#### AAS students start any semester.

#### **Graduation Requirements**

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

#### Semester 1

ELT 106	Basic Math for Electronics	3
CSC 110	Intro to Computers	3
ELT 303	Principles of Electricity	3
COM 703	Communication Skills	3
MFG 121	Machine Trade Printreading I	2
MFG 276	Hand & Bench Machine Tools	1

Total 15

#### Semester 2

	-	
PHY 710	Technical Physics	3
ELT 791	Hydraulics & Pneumatics	3
ELT 792	Hydraulics & Pneumatics Lab	2
IND 144	Pump Overhaul & Repair	4
Select 1 Cours	se from the AAS degree general requirements for	
Social & Beha	vioral Sciences or Humanities	

#### Total 15

#### TOTAL CREDITS REQUIRED

TO COMP	PLETE THE DIPLOMA	
Semester	3	
MFG 818	IMT Internship	5
ELT 134	Motor Controls	3
		Total 8

#### Semester 4-Select 1 Course from Option 1

		Тс	otal 12
SPC 126	Interpersonal & Small Grp Comm	Opt 1	3
SPC 101	Fund of Oral Communication	Opt 1	3
ELT 119	Programmable Controllers		3
NET 144	<b>Digital &amp; Computer Electronics</b>		3
MFG 524	PM & Diagnosing Mech/Elec Sys		3

#### Semester 5-Select 2 Courses from Option 2

ELT 793	Advanced Fluid Power		3
ELT 643	Process Control Instrumentation		3
ELT 644	Process Control Instrument Lab		2
ELT 125	Advanced PLC	Opt 2	3
ELT 143	Mechanisms	Opt 2	3
CAD 119	Intro Computer-Aided Drafting	Opt 2	3
MFG 105	Machine Shop Measuring	Opt 2	3
MGT 164	Total Quality Management	Opt 2	3
		Tot	al 14

#### 

### **Gerontology Specialist**

(see Certificate section, page 130)

### **Graphic Design**

(previously Commercial Art)

Initially, students will be admitted to the Visual Communications diploma program. After Semester 2 of the Visual Communications diploma program, students will be required to apply to the Graphic Design AAS degree program. Students must submit a portfolio and obtain a satisfactory score and complete the Visual Communications diploma or receive program chair permission.

If you want to take your passion for art and design to the next level, the Graphic Design AAS degree program is closely aligned with local business to understand their "real world" needs and develop those skills in our students. Our classes provide students with design skills, software skills and professional work practices needed to get a position in this highly competitive field.

Although most graduates who gain employment begin in entry-level positions, hard-working and talented students have started as high-level designers and owners of successful freelance businesses. The Graphic Design program prepares students to find employment with advertising agencies, corporate design departments, book and magazine publishing, digital media companies, graphic design firms, printing companies, newspapers and marketing firms. Upon completion of the program, graduates will have taken courses in communication design, web design, typography, illustration, digital imaging, page layout and digital file preparation.

For more information about the Graphic Design program, please visit our website at **www.dmacc.edu/programs/commercialart/**.

#### Location: Ankeny

#### **Program Entry Requirements**

1. Complete an application for admission.

- 2. Satisfy the assessment requirement by taking all three sections of the COMPASS test and:
- 3. Obtain a minimum score of 61 in Reading and
- 4. Obtain a minimum score of 25 in Math and
- 5. Obtain a minimum score of 42 in English.
- 6. Attend a required Graphic Design program information session.
- 7. Obtain a satisfactory score on a portfolio evaluation.

Students start Fall semester. This is a full-time program. To complete this program, students must take daytime classes; not all classes are offered at night.

#### **Graduation Requirements**

To earn a Graphic Design AAS degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average. Students are required to produce a portfolio of graphic design work that demonstrates their ability to conceptualize and produce a variety of creative and effective multichannel communication collateral and to attend the Portfolio Day event.

#### Semester 1 (Fall)

BCA 212	Intro to Computer Business Applications	3
GRD 415	InDesign I	3
GRD 459	Illustrator	3
GRT 404	Intro to Visual Communications	2
AAS Genera	al Requirement Math Course	3-5
GRT 400	Intro to Printing Methods	
(offered k	ooth Fall and Spring semesters)	4
Semester	2 (Spring)	
GRD 403	Communication Design I	3
GRD 405	Typography I	3

# GRD 403 Communication Design I 3 GRD 405 Typography I 3 GRD 430 InDesign II 3 GRD 463 Photoshop 3 AAS General Requirement Communications Course 3 Semester 3 (Summer) 3 GRD 411 Communication Design II 3

UKD 411	Communication Design II	J
GRD 470	Interactive Media I	3
GRT 403	Production Methods	2
AAS General	Requirement Social &	
Behavioral	Sciences/Humanities Course	3

VISUAL COMMUNICATIONS DIPLOMA TOTAL......44

# Students accepted into the Graphic Design AAS degree program would continue taking the following courses:

#### Semester 4 (Fall)

GRD 404	Typography II	3
GRD 410	Illustration I	3
GRD 421	Internship Preparation	3
GRD 426	Communication Design III	3
GRD 471	Interactive Media II	3

Semester 5 (Spring)—Select 1 Course from Option 1

		-	
GRD 424	Graphic Design Internship		3
GRD 437	Communication Design IV		3
GRD 464	Digital Artistry		3
AAS General	Requirement Distributed Course		3
ART 186	Principles Digital Photography	Opt 1	3
ART 289	Photojournalism	Opt 1	3
BUS 150	E-Commerce on the Web	Opt 1	3
CIS 207	Fund of Web Programming	Opt 1	3
GRD 414	Illustration II	Opt 1	3
GRD 449	Airbrush I	Opt 1	4
GRT 430	Emerging Technologies	Opt 1	3
MKT 150	Principles of Advertising	Opt 1	3

#### TOTAL CREDITS REQUIRED TO

COMPLETE THIS AAS DEGREE......74

### **Graphic Sales and Customer Service**

(see Certificate section, page 130)

### **Graphic Technologies**

Initially, students will be admitted to the Visual Communications diploma program. Upon completion of the Visual Communications diploma, students may continue on and earn a Graphic Technologies AAS degree.

The Graphic Technologies program expands upon the Visual Communications diploma by preparing students for a variety of technical careers within the graphics and printing industry. Within the Graphic Technologies program, students choose an area of emphasis in either Printing Technologies or Digital Publishing. Students choosing a Printing Technologies emphasis hone their printing skills in the areas of offset press operation, flexography, digital printing, advanced screenprinting applications and finishing. Students choosing a Digital Publishing emphasis expand their knowledge in technical layout, digital imaging and digital prepress functions. Students can also opt to expand their skills in the areas of business management or advanced Adobe applications.

To finalize their education, students in the Graphic Technologies program complete an internship, work collaboratively on a capstone project and individually prepare their portfolio. Many Graphic Technologies graduates have found careers in small and large printing and publishing companies, in-house printing and graphics departments, digital imaging centers and other businesses in need of graphic communications professionals.

For more information about the Graphic Technologies program, please visit our website at **www.dmacc.edu/programs/graphicarts/index.html**.

#### Location: Ankeny

#### **Program Entry Requirements**

- 1. Complete an application for admission.
- 2. Satisfy the assessment requirement by taking all three sections of the COMPASS test and:
- 3. Obtain a minimum score of 61 in Reading and
- 4. Obtain a minimum score of 25 in Math and
- 5. Obtain a minimum score of 42 in English.
- 6. Attend a Graphic Technologies information session.

#### Students start Fall semester. This is a full-time program. To complete this program, students must take daytime classes; not all classes are offered at night.

#### **Graduation Requirements**

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

#### Semester 1 (Fall)

BCA 212	Intro to Computer Business Applications	3
GRD 415	InDesign I	3
GRD 459	Illustrator	3
GRT 404	Intro to Visual Communications	2
AAS General	Requirement Math Course	3-5
GRT 400	Intro to Printing Methods	
(offered b	oth Fall and Spring semesters)	4

# Degrees and Diplomas

#### Semester 2 (Spring)

GRD 403	Communication Design I	3
GRD 405	Typography I	3
GRD 430	InDesign II	3
GRD 463	Photoshop	3
AAS Genera	Requirement Communications Course	3
Semester	3 (Summer)	
Semester GRD 411	3 (Summer) Communication Design II	3
	• •	3
GRD 411	Communication Design II	-
GRD 411 GRD 470 GRT 403	Communication Design II Interactive Media I	3

Students accepted into the Graphic Technologies AAS degree program would continue taking the following courses:

#### Semester 4 (Fall)

#### All Graphic Technologies Students Take:

GRT 409	Project Planning & Management	3
BCA 164	Basic Databases	1
AAS Genera	al Requirement Distributed Course	3

# Students choosing a Printing Technologies emphasis take both Option 1 Courses:

GRT 420	Advanced Printing Methods	Opt 1	4
GRT 427	Specialty Printing Methods	Opt 1	4

# Students choosing a Digital Publishing emphasis take both Option 2 Courses:

GRT 424	Digital Imaging II	Opt 2	4
GRT 426	Digital Publishing III	Opt 2	4

#### Semester 5 (Spring)

#### All Graphic Technologies Students Take:

GRT 430	Emerging Technologies	3
GRT 932	Internship	3-4
Select 1 Cou	urse from the Option 5 List Below	3

# Students choosing a Printing Technologies emphasis take the Option 3 Course:

empilasis	sinpliasis take the Option 5 Course.				
GRT 453	GRT 453Printing Methods CapstoneOpt 3				
	choosing a Digital Publishing e Option 4 Course:	mphasis			
GRT 455	Digital Publishing Capstone	Opt 4	4		
Option 5	Course List				
MGT 101	Principles of Management	Opt 5	3		

MGT 101	Principles of Management	Opt 5	3
MGT 128	Organizational Behavior	Opt 5	3
MGT 130	Principles of Supervision	Opt 5	3
MKT 184	Customer Service	Opt 5	3
BUS 102	Introduction to Business	Opt 5	3
ADM 259	Professional Development	Opt 5	3
JOU 125	Newspaper Production	Opt 5	3

#### TOTAL CREDITS REQUIRED

то	COMPLETE	THIS AA	S DEGREE	72
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### **Greenhouse Production**

(see Certificate Section, page 130)

# **Health Information Technology**

The Health Information Technology AAS degree is designed to meet growing demands for trained health information specialists and data managers in the health IT industry. Graduates may pursue work in a variety of settings, including hospitals, clinics, Long-Term care, insurance companies, government agencies, quality improvement programs, etc.

Coursework combines elements of business, computers, health sciences and health IT with practical computer lab and on-site internship experiences. Students learn skills in areas such as coding, billing, electronic health records (EHRs), registries, data analysis and reporting, quality improvement, legal compliance and other technical processes.

In addition to the AAS degree, there are many certification options (optional) for health IT professionals, depending upon the desired career path. Certifications will enhance the AAS degree. For example, CPEHR (certified professional in electronic health records), CPHIT, CPHIE, CISSP (privacy specialist) or coding credentials such as CPC, CCS-P or PAHCS. Credentials may require work experience prior to certification and continuing education hours to maintain certification. Costs and qualifications vary.

This HIT program utilizes a background check service,

www.certifiedbackground.com, to conduct criminal background/ abuse checks and to track the immunizations and health records of each student in the program. Students are responsible for the cost of this service. Criminal convictions or documented history of abuse may delay or prevent students from participation in health IT education experiences. Students unable to participate in health IT education experiences (internships) will be unable to complete the Health Information Technology program.

For more information about the Health Information Technology program, please visit our website at

www.dmacc.edu/programs/health/healthinfotech.

#### **Location: Ankeny**

#### **Program Entry Requirements**

1. Complete an application for admission.

- 2. Attend any required information/registration session.
- 3. Satisfy the required assessment by taking the reading COMPASS test or equivalent.
- 4. Obtain a minimum score of 46 in algebra on the COMPASS test OR an ACT score of 19 OR MAT 063 with a "C" or better OR Program chairperson approval.
- 5. Obtain a minimum score of 70 in writing on the COMPASS test OR an ACT writing score of 19 or higher OR completion of ENG 061 College Preparatory Writing II with a grade of "B" or higher OR Program chairperson approval.
- 6. Obtain a score of at least 30 NWPM with five errors or fewer on the typing/word processing skill test.

#### Students start Fall semester.

#### **Graduation Requirements**

To earn a Health Information Technology AAS degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average. A grade of 2.0 (C) or better is required in all HIT courses.

#### Semester 1

Semester	1		
CSC 110	Introduction to Computers		3
HIT 605	Medical Transcription Survey		1
HIT 125	Essentials of Health Records		2
HSC 120	Medical Terminology I		3
HIT 360	Introduction to HIT		3
Semester	2		
HIT 450	Health Statistics		2
MAP 141	Medical Insurance		3
HSC 121	Medical Terminology II		3
HIT 120	Pharmacology for HIT		1
BCA 113	Computer Network Literacy		3
Select 1 C	ourse from Option 1		
SPC 101	Fundamentals of Oral Communication	Opt 1	3
SPC 126	Interpersonal & Small Group Commun	ic. Opt 1	3
Semester	3		
HIT 520	Internship I		2
ENG 105	Composition I		3
BIO 733	Health Science Anatomy		3
HIT 162	Data Security Issues for Health IT		2
Semester	4		
BCA 213	Intermediate Computer Business App.		3
MAP 150	Adv. Medical Billing/Coding		3
HIT 315	Electronic Applications for Healthcare	Data	2
ENG 108	Composition II: Technical Writing		3
Select 1 C	ourse from Option 2		
PSY 102	Human and Work Relations	Opt 2	3
PSY 111	Introduction to Psychology	Opt 2	3
Semester	5		
HIT 420	Legal Aspects of Health Information		2
HIT 290	Reimbursement Methods		3
HIT 430	Quality Improvement		3
HIT 521	Internship II		4
HIT 339	Quality Management		2

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TO COMPLETE	THIS PROGRAM6	i5

### 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 semesters, a student can receive a diploma. An AAS degree will be awarded upon completion of all five semesters.

For more information about the Heating, Air Conditioning, Refrigeration Technology program, please visit our website at **www.dmacc.edu/programs/hvac**.

VISIT US ONLINE: www.DMACC.edu 87

#### **Location: Ankeny**

#### **Program Entry Requirements**

1. Complete an application for admission.

- 2. Satisfy the assessment requirement.
- 3. Attend any required information/registration session.

4. Obtain a satisfactory score on a math proficiency assessment.

#### Students start Fall semester.

#### **Graduation Requirements**

To earn a Heating, Air Conditioning, Refrigeration Technology diploma or AAS degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

#### Semester 1

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

#### Semester 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

#### Semester 3

HCR 256	Applied Heating and AC	5
HCR 932	Internship	4

### TOTAL CREDITS REQUIRED TO

#### Semester 4

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

#### Semester 5-Select 1 Course from Option 2

HCR 290	Commercial HVAC and Refrigeration		5
HCR 840	Computer Load Calculations		2
HCR 803	Environmental Controls		5
MGT 145	Human Relations in Business	Opt 2	3
PSY 111	Introduction to Psychology	Opt 2	3
SOC 110	Introduction to Sociology	Opt 2	3
SOC 115	Social Problems	Opt 2	3

#### 

### **Hospitality Business**

The Hospitality Business program prepares students to enter either the food service field or lodging industry at an entry-level position.

Students who have completed the program will have taken courses in subject areas including sanitation, dining room fundamentals, business math, food preparation, career-seeking skills and marketing. Positions that are filled by graduates include guest services clerk, night auditor and cooks.

88 DES MOINES AREA COMMUNITY COLLEGE CATALOG 2011-2012

For more information about the Hospitality Business program, please visit our website at **www.dmacc.edu/programs/culinary/hospitalitybusiness.asp**.

#### Location: Ankeny

#### **Program Entry Requirements**

- 1. Complete an application for admission.
- 2. Satisfy the assessment requirement.
- 3. Attend any required information/registration session.

#### Students start Fall semester.

(Most classes in this program meet in the daytime hours, but a few will involve some evenings and weekends.)

#### **Graduation Requirements**

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

#### Semester 1

COM 703	Communication Skills	3
HCM 100	Sanitation and Safety	2
HCM 200	Dining Room Service	2
HCM 320	Intro to Hospitality Industry	2
MGT 145	Human Relations in Business	3
ADM 131	Office Calculators	1
ADM 105	Intro to Keyboarding	1
Semester	2	
BUS 112	Business Math	3
HCM 143	Food Preparation I	3
HCM 104	Sanitation and Equipment Lab	1
HCM 144	Food Preparation I Lab	3
MKT 140	Selling	3
BCA 212	Intro to Computer Business Appl	3
C	-	

#### Semester 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.

ADM 221	Career Development Skills		2
HCM 510	Work Experience		3
HCM 152	Food Preparation II (Lec)	Opt 1	2
HCM 153	Food Preparation II Lab	Opt 1	2
MKT 110	Principles of Marketing	Opt 2	3

#### TOTAL CREDITS REQUIRED

то	COMPLETE	THIS DIF	LOMA	 38
			EQ11/1	 ~~

### **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.

# Degrees and Diplomas

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.

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

For more information about the Hotel and Restaurant Management program, please visit our website at

www.dmacc.edu/programs/culinary/hotel.asp.

#### Location: Ankeny

#### **Program Entry Requirements**

1. Complete an application for admission.

- 2. Satisfy the assessment requirement.
- 3. Attend any required information/registration session.

#### Students start Fall semester.

(Most classes in this program meet in the daytime hours, but a few will involve some evenings and weekends.)

#### **Graduation Requirements**

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

#### **Required Courses**

#### Semester 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 Cou	rse designated as Core	Opt 1	3

#### Semester 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 Co	ourse designated as Core	Opt 2	3

#### Semester 3

ADM 221	Career Development Skills	2
HCM 510	Work Experience	3

# Students seeking a restaurant management emphasis should select the Option 3 courses.

Students	seeking a hotel management	t emphasis	
HCM 153	Food Preparation II Lab	Opt 3	2
HCM 152	Food Preparation II	Opt 3	2

should select the Option 4 course.

	-		
MKT 110	Principles of Marketing	Opt 4	3

#### Semester 4

#### Semesters 1, 2 and 3 must be completed before enrolling in semesters 4 & 5. All students must take the following three courses:

three cours	bes.		
ACC 111	Intro to Accounting		3
BUS 148	Small Business Management		3
HCM 250	Purchasing (Lec)		2
	eeking a restaurant management ( act the Option 5 courses.	emphasis	
HCM 210	Dining Management (Lec)	Opt 5	2
HCM 167	Culinary Skill Development	Opt 5	3
	eeking a hotel management emph ect the Option 6 courses.	asis	
HCM 604	Hotel Services Internship	Opt 6	5
HCM 600	Intro to Lodging Operations	Opt 6	2
Semester 5	5		
All student	s must take the following two cou	rses:	
HCM 231	Nutrition		2
HCM 240	Menu Planning & Design (Lec)		2
All student	s must select one course from Op	tion 7.	
SPC 101	Fundamentals of Oral Communication	Opt 7	3
Any SPC Cou	irse designated as Core	Opt 7	3
	eeking a restaurant management ( act the Option 8 course.	emphasis	
HCM 300	Beverage Management	Opt 8	2
should sele	eeking a hotel management emph ect the Option 9 course.	asis	
HCM 605	Hotel Administration	Opt 9	2
All student Option 10	s must select one course from the 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
	EDITS REQUIRED .ETE THE HOTEL EMPHASIS		65
	EDITS REQUIRED TO COMPLETE AURANT MANAGEMENT EMPHASI	S	64

### **Human Resource Management**

(see Certificate Section, page 131)

### **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 internship 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.

For more information about the Human Services program, please visit our website at **www.dmacc.edu/programs/fire**.

#### Locations: Ankeny, Newton, Urban

Selected courses in this program are offered at other campuses.

#### **Program Entry Requirements**

1. Complete an application for admission.

- 2. Satisfy the assessment requirement.
- 3. Attend any required information/registration session.

#### Students start any semester.

#### **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 must maintain a 2.0 grade point average.

#### **Required Courses**

HSV 109	Introduction to Human Services	3
HSV 130	Interviewing/Interpersonal Relations	3
HSV 185	Discrimination and Diversity	3
HSV 220	Intro to Counseling Theories	3
HSV 230	Community Organization	3
HSV 286	Intervention Theories/Practice I	3
HSV 288	Intervention Theories/Practice II	3
HSV 802	Internship	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	Women's Issues	Opt 1	3
HSV 811	Pract: Chemical Depend Counseling I	Opt 1	3
HSV 812	Pract: Chemical Depend Counseling II	Opt 1	3
SOC 120	Marriage and Family	Opt 1	3
SOC 200	Minority Group Relations	Opt 1	3
SOC 230	Juvenile Delinquency	Opt 1	3
SOC 240	Criminology	Opt 1	3
SOC 225	Social Gerontology/Applications	Opt 1	4

*PSY 111	Introduction to Psychology	Opt 1	3
*PSY 251	Social Psychology	Opt 1	3
PSY 291	Principles of Behavior Modification	Opt 1	3
*PSY 261	Human Sexuality	Opt 1	3
PSY 281	Educational Psychology	Opt 1	3
HSV 133	Conflict Resolution	Opt 2	3
HSV 255	Addictive Disease Concepts	Opt 2	3
PSY 102	Human and Work Relations	Opt 2	3
SOC 110	Introduction to Sociology	Opt 2	3
SOC 115	Social Problems	Opt 2	3

#### COMPLETE REMAINING

HSV 228

#### 

Group Counseling Techniques

\*Note: PSY 111, PSY 251 and PSY 261 are option courses that may also be used to fulfill Social & Behavioral Sciences AS Core.

Note: If the student completes HSV 185 or PSY 241 with a grade of "C" or higher, the course will meet the Diversity Requirement. See the AA/AS section of this catalog for more information.

#### TOTAL CREDITS REQUIRED TO COMPLETE THIS AS DEGREE ......64

### InDesign

(see Certificate Section, page 131)

### 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.

For more information about the Industrial Electro-Mechanical Technology program, please visit our website at **www.dmacc.edu/programs/iemt.** 

#### Location: Ankeny

Selected courses in this program are offered at other campuses.

#### **Program Entry Requirements**

- 1. Complete an application for admission.
- 2. Satisfy the assessment requirement.
- 3. Attend any required information/registration session.

#### Students start Fall semester.

#### **Graduation Requirements**

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

#### Semester 1

MAT 772	Applied Math	3
CSC 110	Introduction to Computers	3
MFG 276	Hand & Bench Machine Tools	1
ELT 303	Principles of Electricity	3

# Degrees and Diplomas

Opt 2

3

#### . .

Select Emphasis 1 or Emphasis 2 or Emphasis 3:Emphasis 1 Manufacturing Maintenance TechnologiesMFG 121Machine Trade Printreading I2CON 336Care/Use of Hand/Power Tools1Emphasis 2 Biomass Maintenance TechnologiesBPT 102Intro to Biomass Process Tech2RRO 101Railcar Safety2Emphasis 3 Wind Turbine TechnologiesWTT 103Introduction to Wind Energy3Semester 2		
-		
CON 336	Care/Use of Hand/Power Tools	
Emphasis 2	2 Biomass Maintenance Technologies	
BPT 102	Intro to Biomass Process Tech	2
RRO 101	Railcar Safety	2
Emphasis 3	3 Wind Turbine Technologies	
WTT 103	Introduction to Wind Energy	3
Semester 2	2	
MAT 773	Applied Math II	3
COM 703	Communication Skills	3
ELT 131	Motor Controls	3
Emphasis 1	Manufacturing Maintenance Technologies	
MGT 164	Total Quality Management	3
IND 146	Mechanical Power Transmission I	3
Emphasis 2	2 Biomass Maintenance Technologies	
BPT 111	Biomass Equipment and Systems	3
IND 146	Mechanical Power Transmission I	3
Emphasis 3	3 Wind Turbine Technologies	
IND 147	Mechanical Power Transmission II	4
WTT 223	Airfoils and Composite Repair	3
Semester 3	5	
Enclose the second second	Manufashuina Maintenan a Tashualania	

#### **Emphasis 1 Manufacturing Maintenance Technologies**

MFG 250	Engine Lathe Theory	1
MFG 251	Engine Lathe Operations Lab	2
MFG 260	Mill Operations Theory	1
MFG 261	Mill Operations Lab	2
IND 147	Mechanical Power Transmission II	4
Emphasis	2 Biomass Maintenance Technologies	
BPT 112	Biomass Tech Health/Safety	3

BPT 125	Piping & Instrument Diagrams	2
IND 147	Mechanical Power Transmission II	4

#### **Emphasis 3 Wind Turbine Technologies**

WTT 114	Field Training & Project Oper	5
WTT 133	Wind Turbine Mechanical Systems	3

#### Semester 4

Emphasis 1	Manufacturing Maintonanco Tochnologios	
ELT 123	Programmable Controllers	3
ELT 792	Hydraulics & Pneumatics Lab	2
ELT 791	Hydraulics & Pneumatics	3
ELE 217	Advanced Motor Controls	3

#### **Emphasis 1 Manufacturing Maintenance Technologies** DMA 177 Industrial Plumbing & Dipofitting

BIMA 177	Industrial Plumping & Piperitting	5
IND 144	Pump Overhaul and Repair	4
Emphasis 2	Biomass Maintenance Technologies	
IND 144	Pump Overhaul and Repair	4
BMA 167	Steam Plant Operations	2

#### **Emphasis 3 Wind Turbine Technologies** W/TT 216 Dower Constantion/Tra

WTT 216	Power Generation/Transmission	3
WTT 245	Electrical Practical App	4

#### Semester 5

MFG 172	Related Welding-Indust Maint	3
MGT 145	Human Relations in Business	3
CAD 119	Intro to Computer-Aided Drafting	3
Emphasis 1	Manufacturing Maintenance Technologies	
MFG 524	PM & Diagnosing Mech/Elec Sys	3
Emphasis 2	Biomass Maintenance Technologies	
BPT 128	Operator Biomass Lab Process	3
Emphasis 3	Wind Turbine Technologies	
WTT 225	Data Acquisition & Assessment	4
	EDITS REQUIRED ETE THIS AAS DEGREE:	
	1: MANUFACTURING NCE TECHNOLOGIES	68
	2: BIOMASS NCE TECHNOLOGIES	67
EMPHASIS	3: WIND TURBINE TECHNOLOGIES	68

### Informatics

(see Certificate Section, page 131)

### Information Processing Support

(see Certificate Section, page 132)

# Information Technology/ Network Administration

The ITNA program will provide students with a foundation in the basic technologies of computer networking, both as an objective and measurable skill set, as well as a preface to certification. In addition, students may also prepare for CISCO certification by choosing to take the CISCO option courses. The modular design of the core/certification integration is designed to allow the future addition of other professional certifications.

For more information about the Information Technology/Network Administration program, please visit our website at www.dmacc.edu/programs/itna.

#### Location: Ankenv

Selected courses in this program are offered at other campuses.

#### **Program Entry Requirements**

- 1. Complete an application for admission.
- 2. Attend any required information/registration session.
- 3. Satisfy the required assessment by taking the reading and English COMPASS test or equivalent.
- 4. Complete the required COMPASS testing, obtaining a satisfactory score in pre-algebra (44 or higher) or ACT scores with a math sub score of 19 or higher, or completion of MAT 053 with a grade of "C" or better.
- 5. Successful completion of CSC 110 Intro to Computers or equivalent; or approval of the program counselor.

#### Students start Fall semester.

#### **Graduation Requirements**

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

#### All students take the first three semesters.

#### Semester 1-Select 1 Course from each option

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
ELT 106	Basic Math for Electronics	Opt 3	3
ELT 108	Math for Electronics & Computers	Opt 3	4
BUS 211	Business Statistics	Opt 3	4
Any AA/AS	degree Core MAT	Opt 3	3-4
Comostar	~		

#### Semester 2

NET 123	Computer Hardware Basics		4
NET 223	CISCO Routers		4
NET 402	Linux Network Administration		3
CIS 130	Computer Programming		3
Select 1 Cou	Irse from AA/AS degree Core		
Social & I	Behavioral Sciences/Humanities	Opt 4	3-4

#### Semester 3

NET 623	Network Applications	4
NET 628	Network Applications Lab	2
NET 139	Microsoft Desktop Operating Sys.	4

After Semester 3, students must declare a Microsoft or Linux emphasis and take the respective Microsoft or Linux courses. To fulfill the program credit requirements, the student must select courses from the option list.

By selecting all CISCO courses as options, the student will be prepared to test for CISCO CCNA certification.

# Microsoft Specialization students must complete the following:

#### Semester 4

NET 333	Implementing Windows Network Infrastructure	3
NET 664	MS Windows Professional/Server	5
NET 343	Windows Directory Services	3
Credits from	the Option 5 Course List m	ninimum 2

#### Semester 5

NET 324	Windows Network Management	4
NET 365	Design MS Active Dir & Network	3
Credits from	n the Option 5 Course List	minimum 5

#### Linux Specialization students must complete the following:

#### Semester 4

NET 412	Linux System Administration	3
NET 512	Linux Enterprise Administration I	3
CIS 210	Web Development I	3
Credits from	m the Option 5 Course List	minimum 3

Degrees and Diplomas

#### Semester 5

Jennester	5	
NET 432	Linux System Security	3
NET 422	Linux System Programming	3
CIS 211	Web Development II	3
Credits from	n the Option 5 Course List	minimum 3
Option 5	Courses	
NET 233	CISCO Switches	4
NET 243	CISCO Wide Area Networks (WAN)	4
NET 324	Windows Network Management	4
NET 333	Imp Windows Network Infrastructure	3
NET 343	Windows Directory Service	3
NET 365	Design MS Active Dir & Network	3
NET 376	Designing Security for MS Net	3
NET 412	Linux System Administration	3
NET 422	Linux System Programming	3
NET 432	Linux System Security	3
NET 434	Linux Systems and Certification	3
NET 435	Linux Programming for Administration	3
NET 436	Linux Network Programming	3
NET 512	Linux Enterprise Admin I	3
NET 532	Linux Enterprise Administration II	3
NET 612	Fund of Network Security	3
NET 653	Microsoft Exchange Server	4
NET 664	MS Windows Prof/Server	5
NET 711	SQL Database	3
NET 715	Database Security & Auditing	3
NET 730	Computer Forensics & Inv.	3
NET 932	Internship	3
CIS 178	Java Programming I	2
CIS 179	Java Programming II	2
CIS 210	Web Development I	3
CIS 211	Web Development II	3
CIS 303	Introduction to Database	3
CRJ 167	Operating Sys for Forensics	3
CRJ 176	Computer Forensics I	3
CRJ 276	Computer Forensics II	3
CRJ 277	Adv Digital Forensic Methods	4

#### TOTAL CREDITS REQUIRED TO COMPLETE THIS AAS DEGREE:

LINUX SPECIALIZATION	67
MICROSOFT SPECIALIZATION	68

### **Interactive Media for Graphic Design**

(see Certificate Section, page 132)

### **Interior Design Consultant**

(see Certificate Section, page 132)

92 DES MOINES AREA COMMUNITY COLLEGE CATALOG 2011-2012

# Degrees and Diplomas

## **Interpretation & Translation**

The Interpretation & Translation program prepares functionally bilingual students for entry-level employment in the rapidly expanding language Interpretation & Translation field or for transfer to a four-year degree program in translation/interpretation studies, world languages or applied linguistics. 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: business, education, healthcare, human services or judicial. The program is designed for students who wish to add Interpretation & 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, required general courses in interpretation/translation and one of the following emphases in interpretation/translation: business, education, healthcare, human services or judicial. 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 one of the following Certificates of Specialization: Interpretation & Translation-Business, Interpretation & Translation-Education, Interpretation & Translation-Healthcare, Interpretation & Translation-Human Services or Interpretation & Translation-Judiciary. Students who have finished either the Interpretation & Translation AS degree or one of the Interpretation & Translation certificates can enroll in a second or subsequent Interpretation & Translation certificate program.

A program chairperson and a program counselor are available to assist students with educational and career planning. All of the Interpretation & Translation courses are offered online.

Graduates of the Interpretation & 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.

For more information about the Interpretation & Translation program, please visit our website at **www.dmacc.edu/programs/itr**.

#### Location: Urban

Selected courses in this program may be offered at other campuses or through distance learning.

#### **Program Entry Requirements**

1. Complete an application for admission.

- 2. Satisfy the assessment requirement.
- 3. Complete the ITR online program information orientation including the survey.
- 4. 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 chairperson
- 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 chairperson

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 in the Business ITR, Human Services ITR and Judiciary ITR programs start in the Fall semester of ODD-NUMBERED years; students in the Education ITR and Healthcare ITR programs start in the Fall semester of EVEN-NUMBERED years. Close contact with an academic advisor is strongly recommended for planning, because many courses are only offered once every two years.

#### **Graduation Requirements**

To earn an Interpretation & Translation AS degree, a student must complete the standard core requirements for the degree, plus the Interpretation & Translation required courses and options, maintain a 2.0 grade point average and receive a grade of "C" or above in all ITR coursework.

#### **Business Interpretation/Translation Emphasis**

(Starts Fall semester of ODD-NUMBERED YEARS)

#### Semester 1-(Fall semester of Odd-Numbered Years)

	• • • • • • • • • • • • • • • • • • • •	•
ITR 101	Introduction to Interpretation & Translation	3
ITR 102	Tools for the Interpreter and Translator	3
AS degree	Core Courses	6-9
Semester	2-(Spring semester of Even-Numbered Ye	ears)
ITR 103	Fundamentals of Interpretation	3
ITR 104	Fundamentals of Translation	3
AS degree	Core Courses	6-9
Semester	r 3-(Summer semester of Even-Numbered )	Years)
BUS 102	Introduction to Business	3
ITR 109	Interp/Trans Ethics I	3
AS degree	Core Courses	0-2
Semester	4-(Fall semester of Even-Numbered Year	s)
ITR 211	Business Semester & Sight Trans	3
ITR 213	Business Interpretation I	3
AS degree	Core Courses	6-9
Semester	r 5-(Spring semester of Odd-Numbered Ye	ars)
ITR 214	Business Interpretation II	3
ITR 217	Business Translation	3
AS degree	Core Courses	6-9

ITR 209	Interp/Trans Ethics II	3
ITR 811	Business I/T Internship	3
AS degree	Core Courses Still Remaining	0-2
	ident completes ITR 101 with a grade of "C" or higher, the cour Requirement. See the AA/AS section of this catalog for more inj	se will meet
		101111111011.
	REDITS REQUIRED FOR INESS EMPHASIS	64
Educatio	on Interpretation/Translation Empha	sis
(Starts Fall	semester of EVEN-NUMBERED YEARS)	
Semester	1-(Fall semester of Even-Numbered Years	s)
ITR 101	Introduction to Interpretation & Translation	3
ITR 102	Tools for the Interpreter and Translator	3
AS degree	Core Courses	6-9
Semester	2-(Spring semester of Odd-Numbered Ye	ears)
ITR 103	Fundamentals of Interpretation	3
ITR 104	Fundamentals of Translation	3
AS degree	Core Courses	6-9
Semester	3-(Summer semester of Odd-Numbered Y	Years)
EDU 213	Introduction to Education	3
ITR 109	Interp/Trans Ethics I	3
AS degree	Core Courses	0-2
Semester	4-(Fall semester of Odd-Numbered Years	s)
ITR 231	Education Semester & Sight Trans	3
ITR 233	Education Interpretation I	3
AS degree	Core Courses	6-9
Semester	5-(Spring semester of Even-Numbered Ye	ears)
ITR 234	Education Interpretation II	3
ITR 237	Education Translation	3
AS degree	Core Courses	6-9
Semester	6-(Summer semester of Even-Numbered	Years)
ITR 209	Interp/Trans Ethics II	3
ITR 831	Education I/T Internship	3
	Core Courses Still Remaining	0-2
Note: If the sti the Diversity I	udent completes ITR 101 with a grade of"C" or higher, the cour. Requirement. See the AA/AS section of this catalog for more inj	se will meet formation.
	REDITS REQUIRED FOR	
	CATION EMPHASIS	64
	are Interpretation/Translation Empha	
Hoolthe	are interpretation/ iransiation chipha	1212
	semester of EVEN-NUMBERED YEARS)	
(Starts Fall	semester of EVEN-NUMBERED YEARS)	s)
(Starts Fall <b>Semester</b>	semester of EVEN-NUMBERED YEARS) 1-(Fall semester of Even-Numbered Years)	<b>s)</b>
(Starts Fall	semester of EVEN-NUMBERED YEARS)	<b>s)</b> 3 3

#### Semester 2-(Spring semester of Odd-Numbered Years)

ITR 103	Fundamentals of Interpretation	3
ITR 104	Fundamentals of Translation	3
AS degree	Core Courses	6-9

# Degrees and Diplomas

Semester 3	-(Summer semester of Odd-Numbered	d Years)
BIO 156	Human Biology w/Lab	3
ITR 109	Interp/Trans Ethics I	3
AS degree Co	pre Courses	0-2
Semester 4	I-(Fall semester of Odd-Numbered Yea	ars)
ITR 271	Healthcare Semester & Sight Trans	3
ITR 273	Healthcare Interpretation I	3
AS degree Co	pre Courses	6-9
Semester 5	-(Spring semester of Even-Numbered	Years)
ITR 274	Healthcare Interpretation II	3
ITR 277	Healthcare Translation	3
AS degree Co	pre Courses	6-9
Semester 6	5-(Summer semester of Even-Numbere	d Years)
ITR 209	Interp/Trans Ethics II	3
ITR 871	Healthcare I/T Internship	3

Note: If the student completes ITR 101 with a grade  $o^{\rho c}C$ " or higher, the course will meet the Diversity Requirement. See the AA/AS section of this catalog for more information.

### TOTAL CREDITS REQUIRED FOR THE

64	4
	5

#### **Human Services**

#### Interpretation/Translation Emphasis

(Starts Fall semester of ODD-NUMBERED YEARS)

# Semester 1-(Fall semester of Odd-Numbered Years)ITR 101Introduction to Interpretation & Translation3ITR 102Tools for the Interpreter and Translator3AS degree Core Courses6-9

#### Semester 2-(Spring semester of Even-Numbered Years)

TR 103	Fundamentals of Interpretation	3
TR 104	Fundamentals of Translation	3
AS degree Core Courses		6-9

#### Semester 3-(Summer semester of Even-Numbered Years)

ISV 109	Introduction to Human Services	3
TR 109	Interp/Trans Ethics I	3
AS degree Core Courses		0-2

#### Semester 4-(Fall semester of Even-Numbered Years)

ITR 251	Human Services Semester & Sight Trans	3
ITR 253	Human Services Interpretation I	3
AS degree Core Courses		6-9

#### Semester 5-(Spring semester of Odd-Numbered Years)

3
3
6-9
Years)
3
3
•

Note: If the student completes ITR 101 with a grade of "C" or higher, the course will meet the Diversity Requirement. See the AA/AS section of this catalog for more information.

#### TOTAL CREDITS REQUIRED FOR

# Degrees and Diplomas

#### Judiciary Interpretation/

#### **Translation Emphasis**

(Starts Fall semester of ODD-NUMBERED YEARS)

#### Semester 1-(Fall semester of Odd-Numbered Years)

ITR 101	Introduction to Interpretation & Translation	3
ITR 102	Tools for the Interpreter and Translator	3
AS degree C	ore Courses	6-9

#### Semester 2-(Spring semester of Even-Numbered Years)

ITR 103	Fundamentals of Interpretation	3
ITR 104	Fundamentals of Translation	3
AS degree Co	ore Courses	6-9

#### Semester 3-(Summer semester of Even-Numbered Years)

CRJ 130	Criminal Law	3
ITR 109	Interp/Trans Ethics I	3
AS degree Core Courses		0-2

#### Semester 4-(Fall semester of Even-Numbered Years)

ITR 291	Judiciary Semester & Sight Trans	3
ITR 293	Judiciary Interpretation I	3
AS degree	Core Courses	6-9

#### Semester 5-(Spring semester of Odd-Numbered Years)

ITR 294	Judiciary Interpretation II	3
ITR 297	Judiciary Translation	3
AS degree	Core Courses	6-9

#### Semester 6-(Summer semester of Odd-Numbered Years)

ITR 209	Interp/Trans Ethics II	3
ITR 891	Judiciary I/T Internship	3
AS degree	Core Courses Still Remaining	0-2

Note: If the student completes ITR 101 with a grade of "C" or higher, the course will meet the Diversity Requirement. See the AA/AS section of this catalog for more information.

#### TOTAL CREDITS REQUIRED FOR THE

JUDICIARY EMPHASIS64	
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#### Interpretation & Translation-Business, Education, Healthcare, Human Services & Judiciary

Certificates (see Certificate Section, page 132)

### Landscape Design

(see Certificate Section, page 137)

### Law

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

### Legal Assistant

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

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

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

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

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

For more information about the Legal Assistant program, please visit our website at **www.dmacc.edu/programs/legalassistant.** 

#### Location: Urban

#### Program Entry Requirements

- 1. Complete an application for admission.
- 2. Satisfy the assessment requirement.
- 3. Attend any required information/registration session.
- Students entering the program need satisfactory computer skills. BCA 212 Intro to Computer Business Applications is highly recommended.

#### Students may start any semester.

#### **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 coursework.

#### **Required Courses**

PRL 113

COMPLET	E AS DEGREE CORE REQUIREMENTS	28
PRL 103	Introduction to Law	3
PRL 131	Torts & Litigation I	3
PRL 141	Business & Corporate Law I	3
PRL 280	Legal Internship & Ethics	4
PRL 112	Legal Research and Writing I	3

Legal Research and Writing II

3

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

PRL 132	Torts & Litigation II	Opt 1	3
PRL 161	Family Law	Opt 1	3
PRL 142	Business & Corporate Law II	Opt 1	3
PRL 151	Real Estate Law	Opt 1	3
PRL 167	Probate Procedure	Opt 1	3
PRL 169	Wills, Estate Planning & Taxation	Opt 1	3
PRL 171	Administrative Practice	Opt 1	3
PRL 125	Evidence: Theory and Practice	Opt 1	3
PRL 137	Debtor/Creditor Law	Opt 1	3
PRL 118	Computerized Legal Research	Opt 1	1
PRL 114	Adv Legal Research and Writing	Opt 1	3
PRL 182	Mediation	Opt 1	3
ACC 261	Income Tax Accounting	Opt 1	3
CSC 110	Intro to Computers	Opt 1	3
CRJ 130	Criminal Law	Opt 1	3
CRJ 132	Constitutional Law	Opt 1	3
HSV 130	Interviewing/Interpersonal Relations	Opt 1	3

#### **Elective Courses**

Electives

Note: To complete this program, you must meet the Diversity Requirement with a grade of "C" or higher. See the AA/AS section of this catalog for more information about which courses can count toward this requirement.

#### TOTAL CREDITS REQUIRED TO

COMPLETE THIS AS	DEGREE	64
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### Legal Assistant Certificate

(see Certificate Section, page 137)

### Long-Term Care Administrator

(see Certificate Section, page 138)

### Long-Term Care Administrator-Practicum

(see Certificate Section, page 138)

### **Machinist Technology**

(see Tool & Diemaking, page 114)

### **Maintenance (Diesel)**

(see Certificate Section, page 138)

### **Management—AA or AAS**

The Management program offers students a number of career and educational opportunities. This program allows students to choose either an AA or AAS degree. Students who plan to transfer to a four-year college or university should consider the AA degree program. The AA degree will satisfy the freshman and sophomore Management requirements of most four-year colleges if planned carefully with an advisor.

The AAS degree is designed for students who want to prepare for an immediate career in business. This degree will prepare you with the 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 professional development activities.

Coursework in the Management AAS 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.

For more information about the Management program, please visit our website at **www.dmacc.edu/programs/marketing/**.

#### **Location: Ankeny**

2

Selected courses in this program are offered at other campuses.

#### **Program Entry Requirements**

1. Complete an application for admission.

- 2. Satisfy the assessment requirement.
- 3. Attend any required information/registration session.

#### Students start any semester.

#### **Graduation Requirements**

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

#### Management AA Degree

#### **Required Courses**

MGT 101	Principles of Management	3
MKT 145	Sales Management	3
MGT 128	Organizational Behavior	3
MGT 170	Human Resource Management	3
ACC 131	Principles of Accounting I	4
ECN 120*	Principles of Macroeconomics	3
ECN 130	Principles of Microeconomics	3

#### Total 22

\*ECN 120 is a required course for this program and shall also be used to fulfill 3 credits of Social/Behavioral Science AA Core.

#### Complete Remaining AA Degree Core

Requirements as Follows:	
Communications	9 credits
Social & Behavioral Sciences	6 credits
(two different acronyms) plus 3 credits for ECN 120 from above for a	total of 9 credits
Math and Science	9 credits

Humanities	9 credits
Distributive	9 credits
Students should check with a DMACC advisor or an	advisor at the four year institution

Students should check with a DMACC advisor or an advisor at the jour-year institution to which they plan to transfer before selecting math and science courses, distributive courses, and courses in other areas because certain courses are course prerequisites and/or admission requirements into the College of Business at different colleges and universities.

Note: To complete this program, you must meet the Diversity Requirement with a grade of "C" or higher. See the AA/AS section of this catalog for more information about which courses can count toward this requirement.

#### 

# Degrees and Diplomas

#### **Management AAS degree**

#### **Required Courses**

#### Semester 1-Select 1 Course from Option 1, 1 Course from Option 5 and 1 Course from Option 6

MGT 147	Leadership Development		3
MGT 130	Principles of Supervision		3
CSC 110	Intro to Computers	Opt 1	3
BCA 212	Intro to Computer Business Appl	Opt 1	3
GRD 301	Intro to Desktop Publishing	Opt 1	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

#### Total 15

Total 16

Total 6

#### Semester 2-Select 1 Course from Option 2

Selling		3
Relationship Strategies in Business		2
Principles of Management		3
Human Resource Management		3
Career Development Skills		2
Composition I	Opt 2	3
Communication Skills	Opt 2	3
	Relationship Strategies in Business Principles of Management Human Resource Management Career Development Skills Composition I	Relationship Strategies in Business         Principles of Management         Human Resource Management         Career Development Skills         Composition I       Opt 2

#### Semester 3

MGT 800	Business Internship I	4
MGT 802	Business Internship Seminar I	2

Semester 4-Select 1 Course from Option 3 and 1 Course from Option 4

MGT 128	Organizational Behavior		3
MKT 110	Principles of Marketing		3
ACC 131	Principles of Accounting I	Opt 3	4
ACC 111	Intro to Accounting	Opt 3	3
SPC 101	Fundamentals of Oral Comm.	Opt 4	3
SPC 126	Interpersonal & Small Group Comm.	Opt 4	3

Total 12

Total 15

#### Semester 5-Select 3 Courses from Option 7

MKT 145	Sales Management		3
MGT 164	Total Quality Management		3
MGT 248	Systems & Information Mgmt	Opt 7	3
ACC 132	Principles of Accounting II	Opt 7	4
BUS 102	Intro to Business	Opt 7	3
BUS 148	Small Business Management	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
BUS 278	Employment Law	Opt 7	3
BUS 150	E-Commerce on the Web	Opt 7	3

TOTAL CREDITS REQUIRED TO	
COMPLETE THE AAS DEGREE	64

### **Management Certificate**

(see Certificate Section, page 139)

### Management Information Systems (MIS)

The Management Information Systems (MIS) degree is designed to allow students to transfer to a four-year program and also qualifies students for positions as programmers and information technology specialists. The program offers two tracks, with the Programming/Database track emphasizing business applications programming. The student studies several programming languages, various levels of operating systems, database systems and the peripheral equipment available in the field. Student who select the Informatics track, learn to use technology to advance the needs of businesses. Students master the tools of informatics specialists learning to provide technical assistance, support and advice to individuals and organizations that depend on information technology.

For more information about the Management Information Systems (MIS) program, please visit our website at **www.dmacc.edu/programs/mis**.

#### Location: Urban

Selected courses in this program are offered at other campuses.

#### **Program Entry Requirements**

- 1. Complete an application for admission.
- 2. Satisfy the assessment requirement.
- 3. Attend any required information/registration session.
- 4. 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 semester.

#### **Graduation Requirements**

To earn a Management Information Systems (MIS) AS degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

#### **Programming/Database Track**

(Prepares students to work for businesses as programmers, software developers and database specialists.)

#### **Required Courses**

#### Semester 1

ACC 131	Principles of Accounting I	4
CIS 125	Intro to Programming 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
Semester 2		

CIS 171	Java	3
CIS 402	COBOL	3
ACC 132	Principles of Accounting II	4
ENG 106	Composition II	3
SPC 101	Fund of Oral Communication	3

#### Semester 3-Select 1 Course from Option 1

CIS 505	Structured Systems Analysis		4
CIS 152	Data Structures		3
CIS 303	Introduction to Database		3
ECN 120	Principles of Macroeconomics		3
MAT 141	Finite Mathematics	Opt 1	4
BUS 211	Business Statistics	Opt 1	4

#### Semester 4-Select 2 Courses from Option 2

	•		
CIS 154	Computational Structures		3
ECN 130	Principles of Microeconomics		3
AA/AS degre	e Core Humanities Course		3
AA/AS degre	e Core Distributed Course		4
CIS 413	COBOL II	Opt 2	4
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 332	Database and SQL	Opt 2	3
CIS 338	SQL/Oracle	Opt 2	3

Note: To complete this program, you must meet the Diversity Requirement with a grade of "C" or higher. See the AA/AS section of this catalog for more information about which courses can count toward this requirement.

#### 

#### **Informatics Track**

(Prepares students to work in the business/financial services industry as business analysts, technology specialists, technical trainers, technology managers, quality assurance technicians, etc.)

#### **Required Courses**

#### Semester 1

ACC 131	Principles of Accounting I	4
CIS 125	Intro to Programming 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

#### Semester 2

INF 110	Fundamental Informatics	3
INF 130	Social Informatics	3
ACC 132	Principles of Accounting II	4
ENG 106	Composition II	3
SPC 101	Fund of Oral Communication	3

#### Semester 3-Select 1 Course from Option 1

INF 220	Human Computer Interaction		3
INF 230	Organization Informatics		3
CIS 303	Introduction to Database		3
ECN 120	Principles of Macroeconomics		3
MAT 141	Finite Mathematics	Opt 1	4
BUS 211	Business Statistics	Opt 1	4

#### Semester 4

CIS 154	Computational Structures	3
ECN 130	Principles of Microeconomics	3
AA/AS deg	ree Core Humanities Course	3

98 DES MOINES AREA COMMUNITY COLLEGE CATALOG 2011-2012

# Degrees and Diplomas

AA/AS deg	ree Core Distributed Course	4
INF 310	Informatics Security	3
INF 320	Legal Informatics Issues	3

Note: To complete this program, you must meet the Diversity Requirement with a grade of "C" or higher. See the AA/AS section of this catalog for more information about which courses can count toward this requirement.

#### 

# Manufacturing Technology

The DMACC Manufacturing Technology program prepares applicants for a wide variety of manufacturing tasks in 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 the completion of this two year Associate in 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.

For more information about the Manufacturing Technology program, please visit our website at **www.dmacc.edu/programs/manufacturing**.

#### Location: Ankeny

#### **Program Entry Requirements**

1. Complete an application for admission.

- 2. Satisfy the assessment requirement.
- 3. Attend any required information/registration session.

#### Students start Fall semester.

#### **Graduation Requirements**

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

#### Semester 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
Semester	2	
MFG 250	Engine Lathe Theory	1

MFG 250	Engine Latrie Theory	1
MFG 251	Engine Lathe Operations Lab	2
MFG 260	Mill Operations Theory	1
MFG 261	Milling Operations Lab	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

#### Semester 3

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

#### Semester 4-Select 1 Course from Option 1

MGT 164	Total Quality Management		3
CAD 119	Intro Computer-Aided Drafting/CA	DD	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

#### Semester 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 CREDITS REQUIRED

### **Marketing-AA or AAS**

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

The program allows students to choose either an AA or AAS degree. Students who plan to transfer to a four-year college or university should consider the AA degree program. The AA degree will satisfy freshman and sophomore Marketing requirements of four-year colleges if planned carefully with an advisor.

Coursework 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 salespeople 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. The employment outlook in marketing is likely to be steady because the competition for customers makes marketing vital to virtually any business. 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.

For more information about the Marketing program, please visit our website at **www.dmacc.edu/programs/marketing/**.

#### Location: Ankeny

Selected courses in this program are offered at other campuses.

#### **Program Entry Requirements**

- 1. Complete an application for admission.
- 2. Satisfy the assessment requirement.
- 3. Attend any required information/registration session.

#### Students start any semester.

#### **Graduation Requirements**

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

#### Marketing AA degree

#### **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
ACC 131	Principles of Accounting I	4
ECN 120*	Principles of Macroeconomics	3
ECN 130	Principles of Microeconomics	3

#### Total 22

\*ECN 120 is a required course for this program and shall also be used to fulfill 3 credits of Social & Behavioral Sciences AA Core.

#### **Complete Remaining AA degree**

Core Requirements as Follows	
Communications	9 credits
Social & Behavioral Sciences	6 credits
(two different acronyms) plus 3 credits for ECN 120 from above for a to	tal of 9 credits
Math & Sciences	9 credits

Humanities	9 credits	
Distributive	9 credits	
Childrents devild back with a DMACC advisor on a dvisor at the forement institution		

Students should check with a DMACC advisor or an advisor at the four-year institution to which they plan to transfer before selecting math and science courses, distributive courses, and courses in other areas because certain courses are course prerequisites and/or admission requirements into the College of Business at different colleges and universities.

Note: To complete this program, you must meet the Diversity Requirement with a grade of "C" or higher. See the AA/AS section of this catalog for more information about which courses can count toward this requirement.

TOTAL CREDITS REQUIRED TO	
COMPLETE THE MARKETING AA DEGREE 6	4

# Degrees and Diplomas

#### **Marketing AAS degree**

#### **Required Courses**

#### Semester 1-Select 1 Course from Option 6

MKT 110	Principles of Marketing		3
APP 111	Visual Merchandising and Design		3
MKT 140	Selling		3
MGT 147	Leadership Development		3
MGT 145	Human Relations in Business	Opt 6	3
PSY 111	Introduction to Psychology	Opt 6	3

#### Total 15

# Semester 2-Select 1 Course from Option 1 and 1 Course from Option 2

MKT 150	Principles of Advertising		3
MKT 160	Principles of Retailing		3
MGT 194	Relationship Strategies in Business		2
ADM 221	Career Development Skills		2
CSC 110	Intro to Computers	Opt 1	3
GRD 301	Intro to Desktop Publishing	Opt 1	3
BCA 212	Intro to Computer Business Appl.	Opt 1	3
BUS 112	Business Math	Opt 2	3
MAT 141	Finite Math	Opt 2	4

#### Total 16

#### Semester 3

MGT 800	Business Internship I	4
MGT 802	Business Internship Seminar I	2

Total 6

#### Semester 4-Select 1 Course from Option 4

MKT 115	Business to Business Marketing		3
MGT 130	Principles of Supervision		3
MGT 805	Business Internship II		4
MGT 807	Business Internship Seminar II		1
ACC 131	Principles of Accounting I	Opt 4	4
ACC 111	Intro to Accounting	Opt 4	3

Total 14

### Semester 5-Select 1 Course from Option 3, 1 Course from Option 5 and 1 Course from Option 7

MKT 141	Advanced Selling Strategies		3
SPC 101	Fundamentals of Oral Communication		3
ENG 105	Composition I	Opt 3	3
COM 703	Communication Skills	Opt 3	3
MKT 165	Retail Mgmt II (Summer semester)	Opt 5	3
ECN 120	Principles of Macroeconomics	Opt 5	3
MGT 101	Principles of Management	Opt 5	3
BUS 148	Small Business Management	Opt 5	3
MKT 199	Sports/Entertainment Marketing	Opt 7	3
BUS 150	E-Commerce on the Web	Opt 7	3
MKT 120	E-Marketing (Fall semester)	Opt 7	3
MKT 182	Customer Relationship Management	Opt 7	3

Total 15

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100 DES MOINES AREA COMMUNITY COLLEGE CATALOG 2011-2012

### **Medical Assistant**

The goal of the Medical Assistant program is to prepare entry-level medical assistants in the cognitive (knowledge), psychomotor (skills) and affective (behavior) learning domains. Medical assistants are the only allied health professionals specifically trained to work in ambulatory settings, such as physicians' offices, clinics and group practices. As multi-skilled allied health team members, medical assistants perform a variety of administrative and clinical procedures in these settings.

Students gain a basic knowledge of communication skills, medical terminology, anatomy and physiology, laboratory procedures, administrative procedures and patient care techniques. These content areas are presented in the classroom, practiced in the laboratory setting and utilized in a 10-week supervised practicum experience in an ambulatory setting. Students do not receive pay or any financial remuneration for the practicum rotation.

The DMACC Medical Assistant program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP **www.caahep.org**), 1361 Park Street, Clearwater, FL 33756, phone 727-210-2350, upon the recommendation of the Medical Assisting Education Review Board (MAERB), of the American Association of Medical Assistants Endowment (AAMAE), 20 North Wacker Drive, Suite 1575, Chicago, IL 60606, www.maerb.org, phone: 1-800-228-2262. DMACC graduates are eligible to take the certification examination [CMA (AAMA)] given by the Certifying Board of the American Association of Medical Assistants. Graduates are also eligible 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 prevent students from participating in practicum education experiences. Students unable to participate in practicum 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.

For more information about the Medical Assistant program, please visit our website at **www.dmacc.edu/programs/medassist**.

#### **Location: Ankeny**

#### **Program Entry Requirements**

1. Complete an application for admission.

- 2. Satisfy the assessment requirement.
- 3. Attend any required information/registration session.
- Submit evidence of grade "C" or better in one year of high school biology or equivalent (DMACC Academic Achievement Center Biology I & II or BIO 156)
- 5. Submit evidence of typing/word processing skill of 35 WPM with five errors or less in a five-minute timed assessment.
- 6. Submit proof of high school graduation or GED prior to enrollment.

#### Program starts Fall semester.

#### **Graduation Requirements**

To earn a Medical Assistant diploma, a student must complete all coursework as prescribed and maintain a 2.0 grade point average. A grade of 2.0 (C) or better is required in all MAP courses. A student must receive a grade of "C" or better in the first course of a sequential course offering before enrolling in the second-level course of the sequence. Sequential courses include MAP 544 & MAP 554; MAP 225 & MAP 228; MAP 347 & MAP 348; MAP 110 & MAP 118 and MAP 250 & MAP 252. Several courses have corequisites listed in the catalog.

# Degrees and Diplomas

#### Semester 1-Select 1 Course from Option 1

Semester	Sciect i course nom option i		
MAP 544	Human Body–Health and Disease I		4
MAP 129	Medical Terminology		1
MAP 225	Medical Laboratory Procedures I		4
MAP 347	Medical Office Procedures I		3
MAP 110	Medical Office Management I		2
MAP 423	Professional Development		3
ENG 105	Composition I	Opt 1	3
COM 703	Communication Skills	Opt 1	3
Semester 2	2		
MAP 554	Human Body-Health and Disease II		4
MAP 250	Diagnostic Radiography I		2
MAP 118	Medical Office Management II		4
MAP 228	Medical Laboratory Procedures II		3
MAP 348	Medical Office Procedures II		3
PSY 111	General Psychology		3
Semester 3	5		
MAP 606	Professional Development III		1
MAP 252	Diagnostic Radiography II		2
MADGOZ	Employment Seminar		1

MAP 606	Professional Development III	1
MAP 252	Diagnostic Radiography II	2
MAP 603	Employment Seminar	1
MAP 624	Practicum	5

#### TOTAL CREDITS REQUIRED TO

COMPLETE THIS DIPLOMA
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### Medical Insurance and Coding

(see Certificate Section, page 139)

# 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, 5600 N. River Road, Ste. 720, Rosemont, IL 60018, 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.

Results of background checks will be shared with clinical affiliates. Background checks may also be done by the clinical affiliates themselves. Results may prevent placement for clinical/practicum courses, which will affect successful program completion.

For more information about the Medical Laboratory Technology program, please visit our website at www.dmacc.edu/programs/medlabtech.

#### Location: Ankenv

#### **Program Entry Requirements**

1. Complete an application for admission.

- 2. Satisfy the assessment requirement.
- 3. Attend a required information/registration session or obtain the approval of the program chairperson.
- 4. Submit to the Admissions Office evidence of high school graduation or GED prior to enrollment. Recommended GPA of 2.5 or GED of 55.

- 5. Submit to Admissions Office evidence of grade "C" or better in one year of high school algebra or the equivalent (MAT 063).
- 6. Submit to the Admissions Office evidence of grade "C" or better in one year of high school biology or the equivalent (BIO 156 or Academic Achievement Center Biology I and II).
- 7. Submit to the Admissions Office evidence of grade "C" or better in one year of high school chemistry or the equivalent (CHM 122 or Academic Achievement Center Chemistry I and II).
- 8. The following criteria are recommended: grade of "C" or better in high school-level Algebra II, ACT score of 20 or above and COMPASS scores of Writing 70, Reading 81 and Algebra 49.
- 9. BIO 164 Essentials Anatomy/Physiology is a required course in the MLT program. Students are strongly encouraged to take this course or an equivalent anatomy and physiology course(s) prior to starting the MLT program. We will accept BIO 733 Health Science Anatomy and BIO 734 Health Science Physiology or BIO 168 Anatomy & Physiology I and BIO 173 Anatomy & Physiology II (or equivalent courses) in place of BIO 164 Essentials Anatomy/Physiology.

#### Students start Fall semester.

#### **Graduation Requirements**

To earn a Medical Laboratory Technology AAS degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average. A grade of "C" or better is required in every MLT course.

#### Semester 1-Select 1 Course from Options 1, 2 and 3

MLT 120	Urinalysis		3
MLT 115	Clinical Lab Fundamentals		3
BIO 164*	Essentials Anatomy/Physiology	*Opt 1a	5
CHM 122	Intro to General Chemistry	Opt 2	4
CHM 165	General/Inorg Chemistry I	Opt 2	4
PSY 111	Introduction to Psychology	Opt 3	3
SOC 110	Introduction to Sociology	Opt 3	3

#### Semester 2-Select 1 Course from Options 4 and 5

Jennester	2 Sciect i course nom options	4 414 5	
MLT 232	Advanced Hematology & Coagulation	on	5
ENG 105	Composition I		3
BIO 732	Health Science Microbiology	Opt 4	4
BIO 186	Microbiology	Opt 4	4
CHM 132	Intro to Organic/Biochemistry	Opt 5	4
CHM 263	Organic Chemistry I	Opt 5	5
Semester	3		
MLT 261	Immunohematology		5
MLT 270	Immunology & Serology		2
MLT 180	Clinical Lab Practicum I		1

#### Semester 4–Select 1 Course from Option 6

MLT 242	Clinical Chemistry		8
MLT 251	Clinical Microbiology		6
SPC 101	Fund of Oral Communication	Opt 6	3
SPC 126	Interpersonal & Small Grp Comm	Opt 6	3

#### Semester 5

MLT 282	Clinical Laboratory Practicum II	12
MLT 290	Clinical Seminar and Review	2

#### 

\*Course options for anatomy and physiology in place of BIO 164:

1		,	
BIO 733	Health Science Anatomy	Opt 1b	3
AND			
BIO 734	Health Science Physiology	Opt 1b	3
OR			
BIO 168	Anatomy & Physiology I	Opt 1c	4
AND			
BIO 173	Anatomy & Physiology II	Opt 1c	4

### **Medical Office Specialist**

The Medical Office Specialist program is designed to prepare the student to work in a variety of medical settings, including hospitals/medical centers, clinics, health insurance companies and other health-related businesses. The office specialist works with administrative areas in the practice—including front office, transcription, insurance and billing—and is often the first contact with the patient. This program, however, is not designed to prepare the student for direct patient care.

The Medical Office Specialist AAS degree includes an internship. Students are required to find their internship and have it approved by their instructor prior to the start of the semester in which they will be taking the internship class. Most internships require passing a background check. Felonies or other serious charges may keep the student from finding an internship site. Students unable to complete the internship will be unable to complete the Medical Office Specialist AAS degree. The Medical Office Specialist diploma does not require an internship; however, a felony or other serious charge may prevent the student from being employed.

To successfully complete this program, a student must complete all coursework as prescribed and maintain a 2.0 grade point average. A grade of "C-" or better is required in the first course of a sequential course offering before enrolling in the second-level course of the sequence or in the prerequisite course. That includes ADM 157, ADM 215, BCA 133, BCA 212 or CSC 110, HSC 120, HSC 121, MAP 141, MAP 532, MTR 120 and MTR 121.

Upon successful completion of all four semesters, the student is eligible to receive an AAS degree. A student completing only the first three semesters is eligible to receive a diploma.

For more information about the Medical Office Specialist program, please visit our website at https://go.dmacc.edu/programs/btec/pages/ medofficespecialist.aspx.

#### **Location: Ankeny**

Selected courses in this program are offered at other campuses.

#### **Program Entry Requirements**

1. Complete an application for admission.

- 2. Attend any required information/registration session.
- 3. Satisfy the required assessment by taking the reading and math COMPASS test or equivalent.

# Degrees and Diplomas

- 4. Complete the required COMPASS testing obtaining a satisfactory score in Writing (70 or higher), ACT writing score of 19 or higher, completion of ENG 060 with a grade of "B" or higher or program chairperson approval.
- 5. Keyboarding speed of 40 nwpm or above as demonstrated by a five-minute test.

#### Students start Fall semester.

#### **Graduation Requirements**

To earn a Medical Office Specialist diploma or AAS degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

#### Semester 1

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

#### Semester 2

MTR 121	Medical Transcription II	3
ADM 259	Professional Development	3
MAP 141	Medical Insurance	3
ADM 131	Office Calculators	1
BCA 137	Word Processing Skill Dev II	3
HSC 121*	Medical Terminology II	3
ADM 221	Career Development Skills	2

#### Semester 3

BUS 112	Business Math	3
MAP 532	Human Body–Health & Disease	3
ADM 215	Medical Office Procedures	3

### TOTAL CREDITS REQUIRED

#### TO COMPLETE THE DIPLOMA ...... 46

# Semester 4-Select 1 Course from Option 1, 1 Course from Option 2 and 1 Course from Option 3

ADM 154	Business Communication		3
MAP 803	Internship-Medical Office Spec.		3
BCA 213	Intermediate Computer Business Appl		3
ACC 111	Intro to Accounting	Opt 1	3
ACC 131	Principles of Accounting I	Opt 1	4
MAP 150	Adv Medical Billing/Coding	Opt 2	3
MTR 122	Medical Transcription III	Opt 2	3
SPC 101	Fund of Oral Communication	Opt 3	3
SPC 126	Interpersonal & Small Group Comm	Opt 3	3

#### TOTAL CREDITS REQUIRED

TO COMPLETE THE AAS DEGREE......64

\*Challenge test available. Must earn 74%.

# Degrees and Diplomas

## **Medical Transcriptionist**

(see Certificate Section, page 140)

# Medicine

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

### **Microcomputers**

(see Certificate Section, page 140)

### Mortuary Science-Advanced Standing Diploma

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 funeral director.

The Mortuary Science program at Des Moines Area Community College is accredited by the American Board of Funeral Service Education (ABFSE, 3414 Ashland Ave., Suite G, St. Joseph, MO 64506, **www.abfse.org**).

The central aim of each graduate of the DMACC Mortuary Science program is to recognize that they are community members who are sensitive to their responsibility for public health, safety and welfare in caring for human remains. As members of the human services profession, graduates must be knowledgeable of and compliant with federal, state and local regulations, as they participate in the relationship between themselves and the bereaved families they serve.

#### The Mortuary Science purposes are:

- 1. To enhance the background and knowledge of students about the funeral service profession.
- To educate students in every phase of funeral service and to help them 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.

For more information about the Mortuary Science program, please visit our website at **https://funeral.dmacc.edu**.

#### **Location: Ankeny**

#### **Program Entry Requirements**

- 1. Complete an application for admission.
- 2. Satisfy DMACC's general assessment requirement.
- 3. Attend any required information/registration session.
- 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 point average of "C" or above.
- 5. Submit evidence of a minimum of 15 credits earned in general education core, this includes one communications course, one mathematics course and one Social & Behavioral Sciences course. A list of courses that meet general education core requirements can be found in the DMACC catalog or at the Mortuary Science program website at http://funeral.dmacc.edu.
- Each student must submit an admission recommendation from a licensed funeral director on a form approved by the Mortuary Science program.

#### **Classes start Fall semester only.**

#### **Graduation Requirements**

To earn a Mortuary Science–Advanced Standing Diploma, a student must complete all coursework as prescribed, maintain a 2.0 grade point average, and earn a grade of "C" or above in all courses in the program including Anatomy and Accounting.

To complete the program in the minimum number of semesters allowed by accreditation standards, students should complete a required anatomy course (BIO 733 or BIO 164), a required accounting course (ACC 111 or ACC 131) and MOR 215 Funeral Law I prior to admission to the Mortuary Science program. If these courses have not been taken prior to admission to the program, the student will register for an anatomy course and Funeral Law I during the Fall semester of the program. During the Summer semester, if needed, the student will register for accounting.

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

ACC 131	Principles of Accounting I	Opt 1	4
ACC 111	Intro to Accounting	Opt 1	3
BIO 733	Health Science Anatomy	Opt 2	3
BIO 164	Essentials Anatomy/Physiology	Opt 2	5
Human Ana	atomy Course Approved by		
the program	n chairperson	Opt 2	3
(A list of approved Anatomy courses can be found on the program website.)			

#### MOR Courses

MOR 215	Funeral Law I	3
MOR 300	Introduction: Funeral Service	2
MOR 310	Pathology for Mortuary Science	3
MOR 315	Funeral Law II	3
MOR 320	Thanatology	3
MOR 325	Funeral Directing	3
MOR 330	Funeral Merchandising	3
MOR 335	Embalming I	3
MOR 336	Embalming I Clinical	1
MOR 340	Embalming II	3

MOR 341	Embalming II Clinical	1
MOR 345	Restorative Art	3
MOR 346	Restorative Art Lab	1
MOR 360	Thanatochemistry	2
MOR 365	Survey of Infectious Diseases	2
MOR 390	Professional Review*	2
MOR 941	Practicum	4

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\*During MOR 390 Professional Review, each student is required to take the National Board Exam as a graduation requirement.

The annual passage rate of first-time takers on the National Board Examination (NBE) for the most recent three-year period for this institution and all ABFSE-accredited funeral service education programs is posted on the ABFSE website (**www.abfse.org**).

State licensure requirements vary from state to state. Applicants must meet all state requirements. For complete licensure requirements, contact the State Board of Professional Licensure in the state where you intend to practice. In Iowa, call 515-281-4287.

### **Network Security Manager**

(see Certificate Section, page 140)

### **Nursing-Advanced Standing**

This program offers the opportunity for current Iowa Licensed Practical Nurses to complete an Associate degree in Nursing. Students enter the third semester of the Associate degree Nursing curriculum. Upon successful completion of Semesters 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 Inc., (NLNAC, Inc., 3343 Peachtree Road NE, Suite 850, Atlanta, GA 30326, 866-747-9965).

For more information about the Nursing-Advanced Standing program, please visit our website at **www.dmacc.edu/programs/nursing**.

#### Locations: Ankeny, Boone-Summer and Fall semester. Carroll-Summer semester only.

Evening option may be available on select campuses. Liberal arts courses may be taken on any campus where they are offered.

#### **Program Entry Requirements**

- 1. Complete an application for admission to the Advanced Standing Nursing program.
- 2. Attend a required Nursing information session, a registration session 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 DMACC's Assessment Requirement.
- 6. Complete Nursing program admissions testing with satisfactory minimum scores in reading, writing and mathematics.
- 7. Meet the minimum established score on the required PN-to-ADN Assessment Test.

- Degrees and Diplomas
- 8. Complete the following courses with a grade of "C" or better in each:
  - BIO 733-Health Science Anatomy BIO 734-Health Science Physiology ENG 105-Composition I PSY 111-Introduction to Psychology PSY 121-Developmental Psychology
- 9. Provide proof of high school graduation or GED completion.

Criminal background checks must be completed by each student. Criminal convictions or documented history of abuse may delay or prevent students from participating in clinical education experiences. Results of the criminal record/child and adult abuse registry checks will be released to the Department of Human Services, which will determine if the crime or abuse warrants prohibition from clinical education experience. Students unable to participate in clinical education will be unable to complete the Nursing program. In accordance with DMACC's contract with affiliated agencies, results of the criminal record/child and adult abuse registry checks will be released to contracted agencies only upon their request.

Proof of immunizations and annual TB testing is required of all Nursing students. A physical exam must be completed within one year prior to program entry. Completion of the Student Health and Immunization Record form and current certification by either the American Heart Association CPR for the Healthcare Provider or American Red Cross CPR for the Professional Rescuer are required before beginning clinical rotations. Proof of a current flu vaccination is required of all Nursing students by January of each year.

The Advanced Standing Nursing program utilizes a background check service, CertifiedBackground.com, to conduct criminal background/abuse checks and to track immunizations, health records and CPR certification of each student after their acceptance into the program. Students must wait for directions, which will be provided at the required Advanced Standing Nursing Registration meeting, before submitting their background check. Students are responsible for the cost of this service and any related expenses.

#### **Graduation Requirements**

To earn an Associate degree (AAS) in Nursing, a student must complete all coursework as prescribed and have a grade of "C" or above in all ADN and support courses in the curriculum. In order to progress to the next semester, courses must be successfully completed in the semester identified or in a previous semester.

In addition, completion of the Associate degree (AAS) in Nursing requires the successful completion of the required standardized exit exam taken during Semester 5 of the curriculum.

#### Prerequisites

BIO 733	Health Science Anatomy	3
BIO 734	Health Science Physiology	3
ENG 105	Composition I	3
PSY 111	Introduction to Psychology	3
PSY 121	Developmental Psychology	3
Semester	3-Select 1 Course from Option 1	
ADN 126	Passport to ADN Nursing	2
CDC 126	Internersenal & Small Group Communication	7

#### Semester 4

ADN 611	Professional Nursing Practice	2
ADN 416	Family Health Nursing	5
ADN 474	Mental Health Nursing	5
SOC 110	Introduction to Sociology	3

#### Semester 5-Select 1 Course from Option 2

ADN 551	Adult Health Nursing		7
ADN 821	Nursing Seminar		3
HUM 116	Encounters in Humanities	Opt 2	3
LIT 101	Introduction to Literature	Opt 2	3
PHI 101	Introduction to Philosophy	Opt 2	3
PHI 110	Introduction to Logic	Opt 2	3
PHI 105	Introduction to Ethics	Opt 2	3
REL 101	Survey of World Religions	Opt 2	3

#### TOTAL ADDITIONAL CREDITS REQUIRED

TO COMPLETE THIS AAS	5 DEGREE52
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### **Nursing Programs**

#### **Practical Nursing and Associate Degree Nursing**

The Nursing program is designed as a career ladder program. The first two semesters provide a common core of nursing theory and skills for both the Practical Nursing and Associate degree Nursing students.

The student who completes Semester 1 and 2 of the Practical Nursing program is prepared to become a Licensed Practical Nurse (LPN). LPNs provide nursing care under the supervision of a Registered Nurse or a physician. The LPN is prepared to provide basic therapeutic, rehabilitative and preventive care for individuals of all ages, primarily in a structured care setting such as a hospital, Long-Term care facility or clinic.

Upon successful completion of two semesters, the student is eligible to take the National Council Licensure Exam for Practical Nurse Licensure (NCLEX-PN).

An Associate degree in Nursing and a career as a Registered Nurse are available to students who are eligible to continue in the program and successfully complete Semesters 3, 4 and 5. As members of the nursing profession, registered nurses are accountable for their own nursing practice. The Associate Degree Nurse (ADN) utilizes more complex nursing knowledge and skills to assess, plan, provide, evaluate and manage nursing care for patients in hospitals, Long-Term care facilities and a variety of other community-based healthcare settings.

Upon successful completion of Semesters 1–5 of the nursing curriculum, the student is eligible to take the National Council Licensure Exam for Registered Nurse Licensure (NCLEX–RN).

For more information about the Practical Nursing and Associate Degree Nursing program, please visit our website at **www.dmacc.edu/programs/nursing**.

#### Locations: Ankeny, Boone, Carroll,

#### Newton-Practical Nursing odd-numbered years only starting Fall 2011, Associate Degree Nursing pilot program Fall 2012, Urban-Evening (part-time) option

Selected liberal arts courses in this program are offered at other campuses.

The Nursing program is approved by the Iowa Board of Nursing and accredited by the National League for Nursing Accrediting Commission (NLNAC), Inc., 3343 Peachtree Road NE, Suite 850, Atlanta, GA 30326, 866-747-9965.

#### **Program Entry Requirements**

- 1. Complete an application for admission to the Nursing program.
- 2. Attend Nursing information session, registration meetings and a Nursing program orientation for PN and ADN levels.

Degrees and Diplomas

- 3. Complete DMACC's Assessment Requirement.
- 4. Complete required Nursing program admissions testing with satisfactory minimum scores in reading, mathematics and English and language usage.
- 5. Successfully complete HSC 172 plus HSC 182 or an equivalent 120-hour (or more) Certified Nurse Assistant course from an approved program— January 1992 or after.
- Submit proof of successful completion of Nurse Aide written (NRAO 858) and skills (NRAO 859) tests for placement on the Direct Care Worker Registry.
- 7. Complete the following courses with a grade of "C" or better in each:

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

8. Proof of high school graduation or GED completion.

Criminal background checks must be completed by each student. Criminal convictions or documented history of abuse may delay or prevent students from participating in clinical education experiences. Results of the criminal record/child and adult abuse registry checks will be released to the Department of Human Services, which will determine if the crime or abuse warrants prohibition from clinical education experience. Students unable to participate in clinical education will be unable to complete the Nursing program. In accordance with DMACC's contract with affiliated agencies, results of the criminal record/child and adult abuse registry checks will be released to contracted agencies only upon their request.

Proof of immunizations and annual TB testing is required of all Nursing students. A physical exam must be completed within one year prior to program entry. Completion of the Student Health and Immunization Record form and current certification by either the American Heart Association (CPR for the Healthcare Provider) or American Red Cross (CPR for the Professional Rescuer) are required prior to beginning clinical rotations. Proof of a current seasonal flu vaccination is required of all Nursing students by January of each year.

The Nursing program utilizes a background check service,

**www.CertifiedBackground.com**, to conduct criminal background/abuse checks and to track immunizations, health records and CPR certification of each student after their acceptance into the program. Students must wait for directions, which will be provided at the required Nursing Registration meeting, before submitting their background check. Students are responsible for the cost of this service and any related expenses.

#### **Practical Nursing starts:**

Ankeny, Boone–Fall and Spring semesters;

Carroll—Fall semester only;

Newton—Fall semester only in odd-numbered years effective Fall 2011; Urban—Evening option, Fall semester only in even-numbered years.

#### **Associate Degree Nursing starts:**

Ankeny, Boone—Summer and Fall semesters; Carroll—Summer semester only; Urban—Evening option, Fall semester only in odd-numbered years; Newton – Fall semester only starting with a pilot program Fall 2012.

Students who start a program on one campus will not be permitted to transfer to another campus mid-program. For example, a student starting the Practical Nursing (PN) program in Boone must complete the program in Boone. Students who successfully complete the Practical Nursing program and satisfy the progression requirements may apply to special start into the ADN program on a different campus pending space available. There are no guarantees.

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 semester, these courses must be successfully completed in the semester identified or in a previous semester.

Continuation in the Associate degree program at the Ankeny, Boone, Carroll, Urban and Newton Campuses requires successful completion of the following progression requirements: Semester 1 courses (PNN 151, PNN 153, PNN 152) at 78% or better and successful completion of all Semester 2 courses (PNN 605, PNN 606 and PNN 351) at 80% or better OR successful completion of the required standardized progression exam taken during Semester 2.

#### **Graduation Requirements**

To earn a Practical Nursing diploma, a student must complete all coursework as prescribed in Semesters 1 and 2 and have "C" or above in all Nursing and support courses in the curriculum and complete the standardized exit exam taken during Semester 2 of the curriculum.

To earn an Associate Degree (AAS) in Nursing, a student must complete all coursework as prescribed in Semesters 1–5, meet the progression requirements and have a grade of "C" or above in all PNN, ADN, support courses in the curriculum and successfully complete the required standardized exit exam taken during Semester 5 of the curriculum.

#### **Practical Nursing**

Students should take required liberal arts support courses in advance of the PNN courses when possible.

#### Prerequisite

BIO 733	Health Science Anatomy	3
PSY 111	Introduction to Psychology	3
Semester	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
Semester	2	

#### Semester 2

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

#### TOTAL CREDITS REQUIRED

то	COMPLETE	THE DIPLOMA	
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#### Associate Degree Nursing

Students should take required liberal arts support courses in advance of ADN courses when possible.

#### STUDENTS MUST COMPLETE SEMESTERS 1 AND 2 AND SATISFY PROGRESSION REQUIREMENTS PRIOR TO ENROLLING IN ADN COURSES.

#### Semester 3-Select 1 Course from Option 1

SPC 126	Interpersonal and Small Group Con	nm.	3
BIO 732	Health Science Microbiology	Opt 1	4
BIO 186	Microbiology	Opt 1	4
Semester	r Д		

#### Semester 4

ADN 611	Professional Nursing Practice	2
ADN 416	Family Health Nursing	5
ADN 474	Mental Health Nursing	5
SOC 110	Introduction to Sociology	3

#### Semester 5-Select 1 Course from Option 2

ADN 551	Adult Health Nursing		7
ADN 821	Nursing Seminar		3
HUM 116	Encounters in Humanities	Opt 2	3
LIT 101	Introduction to Literature	Opt 2	3
PHI 101	Introduction to Philosophy	Opt 2	3
PHI 110	Introduction to Logic	Opt 2	3
PHI 105	Introduction to Ethics	Opt 2	3
REL 101	Survey of World Religions	Opt 2	3

#### TOTAL CREDITS REQUIRED

TO COMPLETE THE AAS DEGREE 71	
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### **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 Semester 2, students are able to customize their curriculum and gain specialized skills.

To successfully complete this program, a student must complete all coursework as prescribed and maintain a 2.0 grade point average. A grade of "C-" or better is required in the first course of a sequential course offering before enrolling in the second-level course of the sequence or in a prerequisite course. That includes ADM 157, ADM 162, BCA 133, BCA 213 and BCA 212 or CSC 110.

For more information about the Office Assistant program, please visit our website at

https://go.dmacc.edu/programs/btec/pages/officeassistant.aspx.

#### Locations: Ankeny, Boone, Carroll, Urban

Selected courses in this program are offered at other campuses.

#### **Program Entry Requirements**

- 1. Complete an application for admission.
- 2. Satisfy the assessment requirement.
- 3. Attend any required information/registration session.

#### Students start any semester.

#### **Graduation Requirements**

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

#### Semester 1

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

#### Semester 2

we we avoid the
3
3
3
2

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

#### **Professional Emphasis Option**

BCA 137	Word Processing Skill Dev II	3
ADM 265	Supervised Practical Experience	2
ADM 937	Prof Office Careers Seminar	1

#### Information Processing Emphasis Option

BCA 137	Word Processing Skill Development II	3
BCA 213	Intermediate Computer Business Appl	3

#### **Office Management Emphasis Option**

BCA 113	Computer Network Literacy	3
MGT 115	Administrative Management	3

#### **Bookkeeping Emphasis Option**

ACC 111	Intro to Accounting	3
BCA 213	Intermediate Computer Business Appl	3
Legal Emp	phasis Option	
BUS 185	Business Law I	3
ADM 208	Legal Terminology	3
Data Entry	y Emphasis Option	
ADM 138	Data Entry	3
BCA 213	Intermed Computer Business Appl	3

TOTAL CREDITS REQUIRED	
TO COMPLETE THIS DIPLOMA	

### **Office Specialist**

(see Certificate Section, page 141)

### **Optometric/Ophthalmic Technician**

An optometric/ophthalmic technician works in eye care to provide quality vision care services to patients. Technicians conduct unique eye testing procedures and implement special patient instruction. Technicians may work in optometry practices; ophthalmology practices or medical clinics; optical dispensaries; optical laboratories; medical and optical equipment businesses; lens, frame or contact lens companies; pharmaceutical companies; research laboratories, or academia.

This program is designed to prepare students with the skills necessary to assist practitioners of optometry, ophthalmology and opticianry to provide a full scope of vision care and prepare the students to pass national certification exams.

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 Optometric/Ophthalmic Technician program.

For more information about the Optometric/Ophthalmic Technician program, please visit our website at **www.dmacc.edu/programs/optech**.

#### Location: Ankeny

#### **Program Entry Requirements**

- 1. Complete an application for admission.
- 2. Attend any required information/registration session.
- 3. Satisfy the required assessment by taking the reading and English COMPASS test or equivalent.
- 4. Obtain a minimum score of 24 in Mathematics on the COMPASS test.
- 5. Obtain a score of at least 35 NWPM with five errors or fewer on the typing/word processing skill test.
- 6. Completion of one year of high school biology with a "C" or better is strongly recommended.

#### Students start Fall semester.

#### **Graduation Requirements**

To earn an Optometric/Ophthalmic Technician diploma, a student must complete all coursework as prescribed and maintain a 2.0 grade point average. A grade of "C" or better is required in all OPT courses. To remain in the program, a student must maintain a grade of "C" or higher in each required course.

This program is designed to start in the Fall semester. Students who desire to start in other semesters may be accepted, but may not graduate in three semesters due to the sequencing of the coursework. If starting other than Fall, please contact the Optometric/Ophthalmic Technician program chairperson.

#### Semester 1

MAT 772	Applied Math	3
BIO 733	Health Science Anatomy	3
MAP 129	Medical Terminology	1
OPT 110	Ophthalmic Pretesting	2
OPT 120	Basic Optical Concepts/Optics	3
OPT 123	Ocular Anatomy and Physiology	2
OPT 130	Ophthalmic Dispensing I	2

# Semester 2-Select 1 Course from Option 1 and 1 Course from Option 2

Ophthalmic Dispensing II		2
Contact Lenses		3
Ophthalmic Specialty Testing		3
Preclinical		1
Composition I	Opt 1	3
Communication Skills	Opt 1	3
Human and Work Relations	Opt 2	3
Introduction to Psychology	Opt 2	3
Introduction to Sociology	Opt 2	3
Human Relations in Business	Opt 2	3
	Contact Lenses Ophthalmic Specialty Testing Preclinical Composition I Communication Skills Human and Work Relations Introduction to Psychology Introduction to Sociology	Contact LensesOphthalmic Specialty TestingPreclinicalComposition IOpt 1Communication SkillsOpt 1Human and Work RelationsOpt 2Introduction to PsychologyOpt 2Introduction to SociologyOpt 2

# Degrees and Diplomas

#### Semester 3-Summer

OPT 818	Clinical Externship	8

### TOTAL CREDITS REQUIRED

### **Paramedic Specialist**

The Emergency Medical Technician-Paramedic Specialist AAS degree prepares individuals to use critical thinking skills in providing medical treatment for patients with illness or injury-related disease. The Paramedic Specialist provides medical care for patients, performing skills in a variety of settings including pre-hospital, emergency departments, critical care units and cardiac catheter labs. Course content includes anatomy and physiology, pathology and the identification and initial diagnosis of disease and injury in a variety of populations. Paramedic Specialists use advanced medical and surgical skills that may include initiation of advanced airway management techniques, interpretation of electrocardiograms and advanced cardiac and trauma life support protocols. Instruction in rescue operations, crisis scene management and patient triage is included.

In addition, the AAS program provides an avenue of specialized study in one of three categories: public administration, fire science and advanced clinical knowledge. Graduates will sit for the EMT-PS National Registry Certification and meet the requirements for the AAS degree.

Criminal background checks will be completed on each student. Criminal convictions or documented history of abuse may delay or prevent students from participation in paramedic specialist education experiences. Students unable to participate in paramedic specialist education will be unable to complete the Paramedic Specialist program.

For more information about the Paramedic Specialist program, please visit our website at www.dmacc.edu/programs/health/paramedic.

#### Location: Ankeny

#### **Program Entry Requirements**

1. Complete an application for admission.

- 2. Attend any required information/registration session.
- 3. Submit a copy of current State of Iowa EMT-Basic, Iowa EMT-Intermediate/85 or Iowa EMT-Paramedic certification (I/99). All students must have an Iowa EMT-B or EMT-I certification.
- 4. Submit evidence of a grade of "C" or better in one year of high school biology OR a grade of "C" or better in DMACC Academic Achievement Center Biology I OR equivalent.
- 5. Obtain a minimum score of 81 in Reading on the COMPASS test.
- 6. Obtain a minimum score of 46 in Algebra on the COMPASS test OR a minimum ACT math score of 19 OR obtain a grade of "C" or better in MAT 073 or equivalent.
- 7. Obtain a minimum score of 70 in English on the COMPASS test OR a minimum ACT English score of 19 OR a grade of "C" or better in ENG 061 or equivalent.
- 8. Submit evidence of a grade of "C" or better in one year of high school chemistry OR a grade of "C" or better in DMACC Academic Achievement Center Chemistry I and II OR equivalent.

#### Students start Fall semester.

### Degrees and Diplomas

#### **Graduation Requirements**

To earn a Paramedic Specialist AAS degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average. A grade of "C" or better is required in all EMS courses.

All Paramedic Specialist AAS degree students take courses listed in Semesters 1-4. Prior to Semester 5, students must choose the Clinical Emphasis, Fire Science Emphasis or the Public Administration Emphasis and take those courses listed for Semesters 5 and 6.

#### Semester 1

	-	
EMS 460	Role of the Paramedic	2
EMS 463	Medical/Legal/Ethical Issues	2
EMS 467	Prin. of Pathophysiology I	7
EMS 468	Prin. of Pathophysiology II	7
Semester 2	2	
EMS 470	Patient Assessment	4
EMS 473	Medical Emergencies	7
EMS 476	Trauma	7
Semester 3	3	
EMS 480	Special Considerations	6
EMS 483	Operations	4
Semester 4	4	
ENG 105	Composition I	3

Composition I	3
Introduction to Psychology	3
General Biology I	4
Introduction to Ethics	3
	Introduction to Psychology General Biology I

#### Semester 5-Choose Clinical Emphasis, Fire Science **Emphasis or Public Administration Emphasis**

#### **CLINICAL EMPHASIS-**

#### Select 1 Course from Option 1 and 1 Course from Option 2

BIO 168	Anatomy & Physiology I		4
SPC 101	Fund. of Oral Communication	Opt 1	3
SPC 126	Interper/Small Group Comm.	Opt 1	3
CHM 122	Intro to General Chemistry	Opt 2	4
CHM 165	General/Inorganic Chem I	Opt 2	4
SOC 110	Intro to Sociology		3

#### FIRE SCIENCE EMPHASIS-Select 1 Course from Option 2

		-	
Any AAS General Education Required Math Course			3-5
CHM 122	Intro to General Chemistry	Opt 2	4
CHM 165	General/Inorganic Chem I	Opt 2	4
POL 112	American State/Local Gov't		3
FIR 230	Fire Behavior & Investigation		3

#### PUBLIC ADMINISTRATION EMPHASIS-

#### Select 1 Course from Option 1 and 1 Course from Option 3

SPC 101	Fund. of Oral Communication	Opt 1	3
SPC 126	Interper/Small Group Comm.	Opt 1	3
Any AAS Ge	neral Education Required Math Course		3-5
PSY 241	Abnormal Psychology	Opt 3	3
PSY 251	Social Psychology	Opt 3	3
POL 171	Intro to Public Administration		3

#### Semester 6

#### **CLINICAL EMPHASIS-Select 1 Course from Option 3**

PSY 241	Abnormal Psychology	Opt 3	3
PSY 251	Social Psychology	Opt 3	3
BIO 173	Anatomy & Physiology II		4

#### FIRE SCIENCE EMPHASIS-Select 1 Course from Option 4

FIR 200	Occupational Safety/Health in EM	S	3
FIR 152	Fire Protection Systems		3
FIR 212	Emergency Scene Mgmt	Opt 4	3
FIR 124	Building Construction	Opt 4	3

#### PUBLIC ADMINISTRATION EMPHASIS-Select 1 Course from Option 5

MGT 145	Human Relations in Business		3
ECN 120	Principles of Macroeconomics	Opt 5	3
ECN 130	Principles of Microeconomics	Opt 5	3
SOC 110	Introduction to Sociology		3

#### 

TOTAL CREDITS REQUIRED TO COMPLETE
THE PARAMEDIC SPECIALIST AAS DEGREE-
FIRE SCIENCE EMPHASIS81

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### **Paramedic Specialist Certificate**

(see Certificate Section, page 141)

### **Pharmacy Technician**

A pharmacy technician is an individual who, under the supervision of a pharmacist, assists in the performance of activities of the pharmacy department not requiring the professional judgment of a pharmacist. Pharmacy technicians assist and support licensed pharmacists in providing healthcare to patients. Pharmacy technicians have been called pharmacy clinicians, pharmacy support personnel and various other titles, depending on their location. In all parts of the country, pharmacy technicians must have a broad knowledge of pharmacy practice and must be skilled in the techniques required to order, stock, package and prepare medications, but they do not need the advanced college education required of a licensed pharmacist. Pharmacy technicians may perform many of the same duties as a pharmacist; however, all of their work must be checked by a pharmacist before medication can be dispensed to a patient.

This program will prepare students for entry-level pharmacy technician positions. Medical and pharmaceutical terminology will be introduced along with pharmaceutical calculations. The basic anatomy related to the pharmacology of medications will be a major component of the coursework. This program will provide students with the necessary preparatory courses for seeking certification. Certification will require a passing score on a nationally recognized certification exam such as the PTCE (Pharmacy Technician Certification Exam) or ExCPT (Exam for the Certification of Pharmacy Technicians).

Degrees and Diplomas

As a part of the Pharmacy Technician diploma, students will be required to perform two clinical rotations. Clinical rotations will include both retail experience and a hospital or custom experience. The students will choose institutions to complete this requirement. The instructor will help each student locate local facilities where they can do their clinical rotations.

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 Pharmacy Technician program.

Proof of immunizations is required of all Pharmacy Technician students and current certification by either the American Heart Association CPR for the Health Care Provider or American Red Cross CPR for the Professional Rescuer are required prior to beginning clinical rotations. Proof of current flu vaccination is required of all Pharmacy Technician students by January of each year

For more information about the Pharmacy Technician program, please visit our website at **www.dmacc.edu/programs/pharmacytech**.

#### Location: Ankeny

#### **Program Entry Requirements**

- 1. Complete an application for admission.
- 2. Attend any required information/registration session.
- 3. Submit to the Admissions Office evidence of high school graduation or GED completion.
- 4. Obtain COMPASS test minimum score of 39 in Mathematics.
- 5. Obtain COMPASS test minimum score of 70 in Writing.
- 6. Obtain COMPASS test minimum score of 81 in Reading.
- 7. Obtain a score of at least 35 NWPM with five errors or fewer on the typing/word processing skill test. Students who do not achieve a 35 NWPM score on the typing test must meet with the program chairperson.
- 8. Completion of one year of high school algebra with a "C" or better or take MAT 063 in their first semester.
- 9. Completion of one year of high school biology or chemistry or equivalent with a "C" or better is strongly recommended.

#### Students start Fall or Spring semester.

#### **Graduation Requirements**

To earn a Pharmacy Technician diploma, a student must complete all coursework as prescribed and maintain a 2.0 grade point average. A grade of 2.0 (C) or better is required in all PHR courses. To remain in the program, a student must maintain a grade of "C" or higher in each required course.

#### Semester 1

PHR 100	Pharm Technician Orientation	2
PHR 101	Pharmacy Operations I	3
PHR 123	Pharmacology I	3
BIO 733	Health Science Anatomy	3
MAP 129	Medical Terminology	1

#### Semester 2

PHR 135	Phrm. Calc. & Compounding	3
PHR 102	Pharmacy Operations II	3
PHR 124	Pharmacology II	3
PHR 140	Pharmacy Law	1
PHR 801	Pharm Technician Internship I	2
ENG 105	Composition I	3

#### Semester 3-Select 1 Course from Option 1

Pharm Technician Internship II		3
Introduction to Psychology		3
Composition II	Opt 1	3
Fundamentals of Oral Communication	Opt 1	3
Intro to General Chemistry	Opt 1	4
General/Inorg Chemistry I	Opt 1	4
Health Science Microbiology	Opt 1	4
Health Science Physiology	Opt 1	3
	Introduction to Psychology Composition II Fundamentals of Oral Communication Intro to General Chemistry General/Inorg Chemistry I Health Science Microbiology	Introduction to PsychologyComposition IIOpt 1Fundamentals of Oral CommunicationOpt 1Intro to General ChemistryOpt 1General/Inorg Chemistry IOpt 1Health Science MicrobiologyOpt 1

#### TOTAL CREDITS REQUIRED

TO COMPLETE THIS DIPLOMA 36	6
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### Phlebotomy

(see Certificate Section, page 141)

### Photography

The Photography diploma program is designed to prepare students for employment as commercial photographers. Students gain basic knowledge in film and digital photography, photojournalism and advanced editing processes. Current industry-standard software and techniques are utilized. Students also learn to communicate with customers and consider social and environmental issues in the context of their work.

For more information about the Photography program, please visit our website at **www.dmacc.edu/programs/photography**.

#### Locations: Ankeny

#### **Program Entry Requirements**

1. Complete an application for admission.

- 2. Satisfy the assessment requirement.
- 3. Attend any required information/registration session.

#### Students start any semester.

#### **Graduation Requirements**

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

#### FALL START

#### Semester 1-Fall

ART 184	Principles of Photography	3
ART 186	Principles Digital Photography	3
ART 289	Photojournalism	3

#### Select 1 Course from Option 1 and 1 Course from Option 2

SPC 101	Fund of Oral Communication	Opt 1	3
SPC 126	Interpersonal & Small Grp Comm	Opt 1	3
ENG 105	Composition I	Opt 1	3

ART 289

Photojournalism

# Degrees and Diplomas

BIO 104	Introductory Biology w/Lab	Opt 2	3	
BIO 138	Field Ecology Opt 2			
ENV 115	Environmental Science Opt 2			
Semester	2-Spring			
ART 226	Alternative Photo Processes		3	
ART 291	Travel Photography		3	
ART 292	Studio Photography		3	
BUS 112	Business Math		3	
Select 1 Co	ourse from Option 3			
GEO 111	Introduction to Geography	Opt 3	3	
HIS 153	U.S. History Since 1877	Opt 3	4	
PSY 261	Human Sexuality	Opt 3	3	
SOC 120	Marriage & Family	Opt 3	3	
PSY 111	Introduction to Psychology	Opt 3	3	
Semester	3–Summer			
ART 929	Individual Projects		6	
	EDITS REQUIRED LETE THIS DIPLOMA		36	
Semester				
ART 184	Principles of Photography		3	
ART 186	Principles Digital Photography			
ART 289	Photojournalism		3	
	ourse from Option 1 and 1 Course			
SPC 101	Fund of Oral Communication	Opt 1	3	
SPC 126	Interpersonal & Small Grp Comm	Opt 1	3	
ENG 105	Composition I	Opt 1	3 3	
BIO 104 BIO 138	Introductory Biology w/LabOpt 2Field EcologyOpt 2			
ENV 115	Environmental Science	Opt 2 Opt 2	3 3	
		Opt 2		
	2-Summer		-	
ART 226	Alternative Photo Processes		3	
ART 291 ART 292	Travel Photography		3 3	
	Studio Photography		5	
Semester				
ART 929	Individual Projects		6	
BUS 112	Business Math		3	
Select 1 Co	ourse from Option 3			
GEO 111	Introduction to Geography	Opt 3	3	
HIS 153	U.S. History Since 1877	Opt 3	4	
PSY 261	Human Sexuality	Opt 3	3	
SOC 120	Marriage & Family	Opt 3	3	
PSY 111	Introduction to Psychology	Opt 3	3	
	EDITS REQUIRED LETE THIS DIPLOMA		36	
SUMMER S	START			
Semester	1–Summer			
ART 184	Principles of Photography		3	
ART 184	Principles Digital Photography		3	
	Dhataiournalism			

3

# Degrees and Diplomas

#### Semester 2-Fall

Semester	Z-Fall		
ART 226	Alternative Photo Processes 3		
ART 291	Travel Photography		3
ART 292	Studio Photography		3
Select 1 C	Course from Option 1 and 1 Course	from Optio	n 2
SPC 101	Fund of Oral Communication	Opt 1	3
SPC 126	Interpersonal & Small Grp Comm	Opt 1	3
ENG 105	Composition I	Opt 1	3
BIO 104	Introductory Biology w/Lab	Opt 2	3
BIO 138	Field Ecology	Opt 2	3
ENV 115	Environmental Science Opt 2		3
Semester	3-Spring		
ART 929	Individual Projects		6
BUS 112	Business Math		3
Select 1 C	Course from Option 3:		
GEO 111	Introduction to Geography	Opt 3	3
HIS 153	U.S. History Since 1877	Opt 3	4
PSY 261	Human Sexuality	Opt 3	3
SOC 120	Marriage & Family	Opt 3	3
	Introduction to Psychology	Opt 3	3

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### **Printing Technologies**

(see Certificate Section, page 142)

### **Respiratory Therapy**

The Respiratory Therapy program provides students the opportunity to learn the dynamic profession of respiratory therapy. Respiratory therapy 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 abnormalities.

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

Graduates of the program receive an Associate of Applied Science (AAS) degree. The program is accredited by the Commission on Accreditation for Respiratory Care (CoARC) and graduates are eligible for all credentialing examinations currently offered by the National Board of Respiratory Care (NBRC), as well as licensure as respiratory therapists by the Iowa Department of Public Health and all other state licensure boards for respiratory therapists.

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

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

For more information about the Respiratory Therapy program, please visit our website at **www.dmacc.edu/programs/respiratorytherapy**.

#### Location: Ankeny

#### **Program Entry Requirements**

- 1. Complete an application for admission.
- 2. Satisfy the assessment requirement.
- 3. Meet with a Respiratory Therapy faculty advisor.
- 4. Submit to Admissions office evidence of high school graduation or GED completion 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 MAT 073 Elementary Algebra II).
- 6. 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 CHM 122 Introduction to General Chemistry).
- 7. Submit to Admissions office evidence of grade of "C" or above in BIO 733 Health Science Anatomy or BIO 164 Essentials Anatomy and Physiology or equivalent courses.

#### Students start Fall semester.

#### **Graduation Requirements**

To earn a Respiratory Therapy AAS degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average. A minimum of grade "C" or above is required in all RCP courses.

#### Semester 1

Jennester i				
RCP 100	Intro to Respiratory Care			
RCP 240	Respiratory Therapeutics			
RCP 250	Cardio/Pulmonary Therapeutics		4	
CHM 122	Introduction to General Chemistry		4	
Semester 2	-Select 1 Course from Option 1			
RCP 360	Cardio/Pulmonary Renal Pathophysiolo	ду	5	
RCP 400	Respiratory Therapy Pharmacology		3	
RCP 700	Respiratory Therapy Practicum I		4	
BIO 734	Health Science Physiology	Opt 1	3	
BIO 164	Essentials Anatomy & Physiology	Opt 1	5	
Semester 3	-Select 1 Course from Option 2			
RCP 601	Neonatal/Pediatric Respiratory Therapy		4	
RCP 705	Respiratory Therapy Practicum II		5	
ENG 105	Composition I	Opt 2	3	
COM 703	Communication Skills	Opt 2	3	
Semester 4	-Select 1 Course from Option 3			
RCP 500	Advanced Respiratory Therapy		5	
RCP 710	Respiratory Therapy Practicum III		7	
BIO 732	Health Science Microbiology	Opt 3	4	
BIO 186	Microbiology	Opt 3	4	
Semester 5	-Select 1 Course from Option 4			
RCP 410	Cardio/Pulmonary Diagnostics		3	
RCP 715	Respiratory Therapy Practicum IV		7	
PSY 111	Intro to Psychology	Opt 4	3	
PSY 102	Human and Work Relations	Opt 4	3	
SOC 110	Introduction to Sociology	Opt 4	3	
MGT 145	Human Relations in Business	Opt 4	3	

#### Semester 6

RCP 800	20 Respiratory Therapy Mgmt & Ethics			
RCP 720	Respiratory Therapy Practicum V	5		
TOTAL CREDITS REQUIRED				

### Retailing

Retail organizations are constantly recruiting individuals with training in the areas of retailing, sales, store management and customer relations. Retailing provides a dynamic and exciting work environment that rewards high performance with rapid job promotions and pay increases to match.

Retailing is a growth industry with an almost endless number of career opportunities available to graduates of the program. Past graduates are now in careers that include store managers, department managers, visual merchandisers, chain store supervisors, professional sales of automotive, home improvement, and computer products, and business ownership.

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.

For more information about the Retailing program, please visit our website at **www.dmacc.edu/programs/marketing/**.

#### **Location: Ankeny**

Selected courses in this program are offered at other campuses.

#### **Program Entry Requirements**

1. Complete an application for admission.

- 2. Satisfy the assessment requirement.
- 3. Attend any required information/registration session.

#### Students start any semester.

#### **Graduation Requirements**

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

#### Semester 1–Select 1 Course from Option 3

Visual Merchandising & Design		3
Selling		3
Principles of Retailing		3
Leadership Development		3
Career Development Skills		2
Human Relations in Business	Opt 3	3
Introduction to Psychology	Opt 3	3
	Selling Principles of Retailing Leadership Development Career Development Skills Human Relations in Business	Selling Principles of Retailing Leadership Development Career Development Skills Human Relations in Business Opt 3

Total 17

# Semester 2-Select 1 Course from Option 1, 1 Course from Option 2 and 1 Course from Option 4

MKT 150	Principles of Advertising		3
MGT 194	Relationship Strategies in Business		2
ENG 105	Composition I	Opt 1	3
COM 703	Communication Skills	Opt 1	3
BUS 102	Intro to Business	Opt 2	3
MKT 110	Principles of Marketing	Opt 2	3

# Degrees and Diplomas

E-Marketing (Fall only)	Opt 2		
Small Business Management	Opt 2		
Business Math	Opt 4	3	
Finite Math	Opt 4	4	
	Total 14		
3			
MKT 165 Retail Management II		3	
Business Internship I			
Business Internship Seminar I		2	
		otal 9	
	Small Business Management Business Math Finite Math 3 Retail Management II Business Internship I	Small Business Management       Opt 2         Business Math       Opt 4         Finite Math       Opt 4         To         3         Retail Management II         Business Internship I       Business Internship Seminar I	

#### TOTAL CREDITS REQUIRED

TO COMPLETE THIS DIPLOMA ......40

### **Retailing Certificate**

(see Certificate Section, page 142)

### Sales

(see Certificate Section, page 142)

### **Sales and Management**

The Sales and Management program offers sales and management skill development. Many opportunities exist for the highly motivated, peopleoriented, 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 semester. 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.

For more information about the Sales and Management program, please visit our website at **www.dmacc.edu/programs/marketing/**.

#### Location: Ankeny

Selected courses in this program are offered at other campuses.

#### Program Entry Requirements

1. Complete an application for admission.

- 2. Satisfy the assessment requirement.
- 3. Attend any required information/registration session.

#### Students start any semester.

#### **Graduation Requirements**

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

# Semester 1-Select 1 Course from Option 1, 1 Course from Option 5 and 1 Course from Option 6

MKT 140	Selling		3
MGT 147	Leadership Development		3
CSC 110	Intro to Computers	Opt 1	3
GRD 301	Intro to Desktop Publishing	Opt 1	3
BCA 212	Intro to Computer Business Appl	Opt 1	3
BUS 112	Business Math	Opt 5	3
MAT 141	Finite Math	Opt 5	4
MGT 145	Human Relations in Business	Opt 6	3
PSY 111	Introduction to Psychology	Opt 6	3
MAT 141 MGT 145	Finite Math Human Relations in Business	Opt 5 Opt 6	4

#### Total 15

Total 6

# Semester 2-Select 1 Course from Option 2, 1 Course from Option 3 and 1 Course from Option 4

MKT 141	Advanced Selling Strategies		3
MGT 194	Relationship Strategies in Business		
ADM 221	Career Development Skills		2
MGT 101	Principles of Management	Opt 2	3
MKT 145	Sales Management	Opt 2	3
MGT 130	Principles of Supervision	Opt 2	3
ENG 105	Composition I	Opt 3	3
COM 703	Communication Skills	Opt 3	3
MKT 110	Principles of Marketing	Opt 4	3
BUS 102	Intro to Business	Opt 4	3
BUS 150	E-Commerce on the Web	Opt 4	3
		Total 16	

#### Semester 3

MGT 800	Business Internship I	4
MGT 802	Business Internship Seminar I	2

#### TOTAL CREDITS REQUIRED

то со	MPLETE	THIS	DIPLOMA	
10 00				

### **Supervision**

(see Certificate Section, page 142)

### **Surgical Technology**

The Surgical Technology program is designed to prepare students to be employed in a hospital or surgery center. As a skilled health professional, the surgical technologist is able to circulate with a Registered Nurse and scrub independently for a variety of specialties and procedures.

Students gain a basic knowledge of anatomy, physiology, microbiology, aseptic technique, surgical techniques and procedures, and patient care techniques. These subjects are presented in the classroom, through laboratory experience and in a supervised clinical setting.

Criminal background checks will be completed on each student. Criminal convictions or documented history of abuse may delay or prevent students from participation in clinical education experience. Students unable to participate in clinical education will be unable to complete the Surgical Technology program. Prior criminal records may also prevent applicants from being eligible for the National Exam. Most employers perform criminal history and dependent adult/child abuse background checks.

Degrees and Diplomas

The DMACC Surgical Technology program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP); 1361 Park Street; Clearwater, FL 33756, Phone: 727-210-2350, Fax: 727-210-2354; **www.caahep.org**.

Accreditation allows students to be eligible to take a certification examination after program completion.

For more information about the Surgical Technology program, please visit our website at **www.dmacc.edu/programs/surgicaltech**.

#### Location: Urban

Selected courses in this program are offered at other campuses.

#### **Program Entry Requirements**

- 1. Complete an application for admission.
- 2. Attend required Surgical Technology information session. Contact advisor for dates.
- 3. Satisfy DMACC's assessment requirement.
- 4. Satisfy Hobet V assessment requirement.
- 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).
- 6. Submit proof of high school graduation or GED prior to enrollment.
- 7. Submit evidence of grade "C" or better in BIO 186 Microbiology or BIO 732 Health Science Microbiology.
- Submit evidence of grade "C" or better in BIO 733 Health Science Anatomy AND BIO 734 Health Science Physiology OR BIO 168 Anatomy & Physiology I AND BIO 173 Anatomy & Physiology II.

#### Students start Fall semester.

#### **Graduation Requirements**

To earn a Surgical Technology diploma, a student must complete all coursework as prescribed in Semesters 1–3 and have a "C" or better in all Surgical Technology courses and support courses. In order to progress to the next semester, these courses must be successfully completed in the semester identified or in a previous semester.

# Semester 1-Select 1 Course from Option 1 and 1 Course from Option 2

SUR 130	Intro to Surgical Technology		2
SUR 140	Fundamentals of Surgical Tech		5
SUR 150	Med Terminology for Surg Tech		2
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

#### Semester 2-Select 1 Course from Option 3

SUR 420	Pharmacology for the Surg Tech		2
SUR 805	Clinical Practicum I		5
SUR 200	Surg Procedures/Techniques I		5
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

#### Semester 3

TO COMPLETE THIS DIPLOMA					
TOTAL CREDITS REQUIRED					
SUR 810	Clinical Practicum II	5			
SUR 202	Surg Procedures/Techniques II	3			

### **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 forces 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, including network engineering and the installation and repair of network services. Careers can be found at local telephone companies, hospitals, financial institutions, municipalities and a variety of other companies.

For more information about the Telecommunications Technology program, please visit our website at **www.dmacc.edu/west/telecom**.

#### Location: West

Selected courses in this program are offered at other campuses.

#### **Program Entry Requirements**

- 1. Complete an application for admission.
- 2. Attend any required information/registration session.
- 3. Complete required COMPASS testing, obtaining a satisfactory score in MATH (40 or above) or ACT score of 19 or above.
- 4. Submit proof of high school graduation or GED completion.

#### Students start Fall semester.

#### **Graduation Requirements**

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

#### Semester 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
Semester 2		
CSC 110	Intro to Computers	3
TEL 220	Telecommunications II	4
TEL 223	Telecom Transport Lab	3
TEL 232	Data Communications	3
Semester 3		
TEL 230	Advanced Topics in Telecom	4
TEL 233	Advanced Topics in Telecom Lab	3
Option 1 Cour	se	3
Semester 4		
SPC 101	Fund of Oral Communication	3
TEL 240	Telecommunications Management	3

TEL 243	Internetworking Lab	3
Option 1 Co	burse	3
Option 2 Co	ourse	3
Semester	r 5	
BUS 102	Intro to Business	3
ENG 105	Composition I	3
Option 1 Course		3
Option 1 Course		

Students may choose from the option course categories listed below.

Students may meet with their program advisor for guidance and recommendation regarding appropriate option courses. Course prerequisites must be fulfilled prior to enrolling in option courses.

#### **Option 1 Courses**

Any BCA, CIS, ELT, NET or CSC course

#### **Option 2 Courses**

MGT 145	Human Relations in Business
PSY 111	Introduction to Psychology
PSY 102	Human and Work Relations
SOC 110	Introduction to Sociology

#### TOTAL CREDITS REQUIRED

то	COMPLETE	THIS AAS	DEGREE	65
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### **Tool & Diemaking**

The Tool & 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 and Diemaking.

1st Year: Machinist Technology graduates should have the skills required to work in a general machine shop.

2nd Year: 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.

For more information about the Tool and Diemaking program, please visit our website at **www.dmacc.edu/machining**.

#### Location: Ankeny

#### Program Entry Requirements: Machinist Technology Diploma

- 1. Complete an application for admission.
- 2. Satisfy the assessment requirement.
- 3. Attend any required information/registration session.

#### Students start Fall semester.

#### Program Entry Requirements: Diemaking Diploma

- 1. Complete an application for admission.
- 2. Satisfy the assessment requirement.
- 3. Attend any required information/registration session.
- 4. Submit proof of Machinist Technology Diploma or equivalent.

#### Students start Fall semester.

#### **Graduation Requirements**

To earn a Machinist Technology or Diemaking diploma, or a Tool & Diemaking AAS degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

(Note: For those students who only wish to complete the CNC Operator Certificate, the 10 courses **bolded** below are the courses needed to complete the CNC Operator Certificate.)

#### All Students Must Complete the Following **AAS degree Core Requirements:**

#### **Required Courses**

Colored 1 Courses from Each Ording			
MAT 773	Applied Math II	3	
MAT 772	Applied Math	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:

#### Semester 1

MFG 276	Hand & Bench Machine Tools	1
MFG 121	Machine Trade Printreading I	2
MFG 105	Machine Shop Measuring	3
MFG 250	Engine Lathe Theory	1
MFG 251	Engine Lathe Operations Lab	2
MFG 260	Mill Operations Theory	1
MFG 261	Milling Operations Lab	2

#### Semester 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 132	Machine Trade Printreading II	3
MFG 290	Heat Treatments	1

#### Semester 3-Select Both Courses in Option 3 or Option 4\*

MFG 270	Grinders Theory	Opt 3	1
MFG 271	Grinders Lab	Opt 3	3
MFG 932*	Internship	Opt 4	4
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 (from above)			12

Plus AAS degree Core Requirements (from above)

\*NOTE: MFG 932 (Option 4) does not count toward the Tool & Diemaking AAS degree requirements. Students pursuing the AAS degree are required to take MFG 270 & 271 (Option 3).

Option 4 is only available with program chairperson approval and company sponsorship.

#### **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:

#### Semester 4

olidWorks for Die Design	3
tro to CAD/CAM	3
asic Diemaking Theory	4
asic Diemaking Lab	6
rogressive Die Design	3
dvanced Diemaking Theory	4
dvanced Diemaking Lab	6
DM Fundamentals	3
eometric Dimensioning/Tolerance	1
loldmaking	3
e Core Requirements (from above)	12
	asic Diemaking Theory asic Diemaking Theory asic Diemaking Lab rogressive Die Design dvanced Diemaking Theory dvanced Diemaking Lab DM Fundamentals eometric Dimensioning/Tolerance loldmaking

#### TOTAL CREDITS REQUIRED TO

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#### **Tool & Diemaking AAS degree**

To earn the Tool & Diemaking AAS degree, students must	
complete the AAS degree core requirements	12
plus the requirements for <b>both</b> diplomas	72

TOTAL CREDITS REQUIRED TO COMPLETE 

### **Turf Maintenance**

(see Certificate Section, page 143)

### **Veterinary Medicine**

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

### Veterinary Technology

Veterinary technicians provide professional technical support to veterinarians, biomedical researchers and other scientists. As a veterinary technician, you will care for hospitalized animal patients; assist the doctor in surgery; perform physical exams, lab work and technical procedures (blood draws, IV catheter 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 (VTNE) and the Veterinary Technician State Examination (VTSE).

For more information about the Veterinary Technology program, please visit our website at **www.dmacc.edu/programs/ag/vettech**.

#### Location: Ankeny

#### **Program Entry Requirements**

- 1. Complete an application for admission.
- 2. Satisfy the assessment requirement.
- Students will be expected to have developed word processing skills or may be required to enroll in a keyboarding course prior to taking the Veterinary Office Procedures course.
- 4. 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).
- 5. Submit evidence of grade "C" or better in one year of high school chemistry or equivalent (DMACC Academic Achievement Center Chemistry I & II or CHM 122).
- 6. Biology Competency Exam: All applicants must take this exam and receive a minimum score of 25 out of 50 on the exam to qualify for a seat in the starting Fall class. This score does not guarantee that a seat is available to you. Your biology score and the application date as processed by the College Admissions office will determine the 30 students who will receive an invitation for the program interview, orientation and registration. At the time the College formally processes your admission application, you will receive additional information regarding all required assessments for this program.
- 7. Program Conferences: Applicants as determined by biology scores and admission dates will be invited to a program conference with the Veterinary Technology program chairperson or the chairperson of the Agriculture and Natural Resources Department.
- 8. Attend any required information/registration session.

#### Students start Fall semester.

#### **Graduation Requirements**

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

### Degrees and Diplomas

#### Semester 1

Semester	1		
AGV 120	Veterinary Medical Terminology		1
AGV 124	Intro to Veterinary Technology		1
AGV 129	Veterinary Physiology		3
AGV 133	Veterinary Clinic Pathology I		3
AGS 245	Intro to Animal Diseases		1
BIO 733	Health Science Anatomy		3
BIO 112	General Biology I		4
Semester	2		
AGV 139	Intro Veterinary Pharmacology		1
AGV 134	Veterinary Clinical Pathology II		3
AGV 151	Intro Vet Tech Clinical Skills		3
AGV 166	Veterinary Nursing Care		3
SPC 101	Fundamentals of Oral Communication		3
Any AAS de	egree Core MAT Course		3-5
Semester	3-Select 1 Course from Option 1		
AGV 932	Veterinary Technology Internship		4
BIO 732	Health Science Microbiology	Opt 1	4
BIO 186	Microbiology	Opt 1	4
Semester	4		
AGV 140	Veterinary Pharmacology		3
AGV 164	Clinical Mgmt of Domestic Species		2
AGV 172	Large Animal Medicine and Surgery		3
AGV 182	Diagnostic Imaging		3
AGV 266	Adv Veterinary Nursing Care		2
ECN 130	Principles of Microeconomics		3
Semester	5-Select 1 Course from Option 2		
AGV 138	Clinical Pathology Lab		1
AGV 165	Clinical Mgmt of Lab & Exotic Species		2
AGS 319	Animal Nutrition		3
AGV 160	Anesthesia & Surgical Assistance		4
ENG 105	Composition I	Opt 2	3
			3

#### IOTAL CREDITS REQUIRED

то	COMPLETE	THIS AAS	DEGREE	69
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### **Visual Communications**

This diploma program explores the exciting and challenging field of visual communications while focusing on both the creative and technical aspects of the industry. During the program, students will receive hands-on instruction in the fundamentals of design for print and web, typography, specialized computer software packages, and basic printing and production methods. A current and inclusive curriculum prepares students to meet industry standards and expectations for a variety of entry-level positions in the visual communications industry.

The Visual Communications diploma program offers:

- A no-nonsense design and technical education.
- Classes taught by professionals with real-world experience.
- State-of-the-art computer labs with industry standard hardware and software.
- Small class sizes.

Upon graduation with the Visual Communication diploma, students may choose to pursue an AAS degree in either Graphic Design or Graphic Technologies. Interested students must apply for acceptance into the Graphic Design or Graphic Technologies program during the second semester of the Visual Communications program.

For more information about the Visual Communications program, please visit our website at https://go.dmacc.edu/programs/visualcommunications.

#### Location: Ankeny

#### **Program Entry Requirements**

1. Complete an application for admission.

- 2. Satisfy the assessment requirement by taking all three sections of the COMPASS test and:
- 3. Obtain a minimum score of 61 in Reading and
- 4. Obtain a minimum score of 25 in Math and
- 5. Obtain a minimum score of 42 in English.
- 6. Attend a required information/registration session.
- 7. Basic keyboarding skills are recommended or ADM 105.

#### Students start Fall semester. This is a full-time program. To complete this program, students must take daytime classes; not all classes are offered at night.

#### **Graduation Requirements**

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

#### Semester 1 (Fall)

BCA 212	Intro to Computer Business Applications	3
GRD 415	InDesign I	3
GRD 459	Illustrator	3
GRT 404	Intro to Visual Communications	2
AAS General	Requirement Math Course	3-5
GRT 400	Intro to Printing Methods	
	(offered both Fall and Spring semesters)	4
Semester 2	(Spring)	
GRD 403	Communication Design I	3
GRD 405	Typography I	3
GRD 430	InDesign II	3
GRD 463	Photoshop	3
AAS General	Requirement Communications Course	3
Semester 3	(Summer)	
GRD 411	Communication Design II	3
GRD 470	Interactive Media I	3
GRT 403	Production Methods	2

#### TOTAL CREDITS REQUIRED

Sciences/Humanities Course

AAS General Requirement Social & Behavioral

		• ••= •• ••			
то	COMPLETE	THIS DIP	LOMA .	 	44

### Viticulture

(see Certificate Section, page 143)

### Wastewater Treatment Technology

(see Certificate Section, page 143)

### Water and Wastewater Treatment Technology

(pending approval from the Iowa Department of Education)

The Water and Wastewater Treatment Technology diploma is designed to address the education requirements of both operators working in the water treatment industry and entry-level students interested in entering the water treatment and wastewater treatment industry. The program is designed to provide a progressive credential structure through which students can gain two certificates and a diploma. The diploma credential can be further laddered into the Water Environmental Technology AAS degree program.

The main objectives of the program is to provide a comprehensive educational opportunity for immediate and future plant operators and treatment employees and managers. People who may be interested in this program:

- 1. Entry-level students interested in entering the field of water or wastewater treatment technology.
- 2. Plant operators working on improving their industry certification level through attainment of coursework.
- 3. Plant operators laddering their education into the Water Environmental Technology degree.

All operators are required by law to be certified. This program provides training and educational experiences that will prepare you for certification examinations. Work experience requirements must be met before you are eligible to take an examination for certification. Be sure to refer to the certifying body in your area to determine eligibility. In Iowa, visit the DNR website located at **www.iowadnr.gov/water/files/opcert.pdf**.

For more information about the Water and Wastewater Treatment Technology program, please visit our website at **www.dmacc.edu/programs/water**.

#### **Program Entry Requirements:**

- 1. Complete an application for admission.
- 2. Satisfy the assessment requirement.
- 3. Attend any required information/registration session.
- 4. Complete a high school chemistry course and biology course or equivalent with a "C" or higher.

#### **Graduation Requirements**

To earn a Water and Wastewater Treatment Technology diploma, a student must complete all coursework as prescribed and maintain a 2.0 grade point average. A grade of 2.0 (C) or better is required in all courses required for this diploma.

#### **Required Courses**

3

#### Semester 1-Select 1 Course from Option 1, 1 Course from Option 2 and 1 Course from Option 3

IND 144	Pump Overhaul and Repair		4
WAT 304	Water Treatment I		4
MAT 772	Applied Math	Opt 1	3
Any AAS Ma	th Core Course	Opt 1	3
COM 703	Communication Skills	Opt 2	3
Any AAS Cor	mmunications Core Course	Opt 2	3
MGT 145	Human Relations in Business	Opt 3	3
Any PSY Cou	Irse Listed in the AAS Core Course List	Opt 3	3
Semester 2	2		
WAT 305	Water Distribution Systems		4
WAT 300	Water Analysis		3
WAT 312	Water Treatment II		4
WAT 307	Wastewater Treatment I		4
Semester 3	5		
WAT 306	Wastewater Collection Systems		4
WAT 311	Wastewater Treatment II		4
ENV 115	Environmental Science		3
Semester 4	1		
WAT 932	Internship		3
	EDITS REQUIRED TO E THIS DIPLOMA		46

### Water Environmental Technology

(pending approval from the Iowa Department of Education)

DMACC's innovative Water Environmental Technology degree program provides pre-employment training as well as advanced courses in water and wastewater technology for those wishing career advancement. Courses are designed to prepare students for entry-level employment in water and wastewater treatment operations as well as for certification examinations administered by the State of Iowa and those administered by professional associations within the water and wastewater industry. This degree program has both industrial plant operations training and water operations training with an emphasis on hands-on experiences and instruction. Students may choose an emphasis in either water treatment, wastewater treatment or both.

Current instructors are experienced water and wastewater professional expert and up-to-date in industry practices. Classes are built around practical examples of real-world scenarios, demonstrations and field trips to maximize understanding of subject matter. Internships are required.

Upon completion of the program, graduates will be qualified to seek employment or advancement in a wide variety of settings including water and wastewater treatment companies and facilities, municipalities and state and federal agencies.

All operators are required by law to be certified. This program provides training and educational experiences that will prepare you for certification examinations. Work experience requirements must be met before you are eligible to take an examination for certification. Be sure to refer to the certifying body in your area to determine eligibility. In Iowa, visit the DNR website located at **www.iowadnr.gov/water/files/opcert.pdf**.

For more information about the Water Environmental Technology program, please visit our website at **www.dmacc.edu/programs/water**.

## Degrees and Diplomas

#### **Program Entry Requirements:**

- 1. Complete an application for admission.
- 2. Satisfy the assessment requirement.
- 3. Attend any required information/registration session.
- 4. Complete a high school chemistry course and biology course or equivalent with a "C" or higher.

#### **Graduation Requirements**

To earn a Water Environmental Technology AAS degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average. A grade of 2.0 (C) or better is required in all courses required for this degree.

All students take the same courses in Semesters 1–3. In Semesters 4, 5 and 6 students must choose either the Wastewater Treatment Emphasis or the Water Environmental Technology Emphasis.

#### **Required Courses**

# Semester 1-Select 1 Course from Option 1 and 1 Course from Option 2

MFG 276	Hand and Bench Machine Tools		1
ELT 303	Principles of Electricity		3
MFG 121	Machine Trade Printreading I		2
CON 336	Care/Use of Hand/Power Tools		1
IND 146	Mechanical Power Transmission I		3
MAT 772	Applied Math	Opt 1	3
Any AAS Ma	th Core Course	Opt 1	3
COM 703	Communication Skills	Opt 2	3
Any AAS Co	mmunications Core Course	Opt 2	3

#### Semester 2-Select 1 Course from Option 4

ELT 134	Motor Controls		3
CHM 122	Intro to General Chemistry		4
IND 144	Pump Overhaul and Repair		4
MAT 773	Applied Math II	Opt 4	3
Any AAS M	ath Core Course	Opt 4	3

#### Semester 3

BMA 177	Industrial Plumbing and Pipefitting	3
MGT 164	Total Quality Management	3
ELT 119	Programmable Controllers	3

#### Semester 4 (Wastewater Treatment Emphasis)-Select 1 Course from Option 3

MFG 172	Related Welding-Indust Maint		3
ELE 141	Advanced Motor Controls		3
MFG 524	PM & Diagnosing Mech/Elec Systems		3
MGT 145	Human Relations in Business	Opt 3	3
Any PSY Cou	urse Listed in the AAS Core Course List	Opt 3	3
WAT 307	Wastewater Treatment I		4

#### Semester 4 (Water Environmental Technology Emphasis)-Select 1 Course from Option 3

MFG 172	Related Welding-Indust Maint		3
ELE 141	Advanced Motor Controls		3
MFG 524	PM & Diagnosing Mech/Elec Systems		3
MGT 145	Human Relations in Business	Opt 3	3
Any PSY Cou	urse Listed in the AAS Core Course List	Opt 3	3
WAT 304	Water Treatment I		4

#### Semester 5 (Wastewater Treatment Emphasis)

WAT 306	Wastewater Collection Systems	4	
WAT 308	Wastewater Analysis	3	
WAT 311	Wastewater Treatment II	4	
ENV 115	Environmental Science	3	
Semester 5	(Water Environmental Technology Emphasis)		
WAT 305	Water Distribution Systems	4	
WAT 300	Water Analysis	3	
WAT 312	Water Treatment II	4	
ENV 115	Environmental Science	3	
Semester 6	(Wastewater Treatment Emphasis)		
WAT 210	Wastewater Treatment: Industrial	4	
WAT 932	Internship	3	
Semester 6	(Water Environmental Technology Emphasis)		
WAT 932	Internship	3	
TOTAL CREDITS REQUIRED TO COMPLETE THIS AAS DEGREE:			
WASTEWATER TREATMENT EMPHASIS			
WATER ENVIRONMENTAL TECHNOLOGY EMPHASIS72			

### Water Treatment Technology

(see Certificate Section, page 144)

### **Web Developer**

(pending approval from the Iowa Department of Education)

The Web Developer diploma provides a basic set of web development skills that focus on creating commercial website applications. A student who completes this diploma should be able to design and build a commercially oriented website application using a variety of software tools. They are also provided a general education background that will enhance their overall education. This diploma prepares the student for continuation towards the Web Development AAS degree.

For more information about the Web Developer diploma, please visit our website at **www.dmacc.edu/programs/webdevelopment**.

#### **Location: Ankeny**

#### **Program Entry Requirements**

1. Complete an application for admission.

- 2. Satisfy the assessment requirement.
- 3. Attend any required information/registration session.

#### Students may start any semester.

#### **Graduation Requirements**

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

#### **Required Courses**

### Degrees and Diplomas

#### Semester 1

Jennester	•		
BUS 150	E-Commerce on the Web		3
WDV 101	Intro HTML and CSS		3 3
WDV 131	Intro Photoshop and Fireworks		3
WDV 151	Intro Web Design		3
Any AAS de	gree requirement Social &		
Behavioral S	Science/Humanities Course		3
Semester	2-Select 1 Course from Option 1		
WDV 221	Intro Javascript		3
WDV 245	Content Management Systems I		3
WDV 261	Intro Flash		3
Any AAS de	gree requirement Communications Cour	se	3
Select 1 Cou	rse from Option Courses		3
Semester	3-Select 1 Course from Option 1		
Any AAS de	gree requirement Math or Science Cours	se	3
Select 1 Cou	rse from Option Courses		3
Option Co	ourses-Select 2 Courses from Opt	ion 1	
WDV 321	Advanced Javascript	Opt 1	3
WDV 331	Dreamweaver Applications	Opt 1	3
WDV 341	Intro PHP	Opt 1	3
WDV 351	Website Application Components	Opt 1	3
WDV 445	Content Management Systems II	Opt 1	3 3
MKT 115	Business to Business Marketing	Opt 1	
MKT 120	E-Marketing	Opt 1	3
MKT 160	Principles of Retailing	Opt 1	3 3
ART 186	Principles of Digital Photography	Opt 1	3
ART 225	Photoshop for Photography	Opt 1	3

#### TOTAL CREDITS REQUIRED

These courses are applicable to the Web Development AAS degree.

### Advanced Web Developer

(see Certificate Section, page 123)

### Web Developer

(see Certificate Section, page 144)

### **Web Development**

(pending approval from the Iowa Department of Education)

The Web Development AAS degree is intended for the student who is interested in designing and building commercial website applications. The program offers a variety of skills, technologies and current software tools. A student who completes this program will be able to evaluate, design and build a commercial website. They will be able to create the expected functionality of the website, including such e-commerce components as database-driven content, shopping carts and payment processing.

Web development tools and technologies are constantly changing. The courses will use current industry software based on current standards. Many of the upper-level courses in this program are designed to address the newest and developing technologies that are an expectation of this field.

Graduates of this program have a variety of employment opportunities. They may work with small to mid-sized firms that provide web development services. They may work with large corporations on corporate websites. This program also provides graduates with a set of skills that will allow them to work on their own as a contractor, or to start their own business venture.

For more information about the Web Development AAS degree, please visit our website at **www.dmacc.edu/programs/webdevelopment**.

#### Location: Ankeny

#### **Program Entry Requirements**

1. Complete an application for admission.

- 2. Satisfy the assessment requirement.
- 3. Attend any required information/registration session.

#### Students may start any semester.

#### **Graduation Requirements**

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

#### **Required Courses**

#### Semester 1

BUS 150	E-Commerce on the Web	3
WDV 101	Intro HTML and CSS	3
WDV 131	Intro Photoshop and Fireworks	3
WDV 151	Intro Web Design	3
Any AAS degree requirement Social &		
Behavioral Science/Humanities Course		3

#### Semester 2-Select 1 Course from Option 1

WDV 221	Intro Javascript	3
WDV 245	Content Management Systems I	3
WDV 261	Intro Flash	3
Any AAS de	egree requirement Communications Course	3
Select 1 Cou	rse from Option Courses	3

#### Semester 3-Select 1 Course from Option 1

Any AAS degree requirement Math or Science Course	3
Select 1 Course from Option Courses	3

# Degrees and Diplomas

#### Semester 4

WDV 321	Advanced Javascript	3
WDV 331	Dreamweaver Applications	3
WDV 341	Intro PHP	3
WDV 351	Website Application Components	3
Any AAS de	egree requirement Distributed Course	3

#### Semester 5-Select 2 Courses from Option 1 and 1 Course from Option 2

in Option 2		
Content Management Systems II		3
Emerging Technologies Seminar		3
rses from Option 1		6
Website Applications Seminar	Opt 2	3
Web Development Internship	Opt 2	3
urses-Select 2 Courses from Op	otion 1	
Advanced PHP	Opt 1	3
PHP Seminar	Opt 1	3
Intro Ajax	Opt 1	3
Website Applications Seminar	Opt 1	3
Web Development Internship	Opt 1	3
used to duplicate an Option 2 selection.)		
Photoshop	Opt 1	3
Interactive Media I	Opt 1	3
Interactive Media II	Opt 1	3
Business to Business Marketing	Opt 1	3
E-Marketing	Opt 1	3
Principles of Retailing	Opt 1	3
Principles of Digital Photography	Opt 1	3
	Content Management Systems II Emerging Technologies Seminar rses from Option 1 Website Applications Seminar Web Development Internship <b>urses-Select 2 Courses from Op</b> Advanced PHP PHP Seminar Intro Ajax Website Applications Seminar Web Development Internship <i>used to duplicate an Option 2 selection.</i> ) Photoshop Interactive Media I Interactive Media I Interactive Media II Business to Business Marketing E-Marketing Principles of Retailing	Content Management Systems IIEmerging Technologies Seminarrses from Option 1Website Applications SeminarOpt 2Web Development InternshipOpt 2urses-Select 2 Courses from Option 1Advanced PHPOpt 1PHP SeminarOpt 1Intro AjaxOpt 1Web Development InternshipOpt 1urses to duplicate an Option 2 selection.)Opt 1PhotoshopOpt 1Interactive Media IOpt 1Interactive Media IIOpt 1Business to Business MarketingOpt 1Principles of RetailingOpt 1

#### TOTAL CREDITS REQUIRED

Photoshop for Photography

3

Opt 1

### Welding

ART 225

Welding is a joining process that produces welds, localized coalescences of metals or nonmetals produced either by heating materials to the welding temperature, with or without the application of pressure, or by the application of pressure alone and with or without the use of filler material. Coalescence refers to the growing together or growth into one body of the materials being welded.

Ferrous and nonferrous metals are joined using the oxy-acetylene, shielded metal arc, gas tungsten arc, and gas metal arc welding processes. Free-hand and machine flame cutting are also taught.

Classroom theory, blueprint reading and technical math are part of the instructional program. The listed sequence of course offerings may be altered.

The Welding program offers open-entry and open-exit courses. Students will be allowed to enroll in these open-entry/open-exit courses as long as there is space available.

For more information about the Welding program, please visit our website at **www.dmacc.edu/programs/welding**.

#### Location: Ankeny, Newton

#### **Program Entry Requirements**

- 1. Complete an application for admission.
- 2. Satisfy the assessment requirement.
- 3. Attend any required information/registration session.
- 4. Students must meet with the program chairperson before admission to the program can be confirmed.

#### Students start any semester.

#### **Graduation Requirements**

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

#### **Required Courses**

Any AAS deg	ree core Communications course	3
Any AAS deg	ree core Math course	3
WEL 111	Welding Blueprint Reading	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 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

### Welding Certificates available: Blueprint Reading, Oxy-acetylene, Shielded Metal Arc, Gas Metal Arc, Gas Tungsten Arc, Structural Welding, and Pipe Welding

(see Certificate Section, page 144).

### **Wine Service**

(see Certificate Section, page 145)

### Woodworking

(For more information, see Architectural Millwork, page 58)

### Certificates of Specialization

Coursework for the certificate programs is not always available every semester. Contact an academic advisor on any campus for start semester information.

### **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.

For more information about the Accounting Certificate I, please visit our website at **www.dmacc.edu/programs/accounting/acctcert**.

#### **Required Courses**

BUS 112	Business Math	3
ADM 138	Data Entry	3
ACC 131	Principles of Accounting I	4

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

CSC 110	Intro to Computers	Opt 1	3
BCA 212	Intro Computer Business Appl	Opt 1	3
ENG 105	Composition I	Opt 2	3
	•		-
COM 703	Communication Skills	Opt 2	3
ADM 157	Business English	Opt 2	3
MGT 145	Human Relations in Business	Opt 2	3
SPC 101	Fundamentals of Oral Communication	Opt 2	3
SPC 126	Interpersonal & Small Group Comm	Opt 2	3
ADM 221	Career Development Skills	Opt 3	2
ACC 124	Accounting Professionalism	Opt 3	3

#### 

These credits are applicable to the AAS degree in Accounting Specialist. The majority of these credits are also applicable to the AS degree in Accounting Paraprofessional and the Accounting and Bookkeeping diploma.

### Accounting Certificate II

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

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

For more information about the Accounting Certificate II, please visit our website at **www.dmacc.edu/programs/accounting/acctcert**.

#### **Program Entry Requirement**

1. Completion of Accounting Certificate I

# Certificates of Specialization

#### **Required Courses**

Ontion Courses Colort 1 Courses from Ontion 1		
ACC 361	Accounting Spreadsheets	3
ACC 311	Computer Accounting	3
ACC 161	Payroll Accounting	3
ACC 132	Principles of Accounting II	4

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

ACC 191	Financial Analysis	Opt 1	3
ACC 193	Accounting Procedures/Mgmt	Opt 1	3
ACC 251	Gov't & Nonprofit Accounting	Opt 1	3
ACC 261	Income Tax Accounting	Opt 1	3

#### TOTAL CREDITS REQUIRED TO

COMPLETE THIS CERTIFICATE......16

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 Income Tax Preparer**

Anyone who is compensated for preparing or assisting in the preparation of a tax return must register with the Internal Revenue Service, and, if applicable, successfully pass an examination. The DMACC Income Tax Preparer certificate will help prepare you for the IRS tax preparer tests and assist you in meeting the annual continuing education requirement for Tax Preparers.

For more information about the Accounting Income Tax Preparer certificate, please visit our website at

#### www.dmacc.edu/programs/accounting/taxpreparer.asp.

#### **Required Courses**

ACC 131	Principles of Accounting I	4
ACC 261	Income Tax Accounting	3
ACC 268	Business Tax	3
ACC 850	Tax Assistance Institute	3

### TOTAL CREDITS REQUIRED TO

COMPLETE THIS CERTIFICATE...... 13

Some of these credits are applicable to the Accounting and Bookkeeping diploma, the Accounting Information Systems AS degree, the Accounting Paraprofessional AS degree or the Accounting Specialist AAS degree.

### **Accounting Payroll**

Payroll is a specialized area of accounting that requires in-depth knowledge of federal and state tax rules and regulations, pension plans, benefit plans, garnishments and stock options. The Payroll certificate will provide students with this type of knowledge.

The Accounting Payroll certificate will also prepare students for the Fundamental Payroll Certification exam administered by the American Payroll Association. This certification provides external verification of payroll skills and knowledge.

The Accounting Payroll certificate is designed for the part-time and full-time student. It is expected that many students will have completed ACC 131 Principles of Accounting I before they enter the certificate program. Those students will be able to complete the certificate in two semesters. A beginning student will need three or more semesters to complete the certificate because of the sequential nature of accounting courses.

For more information about the Accounting Payroll certificate, please visit our website at http://go.dmacc.edu/programs/accounting/payrollcert.

#### **Required Courses**

ACC 131	Principles of Accounting I	4
ACC 161	Payroll Accounting	3
ACC 311	Computer Accounting	3
ACC 361	Accounting Spreadsheets	3
ACC 165	Payroll Certification Review	2

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

ADM 105	Intro to Keyboarding	Opt 1	1
BCA 122	Basic Word Processing	Opt 1	1
BCA 164	Basic Databases	Opt 1	1

#### 

These credits are applicable to the AAS degree in Accounting Specialist. The majority of these credits are also applicable to the AS degree in Accounting Paraprofessional and the Accounting and Bookkeeping diploma.

### **Adult Services**

Students in the Adult Services Certificate of Specialization 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.

Students are required to complete an Application for Admission, satisfy the assessment requirements and attend a program orientation.

IMPORTANT NOTE: Students are strongly advised to contact one of the staff members of Aging Services Management in Bldg. 24, Room 208A (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.

For more information about the Adult Services certificate, please visit our website at **www.dmacc.edu/programs/aging/pages/adsscert.aspx**.

#### **Location: Ankeny**

#### **Required Courses**

ASM 278	Management in Senior Care Services	3
ASM 279	Healthcare Human Resources	3
ASM 280	Healthcare Delivery Systems	2
ASM 282	Aging Services	2
ASM 283	Aging Policies and Government Programs	2
SOC 225	Social Gerontology/Applications	4
SOC 226	Issues in Aging	2
ASM 262	Regulation of Supported Living	3
ASM 256	Agency Experience	2
ASM 239	Information Systems in Healthcare	2
ASM 274	Law and Ethics in Healthcare	3
Option Co	ourses—Select 1 Course from Option 1	

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

ACC 111	Intro to Accounting	Opt 1	3
ACC 131	Principles of Accounting I	Opt 1	4

### TOTAL CREDITS REQUIRED TO

### Advanced Web Developer

(pending approval from the Iowa Department of Education)

This certificate provides students with the advanced technology and skills required to develop, enhance and maintain most commercial website applications, with an emphasis on server side capability and high level scripting skills.

This certificate is recommended for students who have been working in this field and are seeking additional education in web development skills and technologies. This certificate is also available for those students who have already completed the Web Developer certificate or Web Developer diploma.

#### Location: Ankeny

#### **Program Entry Requirements**

- 1. 1. Complete an application for admission.
- 2. Satisfy the assessment requirement.
- 3. Attend any required information/registration session.

#### Students start any semester.

For more information about the Advanced Web Developer certificate, please visit our website at **www.dmacc.edu/programs/webdevelopment**.

#### **Required Courses**

\_ ..

WDV 321	Advanced Javascript	3
WDV 331	Dreamweaver Applications	3
WDV 341	Intro PHP	3
WDV 351	Website Application Components	3
WDV 445	Content Management Systems II	3
WDV 495	Emerging Technologies Seminar	3

#### TOTAL CREDITS REQUIRED TO COMPLETE THIS

### **Agribusiness-Agronomy**

The Agronomy certificate prepares the student for an entry-level position in the agronomic field. Upon completion, the successful candidate will be able to formulate fertilizers and identify weeds, insects, and soil nutrient deficiencies. Marketing skills will be enhanced through the application of enterprise analysis and current commodity management tools.

The coursework within this certificate will serve as a strong preparatory base for the "Certified Crop Advisor" (CCA) program.

For more information about the Agribusiness–Agronomy certificate, please visit our website at **www.dmacc.edu/programs/ag**.

Fall		
AGA 114	Principles of Agronomy	3
AGA 154	Fundamentals of Soil Science	3
AGA 157	Soil Fertility	1
Spring		
AGA 211*	Grain and Forage Crops	3
AGB 235	Intro to Agricultural Markets	3
Summer		
AGA 381	Crop Scouting	3
AGP 333	Precision Agriculture Applications	3

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

AGA 284	Pesticide Application Certification	Opt 1	3
AGB 802	Agribusiness Internship I	Opt 1	2
AGA 222	Grain Management	Opt 1	2
AGT 120	Agricultural Applications of Biotech	Opt 1	3

#### TOTAL CREDITS REQUIRED TO

COMPLETE THIS CERTIFICATE...... 21

These credits are applicable to the AAS degree in Agribusiness.

### **Agribusiness-Animal Science**

The Animal Science certificate prepares the student for an entry-level position in the livestock industry. Upon completion, the successful candidate will be able to formulate livestock rations, identify common diseases, and select appropriate facilities for livestock handling. Marketing skills will be enhanced through the application of enterprise analysis and current commodity management tools.

For more information about the Agribusiness–Animal Science certificate, please visit our website at **www.dmacc.edu/programs/ag**.

#### Fall

AGS 113*	Survey of the Animal Industry	3
AGS 242	Animal Health	3
AGT 120	Agricultural Applications of Biotech	3
Spring		
AGS 319	Animal Nutrition	3
AGS 323	Animal Nutrition II	3
AGB 235	Intro to Agricultural Markets	3

# AGB 802Agribusiness Internship IOpt 12AGS 225Swine ScienceOpt 13AGS 226Beef Cattle ScienceOpt 13

#### TOTAL CREDITS REQUIRED TO

These credits are applicable to the AAS degree in Agribusiness.

### **Agribusiness-Farm Management**

The Farm Management certificate prepares the student for an entry-level position in farm management. Upon completion, the successful candidate will be able to operate an entrepreneurial enterprise in the crop or livestock industry. Marketing skills will be enhanced through the application of enterprise analysis and current commodity management tools.

For more information about the Agribusiness–Farm Management certificate, please visit our website at **www.dmacc.edu/programs/ag**.

#### Fall

AGA 114	Principles of Agronomy	3
AGB 101	Agricultural Economics	3
AGS 113	Survey of the Animal Industry	3
Spring		
AGB 235	Intro to Agricultural Markets	3
AGB 330	Farm Business Management	3
AGA 129	Intro to Sustainable Agriculture	3

# Certificates of Specialization

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

ACC 111	Intro to Accounting	Opt 1	3
AGB 440	Agricultural Niche Marketing	Opt 1	3
AGB 802	Agribusiness Internship I	Opt 1	2
AGT 120	Agricultural Applications of Biotech	Opt 1	3

#### TOTAL CREDITS REQUIRED TO

### **Agribusiness-Sales and Service**

The Sales/Service certificate prepares the student for an entry-level position in the agricultural sales and service industry. Upon completion, the successful candidate will be able to utilize a general knowledge of the industry to more effectively serve the customers within the sales and service sector. Marketing skills will be enhanced through the application of enterprise analysis and management tools.

For more information about the Agribusiness–Sales and Service certificate, please visit our website at **www.dmacc.edu/programs/ag**.

#### **Required Courses**

Fall			
AGS 113	Survey of the Animal Industry		3
AGA 114	Principles of Agronomy		3
AGB 101	Agricultural Economics		3
Spring			
AGB 235	Intro to Agricultural Markets		3
AGB 331	Agribusiness Management		3
MKT 140	Selling		3
Option Co	urses—Select 1 Course from O	ption 1	
AGB 802	Agribusiness Internship I	Opt 1	2
BUS 185	Business Law I	Opt 1	3
CSC 110	Introduction to Computers	Opt 1	3
MGT 145	Human Relations in Business	Opt 1	3
PSY 111	Intro to Psychology	Opt 1	3
SOC 110	Introduction to Sociology	Opt 1	3

### TOTAL CREDITS REQUIRED TO

These credits are applicable to the AAS degree in Agribusiness.

### **Agribusiness-Sustainable Agriculture**

The Sustainable Agriculture certificate provides students, who have limited knowledge about the agricultural industry, an introduction to the industry and the concepts of sustainability in agriculture. Upon completion, the successful candidate will be able to utilize general knowledge and information about their selected emphasis to explore the impact of traditional agricultural production and incorporate current trends as a model for the future.

For more information about the Agribusiness–Sustainable Agriculture certificate, please visit our website at **www.dmacc.edu/programs/ag**.

124 DES MOINES AREA COMMUNITY COLLEGE CATALOG 2011-2012

#### Fall-Select 1 Course from Option 1

	•		
AGC 314	Leadership in Agriculture		2
AGT 120	Agricultural Applications of Biotech		3
AGA 114	Principles of Agronomy	Opt 1	3
AGA 154	Fundamentals of Soil Science	Opt 1	3
AGS 113	Survey of the Animal Industry	Opt 1	3
Spring			
AGC 420	Agricultural Issues		3
AGB 440	Agricultural Niche Marketing		3
AGA 129	Intro to Sustainable Agriculture		3
Summer			
AGM 336	Alternative Energy in Ag		3

### TOTAL CREDITS REQUIRED TO

These credits are applicable to the AAS degree in Agribusiness.

### **Airbrush Art**

The purpose of the Airbrush Art certificate is to provide design theory and practice of airbrush techniquires, regardless of the specialized application.

Airbrush is used in practically every phase of the graphic design field—in illustration, such as figure, mechanical, advertising, architectural and technical illustration; and in design, such as textile, plastic products, greeting cards and posters.

For more information about the Airbrush Art certificate, please visit our website at **www.dmacc.edu/programs/airbrush**.

#### **Required Courses**

GRD 449	Airbrush I	4
GRD 451	Airbrush II	4

#### TOTAL CREDITS REQUIRED TO

### **Basic Visual Communications**

The Basic Visual Communications certificate is designed for individuals with no prior graphic design experience and a desire to gain a basic understanding of design and software skills used in the visual communication industry. The courses in this certificate are the basic building blocks needed to provide a solid foundation preparing a student to enter into the world of visual communications.

For more information about the Basic Visual Communications certificate, please visit our website at **www.dmacc.edu/programs/commercialart**.

#### **Program Entry Requirements**

- 1. Complete an application for admission.
- 2. Satisfy the assessment requirement.
- 3. Attend any required information/registration session.
- 4. Obtain a minimum score of 61 in Reading on the COMPASS test.
- 5. Obtain a minimum score of 42 in English on the COMPASS test.
- 6. Obtain a minimum score of 25 in Math on the COMPASS test.

# Certificates of Specialization

#### **Required Courses**

GRD 301	Intro to Desktop Publishing	3
GRD 405	Typography I	3
GRD 463	Photoshop	3
GRD 403	Communication Design I	3
GRD 470	Interactive Media I	3

#### TOTAL CREDITS REQUIRED TO

**COMPLETE THIS CERTIFICATE**......**15** Some of these credits are applicable to the Visual Communications diploma and the AAS degree in Graphic Design.

### **Biomass Operations Technology**

The Biomass Operations Technologies certificate is designed to train individuals to become operators in a biomass production facility. At the completion of the program, the students should be able to understand the basic operation of a biomass plant as well as the chemical flow, instrumentation, environmental and safety issues, lab sampling techniques and other complex plant operations.

For more information about the Biomass Operations Technology certificate, please visit our website at **www.dmacc.edu/programs/iemt**.

#### Locations: Ankeny, Carroll, Newton

#### **Required Courses**

BPT 102	Intro to Biomass Process Tech	2
BPT 111	Biomass Equipment and Systems	3
BPT 112	Biomass Tech Health/Safety	3
BPT 125	Piping and Instrument Diagrams	2
BPT 128	Operator Biomass Lab Process	3
RRO 101	Railcar Safety	2
BMA 167	Steam Plant Operations	2

#### 

These credits are applicable to the AAS degree in Industrial Electro-Mechanical Technology.

### **Building Maintenance**

The Building Maintenance certificate is a series of job-related courses that provide a person with an understanding of how to keep a commercial or industrial type of building operating efficiently and effectively. Skill training enables a maintenance specialist to do the job from the first day of employment.

For more information about the Building Maintenance Technology certificate, please visit our website at https://go.dmacc.edu/programs/bldgmaint.

### Required Courses

BMA 165	Boiler Room Maintenance	1
ELT 305	Principles of Electricity	3

# Certificates of Specialization

#### **Option Courses—Select 3 Credits From Option 1**

BMA 167	Steam Plant Operations	Opt 1	2
BMA 175	Basic Plumbing	Opt 1	2
HSC 102	Emergency Care	Opt 1	1

#### TOTAL CREDITS REQUIRED TO

COMPLETE THIS CERTIFICATE7	'
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### **Chemical Dependency Counseling**

This certificate is designed for individuals with a Graduate, Bachelor's, Associate in Arts, Associate in Science, or Associate in General Studies degree who wish to update or develop skills in chemical dependency counseling.

#### **Entry Requirements:**

- 1. 1. Complete an application for admission.
- 2. 2. Satisfy the assessment requirement.
- Attend the chemical dependency certificate informational meeting offered in Fall or Spring or view a recording of the meeting online. Contact the Human Services program chairperson once this step has been completed.

Students must participate in a chemical dependency practicum. Students can contact the program chairperson of the Human Services program for possible practicum site options, or information is also available on the DMACC website. Practicums may have additional costs to the student.

For more information about the Chemical Dependency Counseling certificate, please visit our website at

https://go.dmacc.edu/programs/chemicaldependency.

#### **Required Courses**

ENG 105	Composition I	3
HSV 220	Intro to Counseling Theories	3
HSV 130	Interviewing/Interpersonal Relations	3
HSV 286	Intervention Theories/Practice I	3
HSV 288	Intervention Theories/Prac II	3
HSV 802	Internship	3
HSV 811	Practicum: Chemical Dependency Counsel I	3
HSV 812	Practicum: Chemical Dependency Counsel II	3
HSV 255	Addictive Disease Concepts	3

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

BIO 156	Human Biology w/Lab	Opt 1	3
PSY 121	Developmental Psychology	Opt 1	3
PSY 241	Abnormal Psychology	Opt 1	3
SOC 115	Social Problems	Opt 2	3
SPC 101	Fundamentals of Oral Communication	Opt 2	3

#### TOTAL CREDITS REQUIRED TO

33

These credits are applicable to the AS degree in Human Services.

### **CNC Operator**

CNC Operators are entry-level jobs that require someone to interact with CNC machining equipment, loading and unloading parts with minor modifications to the machine settings. The CNC Operator certificate provides students with the knowledge and skills needed for an entry-level CNC machine operator position.

For more information about the CNC Operator certificate, please visit our website at **www.dmacc.edu/machining**.

#### Students start Fall semester.

#### Location: Ankeny

#### **Required Courses**

MFG 105	Machine Shop Measuring	3
MFG 250	Engine Lathe Theory	1
MFG 251	Engine Lathe Operations Lab	2
MFG 260	Mill Operations Theory	1
MFG 261	Milling Operations Lab	2
MFG 276	Hand & Bench Machine Tools	1
Semester	2	

# MFG 121Machine Trade Printreading I2MFG 350CNC Lathe Operations Theory1MFG 351CNC Lathe Operations Lab2MFG 330CNC Mill Operations Theory1MFG 331CNC Mill Operations Lab2

#### TOTAL CREDITS REQUIRED TO

#### COMPLETE THIS CERTIFICATE......18

Classes are not required to be semester-by-semester, but students must comply with corequisite requirements.

These credits are applicable toward the Machinist Technology diploma and the AAS degree in Tool & Diemaking.

### **Computer Applications**

The Computer Applications certificate provides students with a basic understanding of the computer applications that may be performed in an office. A student will be able to use the following applications: word processing, database, desktop publishing, graphics, presentation, spreadsheet, email, internet and operating systems. A grade of "C-" or better is required in the first course of a sequential course offering before enrolling in the second-level course of the sequence. That includes BCA 133, BCA 212 or CSC 110.

For more information about the Computer Applications certificate, please visit our website at

#### https://go.dmacc.edu/programs/btec/Pages/ca.aspx.

#### **Required Courses**

BCA 133	Word Processing Skill Dev I	4
BCA 137	Word Processing Skill Dev II	3
BCA 212	Intro Computer Business Applications	3
BCA 213	Intermediate Computer Business Applications	3
BCA 113	Computer Network Literacy	3

#### TOTAL CREDITS REQUIRED TO COMPLETE THIS CERTIFICATE......16

These credits are applicable to the diploma in Office Assistant and the AAS degree in Administrative Assistant.

### **Computer Languages**

The purpose of the Computer Languages certificate is to provide the student who is <u>currently employed</u> 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.

For more information about the Computer Languages certificate, please visit our website at **https://go.dmacc.edu/programs/computerlang**.

#### **Required Courses**

CIS 402	COBOL	3
CIS 505	Structured Systems Analysis	4
CIS 604	Visual Basic	3
CIS 171	Java	3
CIS 161	C++	3

#### Option Courses—Select a Minimum of 6 Credits From Option 1 and a Minimum of 6 Credits From Option 2

CIS 612	Advanced Visual BASIC	Opt 1	3
CIS 182	JSP and Servlets	Opt 1	3
CIS 413	COBOL II	Opt 1	4
CIS 164	Advanced C++	Opt 1	3
CIS 303	Introduction to Database	Opt 2	3
CIS 332	Database and SQL	Opt 2	3
CIS 338	SQL/Oracle	Opt 2	3
CIS 346	Database Design	Opt 2	3

#### TOTAL CREDITS REQUIRED TO

COMPLETE THIS CERTIFICATE	
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### **Corel Painter**

This certificate is aimed at designers, photographers and artists who wish to go beyond the "computer software generated look" and produce digital illustrations that simulate the appearance and behavior of traditional media.

Beginning fundamental drawing skills using traditional media are combined with using a pressure-sensitive graphics tablet and Corel Painter software.

For more information about the Corel Painter certificate, please visit our website at **www.dmacc.edu/programs/corel**.

#### **Required Courses**

GRD 410	Illustration I	3
GRD 414	Illustration II	3

#### TOTAL CREDITS REQUIRED TO

### 

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

### 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 tend to find 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.

# Certificates of Specialization

For more information about the Data Entry I certificate, please visit our website at **https://go.dmacc.edu/programs/btec/pages/de.aspx**.

#### **Required Courses**

ADM 221	Career Development Skills	2
MGT 145	Human Relations in Business	3
ADM 138	Data Entry	3

#### TOTAL CREDITS REQUIRED TO

COMPLETE THIS CERTIFICATE......8

### Database Specialist

The purpose of the Database Specialist certificate is to add to the specialization of study at DMACC. This certificate can also help the student prepare for Oracle certification as an Oracle Application Developer, which is desirable for positions in the database area.

For more information about the Database Specialist certificate, please visit our website at https://go.dmacc.edu/programs/database.

#### **Required Courses**

CSC 110	Intro to Computers		3
CIS 125	Intro to Programming Logic w/Lang	9	3
CIS 402	COBOL		3
CIS 303	Introduction to Database		3
CIS 332	Database and SQL		3
CIS 338	SQL/Oracle		3
Option C	ourses-Select 1 Course from Opt	ion 1	
CIS 346	Database Design	Opt 1	3
NET 715	Database Security & Auditing	Opt 1	3

#### TOTAL CREDITS REQUIRED TO

### **Dietary Manager**

The Dietary Manager is responsible for the management of food operations in a dietary department. This includes the management of food service personnel, food/kitchen supplies and the routine nutritional aspects of food service. Working with a consultant dietitian, the dietary manager assists in providing quality nutritional care services in food service departments, hospitals, and assisted living and healthcare facilities.

Background checks for criminal history will be done by employers in the healthcare field. Criminal convictions or documented history of abuse will prevent students from participating in required field experiences.

The Dietary Manager program is approved by the Dietary Managers Association. Graduates are eligible to take the CDM, CFPP national certification examination.

For more information about the Dietary Manager certificate, please visit our website at **www.dmacc.edu/programs/dietary**.

#### **Required Courses**

DTM 350	Health Field	1
DTM 351	Food Preparation	1
DTM 352	Sanitation/Meal Service	2
DTM 353	Nutrition Life Cycle	1
DTM 354	Modified Diets	1

Food Production Management	1
Food Service Management	2
Food Prep Field Experience	1
Sanitation/Meal Service Field Experience	1
Nutrition Life Cycle Field Experience	1
Modified Diet/Field Experience	1
Food Production Field Experience	1
Food Service Mgmt Field Experience	1
	Food Service Management Food Prep Field Experience Sanitation/Meal Service Field Experience Nutrition Life Cycle Field Experience Modified Diet/Field Experience Food Production Field Experience

#### 

### **Digital Forensic Investigation**

The purpose of the Digital Forensic Investigation certificate is to provide a course of study for students to concentrate in the areas of digital forensics and data recovery from electronic devices. This certificate is best suited for people who have a background in criminal justice or technology, including programming, digital electronics or computer hardware.

For more information about the Digital Forensic Investigation certificate, please visit our website at **www.dmacc.edu/programs/digitalforensics**.

#### **Entry Requirements:**

1. 1. Complete an application for admission.

2. Successful completion of CSC 110 Intro to Computers or equivalent, or approval of the program counselor.

#### **Required Courses**

NET 123	Computer Hardware Basics	4
NET 213	Cisco Networking	4
CRJ 167	Operating Sys. for Forensics	3
CRJ 176	Computer Forensics I	3
CRJ 178	E-Crime Investigative Methods	3
CRJ 276	Computer Forensics II	3
CRJ 277	Adv. Digital Forensic Methods	4

#### 

### **Digital Illustration**

The Digital Illustration certificate is designed for individuals with no prior digital illustration experience and those who wish to upgrade their skills to current software used in the visual communication industry. The courses in this certificate are designed to provide current technical skills in the area of digital illustration using Adobe software applications.

For more information about the Digital Illustration certificate, please visit our website at **www.dmacc.edu/programs/commercialart**.

#### **Program Entry Requirements**

- 1. Complete an application for admission.
- 2. Satisfy the assessment requirement.
- 3. Attend any required information/registration session.
- 4. Obtain a minimum score of 61 in Reading on the COMPASS test.
- 5. Obtain a minimum score of 42 in English on the COMPASS test.
- 6. Obtain a minimum score of 25 in Math on the COMPASS test.

# Certificates of Specialization

#### **Required Courses**

GRD 459	Illustrator	3
GRD 463	Photoshop	3
GRD 464	Digital Artistry	3

#### TOTAL CREDITS REQUIRED TO

COMPLETE THIS CERTIFICATE......9

These credits are applicable to the Visual Communications diploma and the AAS degree in Graphic Design.

### **Digital Publishing**

The Digital Publishing certificate is designed for individuals with prior printing and/or design experience who wish to update or expand their skills. The courses in this certificate are designed to provide current technical information in the areas of digital imaging, layout and design, and web design, using Adobe software applications.

For more information about the Digital Publishing certificate, please visit our website at https://go.dmacc.edu/programs/digitalpub.

#### **Required Courses**

GRD 415	InDesign I		3		
GRD 430 InDesign II					
BCA 212 Intro to Computer Business Appl					
GRD 463	GRD 463 Photoshop				
GRT 424 Digital Imaging II					
GRT 426 Digital Publishing III					
Option Co	ourses—Select 1 Course from Optic	on 1			
CIS 207	Fundamentals of Web Programming	Opt 1	3		
GRD 470	Interactive Media I	Opt 1	3		

#### TOTAL CREDITS REQUIRED TO

COMPLETE THIS CERTIFICATE......23

### **Early Childhood Education**

The Early Childhood Education certificate prepares the student for an entry-level position in a child care program. This program meets the requirements for clock hours of formal child care education required for the Child Development Associate (CDA) credential. Upon completion of the certificate program, the successful student will be able to practice appropriate guidance techniques, recognize and carry out appropriate activities and assessment for young children, maintain a healthy and safe setting, and be able to communicate effectively with children and families.

Current health and immunization records are required for each student. In addition, DHS criminal history record checks and fingerprinting will be required. Criminal convictions or documented history of abuse will prevent students from participating in the required lab experience. Students unable to complete these classes will not receive a certificate in Early Childhood Education. Courses in the certificate program are also required for the Early Childhood Education diploma and Associate degree. Students who successfully complete the certificate may choose to apply these courses to either a diploma or Associate degree in Early Childhood Education.

For more information about the Early Childhood Education certificate, please visit our website at

www.dmacc.edu/programs/earlychildhood/certificate.

#### **Required Courses**

ECE 103 Intro to Early Childhood Ed					
ECE 133 Child Health, Safety & Nutrition					
ECE 243	Early Childhood Guidance		3		
ECE 343 Early Childhood Guidance Lab					
Option Co	urses-Select 1 Course from Op	tion 1			
ECE 158	Early Childhood Curriculum I	Opt 1	3		
ECE 221	Infant/Toddler Care and Educ.	Opt 1	3		

#### TOTAL CREDITS REQUIRED TO

COMPLETE THIS CERTIFICATE......13

These credits are applicable to the diploma in Early Childhood Education, as well as the AS degree in Early Childhood Education.

### **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. At course completion, National Registry Certification tests will be available in both the written and skill areas. Area ambulance units and some hospital emergency departments utilize EMT-Bs.

For more information about the Emergency Medical Technician-Basic certificate, please visit our website at

#### www.dmacc.edu/programs/emergencytech.

Prerequisite: Proof of successful and current completion of either American Heart Association Healthcare Provider CPR or Red Cross Professional Rescuer CPR training.

#### **Program Entry Requirements**

- 1. Complete an application for admission.
- Students must possess a CPR card that is either American Heart Association Healthcare Provider or American Red Cross CPR/AED for the Professional Rescuer to enroll. No other cards will be accepted.
- 3. Students must also show a high school diploma or GED.

#### **Required Course**

EMS 210Emergency Medical Tech Basic6
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### Enology

The Enology Certificate offers a broad range of practical skills required to work in the wine industry. It emphasizes the procedures to effectively process fruit and handle wine in the cellar. In addition, the certificate will introduce basic wine laboratory analysis. Students will attain a foundation in viticulture, allowing them to scout vineyards and assess fruit quality and potential yield. Finally, the certificate program will examine how wines are produced in other major world growing regions.

For more information about the Enology certificate, please visit our website at **www.dmacc.edu/programs/viticulture**.

# Certificates of Specialization

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

VIN 150	Introduction to Wine		3
VIN 151	Cellar Tech. and Operations		4
VIN 152	Intro. to Wine Science		4
VIN 932	Internship in Enology		3
VIN 275	Sensory Science	Opt 1	4
VIN 104	Vit. for Wine Production	Opt 1	3

#### TOTAL CREDITS REQUIRED TO

COMPLETE THIS CERTIFICATE......17

### Entrepreneurship

An increasing number of people are realizing the rewards and challenges of owning their own businesses. The Entrepreneurship program will help you create or improve your plans to be successful in owning or operating a small business. Although you may have the technical skills, or be very knowledgeable about a certain industry, the entrepreneurship program emphasizes how your passion and skills tie into the day-to-day operation of a business. In addition, this flexible program is designed to impact students in their work environments in the real world, regardless of whether you start a business or not! This is accomplished through various innovative marketing strategies, current creative financing methods and employee development skills. The program also emphasizes personal development in accounting, supervision, communication and relationship management. To make it convenient for today's busy students, courses are being offered during the day, evening and online.

For more information about the Entrepreneurship certificate, please visit our website at **www.dmacc.edu/programs/entrepreneurship**.

#### **Required Courses**

Option Courses—Select 1 Course from Each Option					
BUS 220	Introduction to International Business	3			
BUS 148	Small Business Management	3			
BUS 141	Small Business Start-Up	3			
BUS 138	Small Business Marketing	3			

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
RI IS 181	Basic Law for Entrepreneurs	Ont 2	2

DU2 101	Dasic Law for Entrepreheurs	Optiz	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

These credits are applicable to the Diploma in Entrepreneurship.

### Fashion

The purpose of the Fashion certificate is to provide specialized skills to individuals who are currently employed in or wanting to enter the apparel and accessories field. Courses will help the student learn retailing and selling procedures while developing fashion awareness.

For more information about the Fashion certificate, please visit our website at **www.dmacc.edu/programs/marketing**.

#### **Required Courses**

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

### TOTAL CREDITS REQUIRED TO

COMPLETE THIS CERTIFICATE...... 15

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

### **Fire Specialist**

The Fire Specialist certificate provides basic technical knowledge for people working in the fire protection field.

Coursework covers the scientific principles that affect fire, its causes and behavior, and the means of minimizing its destructive effects through design, detection, suppression and prevention.

For more information about the Fire Specialist certificate, please visit our website at https://go.dmacc.edu/programs/fire/pages/certificate.aspx.

#### **Required Courses**

FIR 230	Fire Behavior and Investigation	3
FIR 232	Property Insurance-Fraud Investigation	3
FIR 124	Building Construction	3
FIR 152	Fire Protection Systems	3
FIR 182	Hazardous Materials	3
FIR 220	Planning for Fire Protection	3
FIR 212	Emergency Scene Management	3
FIR 200	Occup Safety/Health in Emergency Services	3
FIR 138	Principles of Fire Prevention	3

#### TOTAL CREDITS REQUIRED TO

COMPL	ETE THIS	C	ERT	<b>FIF</b>	<b>ATE</b>	 		 		 2	7
-					 		~	-	-		

These credits are applicable to the AS degree in Fire Science Technology.

### **Gerontology Specialist**

The Gerontology Specialist certificate is designed for individuals working with our growing older population. The goal is to increase knowledge and understanding of the aging process and how to better relate to the older adult. The certificate will consist of eight one-credit courses on the web with face-to-face seminars, offered to a cohort group, over a two-semester period. Students are required to complete an Application for Admission.

For more information about the Gerontology Specialist certificate, please visit our website at

www.dmacc.edu/programs/aging/pages/gerontologycert.aspx.

# Certificates of Specialization

#### **Required Courses**

ASM 155	Impact of Demographics	1
ASM 160	Aspects of Aging	1
ASM 150	Communication with the Elderly	1
ASM 800	Seminar 1	1
ASM 165	Healthy Aging	1
ASM 180	Cultural Diversity	1
ASM 200	Depression, Death & Grieving	1
ASM 805	Seminar II	1

TOTAL CREDITS REQUIRED TO

COMPLETE THIS CERTIFICATE......8

### **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 advance in the area of marketing or graphic communications. The program will provide up-to-date technical information regarding printing methods, cost estimating, sales and marketing.

The curriculum and instruction are geared to provide both lecture and laboratory settings that will build upon the individual's prior knowledge and experience. Instruction and practical experience will be provided in the areas of printing methods, cost estimating, sales and marketing.

For more information about the Graphic Sales & Customer Service certificate, please visit our website at

https://go.dmacc.edu/programs/graphicsales.

#### **Required Courses**

GRT 400	Intro to Printing Methods	4
GRT 404	Intro to Visual Communications	2
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...... 18

Some of 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.

For more information about the Greenhouse Production certificate, please visit our website at **www.dmacc.edu/programs/ag**.

#### **Required Courses-Select 1 Course from Option 1**

AGH 147	Soil Fertility for Hort.		1
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
AGH 146	Soil Science for Horticulture	Opt 1	3
AGA 154	Fundamentals of Soil Science	Opt 1	3

#### TOTAL CREDITS REQUIRED TO

COMPLETE THIS CERTIFICATE...... 21

These credits are applicable to the AAS degree in Commercial Horticulture.

### **Human Resource Management**

Human Resource Management skills are increasingly important for nearly anyone pursuing a career in business. This certificate is designed to provide a background in human resource functions and law for students majoring in Management, Business Administration, Administrative Assistant and Entrepreneurship, among others. This certificate is also beneficial to people employed in business who wish to upgrade their knowledge of human resource procedures.

For more information about the Human Resource Management certificate, please visit our website at **www.dmacc.edu/programs/marketing**.

#### **Required Courses**

MGT 145	Human Relations in Business	3
MGT 101	Principles of Management	3
MGT 130	Principles of Supervision	3
MGT 170	Human Resource Management	3
BUS 185	Business Law I	3
BUS 278	Employment Law	3
MGT 128	Organizational Behavior	3
Note: Students	should take BUS 185 in the Fall semester, as it is a prerequisite to I	3US 278.

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### InDesign

The InDesign certificate is designed for individuals with no prior page layout experience or for those who wish to upgrade the software skills they use in the visual communication industry. The courses in this certificate are designed to provide current technical skills in the area of page layout using this Adobe software.

For more information about the InDesign certificate, please visit our website at **www.dmacc.edu/programs/commercialart**.

#### **Program Entry Requirements**

- 1. Complete an application for admission.
- 2. Satisfy the assessment requirement.
- 3. Attend any required information/registration session.
- 4. Obtain a minimum score of 61 in Reading on the COMPASS test.
- 5. Obtain a minimum score of 42 in English on the COMPASS test.
- 6. Obtain a minimum score of 25 in Math on the COMPASS test.

# Certificates of Specialization

#### **Required Courses**

GRD 415	InDesign I	3
GRD 430	InDesign II	3

### TOTAL CREDITS REQUIRED TO

**COMPLETE THIS CERTIFICATE**......**6** These credits are applicable to the Visual Communications diploma and the AAS degree in Graphic Design.

### Informatics

Informatics develops new uses for information technology. It is the study of how people transform technology, and how technology transforms us. In many ways, informatics is a bridge connecting IT to a particular field of study: biology, chemistry, fine arts, telecommunications, geography, business, economics, journalism, medical sciences, etc. This certificate prepares students to work in their area of specialization as business analysts, technology specialists, technical trainers, technology managers, etc.

For more information about the Informatics certificate, please visit our website at **https://go.dmacc.edu/programs/informatics.** 

#### **Program Entry Requirements**

- 1. Complete an application for admission.
- 2. Satisfy the assessment requirement.
- 3. Attend any required information/registration session.
- 4. Submit evidence of completion of a two-year or four-year degree from an accredited college.
- 5. CSC 110 Intro to Computers (3 credit) or equivalent.
- 6. MAT 141 Finite Math (4 credit) or equivalent.

#### Students may start any semester.

#### **Required Courses**

CIS 125	Introduction to Programming Logic w/Lang	3
CIS 154	Computational Structures	3
INF 110	Fundamental Informatics	3
INF 130	Social Informatics	3
INF 220	Human-Computer Interaction	3
INF 230	Organization Informatics	3
INF 310	Informatics Security	3
INF 320	Legal Informatics Issues	3

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These credits are applicable to the Management Information Systems (MIS) AS degree.

### **Information Processing Support**

The Information Processing Support certificate prepares students for an entry-level office position 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. A grade of C- or better is required in the first course of a sequential course offering before enrolling in the second-level course of the sequence. That includes ADM 157, BCA 133, BCA 212 or CSC 110.

For more information about the Information Processing Support certificate, please visit our website at

#### https://go.dmacc.edu/programs/btec/pages/ips.aspx.

#### **Required Courses**

ADM 157	Business English	3
ADM 154	Business Communication	3
BCA 133	Word Processing Skill Development I	4
BCA 137	Word Processing Skill Development II	3
BCA 212	Intro to Computer Business Appl	3
BCA 213	Intermediate Computer Business Applications	3

### TOTAL CREDITS REQUIRED TO

### **Interactive Media for Graphic Design**

This certificate will provide students with the opportunity to develop specific skills to design for a range of interactive media including web sites, cellular telephones, personal digital assistants and other technology. The Interactive Media for Graphic Design certificate is designed for students in the Graphic Design program or for individuals with prior graphic design experience who are looking to update their skills.

For more information about the Interactive Media for Graphic Design certificate, please visit our website at **www.dmacc.edu/programs/interactivemedia**.

#### **Required Courses**

GRD 470	Interactive Media I	3
GRD 471	Interactive Media II	3

#### TOTAL CREDITS REQUIRED TO

COMPLETE THIS CERTIFICATE......6

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

### **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 the training needed at the wholesale or retail levels in interior home product sales, marketing or customer service.

For more information about the Interior Design Consultant certificate, please visit our website at https://go.dmacc.edu/programs/marketing.

# Certificates of Specialization

#### **Required Courses**

MKT 140	Selling	3
MKT 110	Principles of Marketing	3
INT 124	Interior Design Analysis	3
INT 125	Interior Design Planning	3
APP 111	Visual Merchandising & Design	3
APP 211	Textiles	3

#### TOTAL CREDITS REQUIRED TO

COMPLETE THIS CERTIFICATE......18

These credits are applicable to the Fashion diploma or the AAS degree in Fashion/Design.

### Interpretation & Translation-Business

The Interpretation & Translation–Business certificate is for functionally bilingual students with a college degree (AA, AS, Bachelor or higher) who wish to work as business interpreters or translators. Upon completion, students should be able to provide basic interpreting and translation services between English and their other languages(s) in business contexts. The program is designed for students who wish to add business interpreting and translation skills to their current set of job skills.

Certificate students complete basic and specialized courses in Interpretation & Translation, as well as ethics and business. All students complete an internship under the supervision of a professional interpreter/ translator, during which time they use the skills and apply the knowledge gained in the classroom. Some credits earned for the Interpretation & Translation-Business certificate can also be applied to any of the other Interpretation & Translation certificates (Education, Healthcare, Human Services or Judiciary).

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

Employment opportunities for business interpreters and translators are currently found in all industries and businesses where business Interpretation & Translation services are needed. There are also many volunteer opportunities.

Note: Students are required to complete a certificate program in one emphasis area at a time—there is no "mixing and matching" of emphasis area is allowed. Once a student has completed a full certificate of specialization in one area, the student can enroll in a second (or subsequent) emphasis area and complete the certificate of specialization in that emphasis area with only 17 credits, because the 18 credits of ITR required basic courses do not need to be retaken.

For more information about the Interpretation & Translation–Business certificate, please visit our website at

https://go.dmacc.edu/programs/itr.

# Location: Urban (NOTE: All Interpretation & Translation courses are online.)

#### Program Entry Requirements

- 1. Complete an application for admission.
- 2. Satisfy the assessment requirement.
- 3. Complete the ITR online program information orientation including the survey.
- 4. Provide evidence of completion of a college degree (AA, AS, Bachelor or higher).

- 5. 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 writing score of 70
  - c. Completion of ENG 105 with grade of "C" or better
  - d. TOEFL score of 173 on the computer test or 500 on the paper test
  - e. Completion of two years of college study with a minimum GPA of 2.0 (or equivalent) at an institution where English is the medium of instruction
  - f. Other evidence demonstrating English proficiency may be approved by the program chairperson
- 6. 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 chairperson
  - e. Students will need computer skills to be successful in the program.
    If students do not have these skills, completion of BCA 212 or CSC 110 is strongly recommended, but the course will be an extra course and will not apply toward program requirements.

Students in the Business ITR, Human Services ITR and Judiciary ITR programs start in the Fall semester of ODD-NUMBERED years; students in the Education ITR and Healthcare ITR programs start in the Fall semester of EVEN-NUMBERED years. Close contact with an academic advisor is strongly recommended for planning, because many courses are only offered once every two years.

#### Interpretation & Translation-Business (Starts Fall semester of ODD-NUMBERED YEARS)

#### Semester 1-(Fall semester of Odd-Numbered Years)

Semester	I-(Fail semester of Odd-Numbered Tears)	
ITR 101	Introduction to Interpretation & Translation	3
ITR 102	Tools for the Interpreter and Translator	3
Semester	2-(Spring semester of Even-Numbered Yea	rs)
ITR 103	Fundamentals of Interpretation	3
ITR 104	Fundamentals of Translation	3
Semester	- 3-(Summer semester of Even-Numbered Ye	ars)
BUS 102	Introduction to Business	3
ITR 109	Interp/Trans Ethics I	3
Semester	4-(Fall semester of Even-Numbered Years)	
ITR 211	Business Semester & Sight Trans	3
ITR 213	Business Interpretation I	3
Semester	r 5-(Spring semester of Odd-Numbered Year	s)
ITR 214	Business Interpretation II	3
ITR 217	Business Translation	3

# Certificates of Specialization

#### Semester 6-(Summer semester of Odd-Numbered Years)

ITR 209	Interp/Trans Ethics II	3
ITR 811	Business I/T Internship	3
These surely	to any applicable to the AC degrees in Interpretation	o O Translation

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

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### Interpretation & Translation-Education

The Interpretation & Translation-Education certificate is for functionally bilingual students with a college degree (AA, AS, Bachelor or higher) who wish to work as education interpreters or translators in the K-12 system. Upon completion, students should be able to provide basic interpreting and translation services between English and their other language(s) in education contexts. The program is designed for students who wish to add education interpreting and translation skills to their current set of job skills.

Certificate students complete basic and specialized courses in Interpretation & Translation, as well as ethics and education. All students complete an internship under the supervision of a professional interpreter/ translator, during which time they use the skills and apply the knowledge gained in the classroom. Some credits earned for the Interpretation & Translation–Education certificate can also be applied to any of the other Interpretation & Translation certificates (Business, Healthcare, Human Services or Judiciary).

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

Employment opportunities for education interpreters and translators are currently found in all levels of K-12 education. There are also many volunteer opportunities.

Note: Students are required to complete a certificate program in one emphasis area at a time—there is no "mixing and matching" of emphasis area is allowed. Once a student has completed a full certificate of specialization in one area, the student can enroll in a second (or subsequent) emphasis area and complete the certificate of specialization in that emphasis area with only 17 credits because the 18 credits of ITR required basic courses do not need to be retaken.

For more information about the Interpretation & Translation-Education certificate, please visit our website at

https://go.dmacc.edu/programs/itr.

# Location: Urban (NOTE: All Interpretation & Translation courses are online.)

#### **Program Entry Requirements**

- 1. Complete an application for admission.
- 2. Satisfy the assessment requirement.
- 3. Complete the ITR online program information orientation including the survey.
- 4. Provide evidence of completion of a college degree (AA, AS, Bachelor or higher).
- 5. 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 writing score of 70
  - c. Completion of ENG 105 with grade of "C" or better
  - d. TOEFL score of 173 on the computer test or 500 on the paper test

- e. Completion of two years of college study with a minimum GPA of 2.0 (or equivalent) at an institution where English is the medium of instruction
- f. Other evidence demonstrating English proficiency may be approved by the program chairperson
- 6. 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 chairperson
  - 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. This course will be an extra course that does not count toward program requirements.

Students in the Business ITR, Human Services ITR and Judiciary ITR programs start in the Fall semester of ODD-NUMBERED years; students in the Education ITR and Healthcare ITR programs start in the Fall semester of EVEN-NUMBERED years. Close contact with an academic advisor is strongly recommended for planning, because many courses are only offered once every two years.

#### Interpretation & Translation-Education (Starts Fall semester of EVEN-NUMBERED YEARS)

#### Semester 1-(Fall semester of Even-Numbered Years)

0011100101		, 
ITR 101	Introduction to Interpretation & Translation	3
ITR 102	Tools for the Interpreter and Translator	3
Semester	2-(Spring semester of Odd-Numbered Yea	ars)
ITR 103	Fundamentals of Interpretation	3
ITR 104	Fundamentals of Translation	3
Semester	3-(Summer semester of Odd-Numbered Y	ears)
EDU 213	Introduction to Education	3
ITR 109	Interp/Trans Ethics I	3
Semester	4-(Fall semester of Odd-Numbered Years)	)
ITR 231	Education Semester & Sight Trans	3
ITR 233	Education Interpretation I	3
Semester	5-(Spring semester of Even-Numbered Ye	ars)
ITR 234	Education Interpretation II	3
ITR 237	Education Translation	3
Semester	6-(Summer semester of Even-Numbered )	(ears)
ITR 209	Interp/Trans Ethics II	3
ITR 831	Education I/T Internship	3
These credit	s are applicable to the AS degree in Interpretation & Tr	ranslation.
TOTAL CF	REDITS REQUIRED FOR THE	

#### **INTERPRETATION & TRANSLATION**

INTERPRETATION & TRANSLATION	
EDUCATION CERTIFICATE	;

### Interpretation & Translation-Healthcare

The Interpretation & Translation–Healthcare certificate is for functionally bilingual students with a college degree (AA, AS, Bachelor or higher) 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 and specialized courses in Interpretation & Translation, as well as ethics and biology. All students complete an internship under the supervision of a professional interpreter/ translator, during which they use the skills and apply the knowledge gained in the classroom. Some credits earned for the Interpretation & Translation–Healthcare certificate can also be applied to any of the other Interpretation & Translation certificates (Business, Education, Human Services or Judiciary).

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

Employment opportunities for healthcare interpreters and translators are currently found in wherever healthcare Interpretation & Translation services are needed. There are also many volunteer opportunities.

Note: Students are required to complete a certificate program in one emphasis area at a time—there is no "mixing and matching" of emphasis areas allowed. Once a student has completed a full certificate of specialization in one area, the student can enroll in a second (or subsequent) emphasis area and complete the certificate of specialization in that emphasis area with only 17 credits because the 18 credits of ITR required basic courses do not need to be retaken.

For more information about the Interpretation & Translation–Healthcare certificate, please visit our website at

#### https://go.dmacc.edu/programs/itr.

# Location: Urban (NOTE: All Interpretation & Translation courses are online.)

#### **Program Entry Requirements:**

- 1. 1. Complete an application for admission.
- 2. Satisfy the assessment requirement.
- 3. Complete the ITR online program information orientation including the survey.
- 4. Provide evidence of completion of a college degree (AA, AS, Bachelor or higher).
- 5. 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 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 chairperson
- 6. 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 chairperson
- 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 in the Business ITR, Human Services ITR and Judiciary ITR programs start in the Fall semester of ODD-NUMBERED years; students in the Education ITR and Healthcare ITR programs start in the Fall semester of EVEN-NUMBERED years. Close contact with an academic advisor is strongly recommended for planning, because many courses are only offered once every two years.

#### Interpretation/Translation-Healthcare (Starts Fall semester of EVEN-NUMBERED YEARS)

#### Semester 1-(Fall semester of Even-Numbered Years)

Introduction to Interpretation & Translation	3
Tools for the Interpreter and Translator	3
2-(Spring semester of Odd-Numbered Years	5)
Fundamentals of Interpretation	3
Fundamentals of Translation	3
-(Summer semester of Odd-Numbered Yea	nrs)
Human Biology w/Lab	3
Interp/Trans Ethics I	3
I-(Fall semester of Odd-Numbered Years)	
Healthcare Semester & Sight Trans	3
Healthcare Interpretation I	3
-(Spring semester of Even-Numbered Year	s)
Healthcare Interpretation II	3
Healthcare Translation	3
5-(Summer semester of Even-Numbered Yea	ars)
Interp/Trans Ethics II	3
Healthcare I/T Internship	3
	<ul> <li>CSpring semester of Odd-Numbered Years</li> <li>Fundamentals of Interpretation</li> <li>Fundamentals of Translation</li> <li>CSUMMER semester of Odd-Numbered Years</li> <li>Human Biology w/Lab</li> <li>Interp/Trans Ethics I</li> <li>CFall semester of Odd-Numbered Years)</li> <li>Healthcare Semester of Odd-Numbered Years</li> <li>Healthcare Interpretation I</li> <li>CSPring semester of Even-Numbered Years</li> <li>Healthcare Translation</li> <li>CSUMMER Semester of Even-Numbered Years</li> </ul>

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### Interpretation & Translation-Human Services

The Interpretation & Translation-Human Services certificate is for functionally bilingual students with a college degree (AA, AS, Bachelor or higher) who wish to work as human services interpreters or translators. Upon completion, students should be able to provide basic interpreting and translation services between English and their other language(s) in human services contexts. The program is designed for students who wish to add human services interpreting and translation skills to their current set of job skills.

Certificate students complete basic and specialized courses in Interpretation & Translation, as well as ethics and human services. All students complete an internship under the supervision of a professional interpreter/translator, during which time they use the skills and apply the knowledge gained in the classroom. Some credits earned for the Interpretation & Translation–Human Services certificate can also be applied to any of the other Interpretation & Translation certificates (Business, Education, Healthcare or Judiciary).

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

Employment opportunities for human services interpreters and translators are currently found wherever human services Interpretation & Translation services are needed. There are also many volunteer opportunities.

Note: Students are required to complete a certificate program in one emphasis area at a time—there is no "mixing and matching" of emphasis areas allowed. Once a student has completed a full certificate of specialization in one area, the student can enroll in a second (or subsequent) emphasis area and complete the certificate of specialization in that emphasis area with only 17 credits because the 18 credits of ITR required basic courses do not need to be retaken.

For more information about the Interpretation & Translation-Human Services certificate, please visit our website at https://go.dmacc.edu/programs/itr.

# Location: Urban (NOTE: All Interpretation & Translation courses are online.)

#### **Program Entry Requirements**

- 1. Complete an application for admission.
- 2. Satisfy the assessment requirement.
- 3. Complete the ITR online program information orientation including the survey.
- 4. Provide evidence of completion of a college degree (AA, AS, Bachelor or higher).
- 5. 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 writing score of 70
  - c. Completion of ENG 105 with grade of "C" or better
  - d. TOEFL score of 173 on the computer test or 500 on the paper test
  - e. Completion of two years of college study with a minimum GPA of 2.0 (or equivalent) at an institution where English is the medium of instruction
  - f. Other evidence demonstrating English proficiency may be approved by the program chairperson
- 6. 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 chairperson
- e. Students will need computer skills to be successful in the program.
  If students do not have these skills, completion of BCA 212 or CSC 110 is strongly recommended, but the course will be an extra course and will not apply toward program requirements.

Students in the Business ITR, Human Services ITR and Judiciary ITR programs start in the Fall semester of ODD-NUMBERED years; students in the Education ITR and Healthcare ITR programs start in the Fall semester of EVEN-NUMBERED years. Close contact with an academic advisor is strongly recommended for planning, because many courses are only offered once every two years.

#### Interpretation/Translation-Human Services (Starts Fall semester of ODD-NUMBERED YEARS)

#### Semester 1-(Fall semester of Odd-Numbered Years)

ITR 101	Introduction to Interpretation & Translation	3
ITR 102	Tools for the Interpreter and Translator	3
Semester	2-(Spring semester of Even-Numbered Yea	ars)
ITR 103	Fundamentals of Interpretation	3
ITR 104	Fundamentals of Translation	3
Semester	- 3-(Summer semester of Even-Numbered Y	'ears)
HSV 109	Introduction to Human Services	3
ITR 109	Interp/Trans Ethics I	3
Semester	4-(Fall semester of Even-Numbered Years)	)
ITR 251	Human Services Semester & Sight Trans	3
ITR 253	Human Services Interpretation I	3
Semester	- 5-(Spring semester of Odd-Numbered Yea	rs)
ITR 254	Human Services Interpretation II	3
ITR 257	Human Services Translation	3
Semester	- 6-(Summer semester of Odd-Numbered Ye	ears)
ITR 209	Interp/Trans Ethics II	3
ITR 851	Human Services I/T Internship	3
These cours	es are applicable to the AS degree in Interpretation & Tr	anslation.
TOTAL C	REDITS REQUIRED FOR THE	

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### Interpretation & Translation-Judiciary

The Interpretation & Translation–Judiciary certificate is for functionally bilingual students with a college degree (AA, AS, Bachelor or higher) 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 languages(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 and specialized courses in Interpretation & Translation, as well as ethics and criminal law. All students complete an internship under the supervision of a professional interpreter/ translator, during which time they use the skills and apply the knowledge gained in the classroom. Some credits earned for the Interpretation & Translation–Judiciary certificate can also be applied to any of the other Interpretation & Translation certificates (Business, Education, Healthcare or Judiciary).

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

Employment opportunities for judiciary interpreters and translators are found in courts, law enforcement agencies, law offices, correctional institutions, and wherever judiciary Interpretation & Translation services are needed. There are also many volunteer opportunities.

Note: Students are required to complete a certificate program in one emphasis area at a time—there is no "mixing and matching" of emphasis area is allowed. Once a student has completed a full certificate of specialization in one area, the student can enroll in a second (or subsequent) emphasis area and complete the certificate of specialization in that emphasis area with only 17 credits because the 18 credits of ITR required basic courses do not need to be retaken.

For more information about the Interpretation & Translation–Judiciary certificate, please visit our website at https://go.dmacc.edu/programs/itr.

# Location: Urban (NOTE: All Interpretation & Translation courses are online.)

#### **Program Entry Requirements:**

- 1. Complete an application for admission.
- 2. Satisfy the assessment requirement.
- 3. Complete the ITR online program information orientation including the survey.
- 4. Provide evidence of completion of a college degree (AA, AS, Bachelor or higher).
- 5. 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 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 chairperson

- 6. 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 chairperson
  - 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 in the Business ITR, Human Services ITR and Judiciary ITR programs start in the Fall semester of ODD-NUMBERED years; students in the Education ITR and Healthcare ITR programs start in the Fall semester of EVEN-NUMBERED years. Close contact with an academic advisor is strongly recommended for planning, because many courses are only offered once every two years.

#### Interpretation & Translation-Judiciary (Starts Fall semester of ODD-NUMBERED YEARS)

#### Semester 1-(Fall semester of Odd-Numbered Years)

		_
ITR 101	Introduction to Interpretation & Translation	3
ITR 102	Tools for the Interpreter and Translator	3
Semester 2	-(Spring semester of Even-Numbered Years)	
ITR 103	Fundamentals of Interpretation	3
ITR 104	Fundamentals of Translation	3
Semester 3	-(Summer semester of Even-Numbered Years)	
CRJ 130	Criminal Law	3
ITR 109	Interp/Trans Ethics I	3
Semester 4	-(Fall semester of Even-Numbered Years)	
ITR 291	Judiciary Semester & Sight Trans	3
ITR 293	Judiciary Interpretation I	3
Semester 5	-(Spring semester of Odd-Numbered Years)	
ITR 294	Judiciary Interpretation II	3
ITR 297	Judiciary Translation	3
Semester 6	-(Summer semester of Odd-Numbered Years)	
ITR 209	Interp/Trans Ethics II	3
ITR 891	Judiciary I/T Internship	3
These credits are applicable to the AS degree in Interpretation & Translation.		

#### TOTAL CREDITS REQUIRED FOR THE INTERPRETATION & TRANSLATION-

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### 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.

For more information about the Landscape Design certificate, please visit our website at **www.dmacc.edu/programs/ag/commercialhorticulture**.

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

-	-		
AGH 147	Soil Fertility for Hort.		1
AGH 154	Residential Landscape Design		3
AGH 159	Landscape Drafting		2
AGH 221	Principles of Horticulture		3
AGH 155	Landscape Design II		2
AGH 142	Construction, Safety & Maintenance		3
AGH 123	Woody Plant Materials		3
AGH 120	Herbaceous Plant Materials		3
AGH 146	Soil Science for Horticulture	Opt 1	3
AGA 154	Fundamentals of Soil Science	Opt 1	3

#### 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 in Arts Degree who wish to work as a legal assistant. A legal assistant performs a variety of legal tasks and provides a broad spectrum of services for attorneys in private practice, state agencies, and public service organizations. The legal assistant works with the attorney in virtually every aspect of the legal profession except giving advice or representing clients in court (the actual practice of law). To earn a Legal Assistant certificate, a student must submit proof of having earned a prior degree. Students must receive a grade of "C" or above in all PRL coursework.

For more information about the Legal Assistant certificate, please visit our website at **www.dmacc.edu/programs/legalassistant**.

#### **Graduation Requirements**

To earn a Legal Assistant certificate, a student must submit proof of having earned a degree. Students must receive a grade of "C" or above in all PRL coursework.

#### **Required Courses**

-		
PRL 103	Introduction to Law	3
PRL 131	Torts & Litigation I	3
PRL 141	Business & Corporate Law I	3
PRL 280	Legal Internship & Ethics	4
PRL 112	Legal Research & Writing I	3
PRL 113	Legal Research & Writing II	3
Option C	ourses—Select 15 Credits from Option 1	

PRL 132	lorts & Litigation II	Opt 1	3
PRL 161	Family Law	Opt 1	3
PRL 142	Business & Corporate Law II	Opt 1	3

PRL 151	Real Estate Law	Opt 1	3
PRL 167	Probate Procedure	Opt 1	3
PRL 169	Wills, Estate Planning & Taxation	Opt 1	3
PRL 171	Administrative Practice	Opt 1	3
PRL 125	Evidence: Theory & Practice	Opt 1	3
PRL 137	Debtor/Creditor Law	Opt 1	3
PRL 118	Computerized Legal Research	Opt 1	1
PRL 114	Adv. Legal Research & Writing	Opt 1	3
PRL 182	Mediation	Opt 1	3
ACC 261	Income Tax Accounting	Opt 1	3
CSC 110	Intro to Computers	Opt 1	3
CRJ 130	Criminal Law	Opt 1	3
CRJ 132	Constitutional Law	Opt 1	3
HSV 130	Interviewing/Interpersonal Relations	Opt 1	3

### TOTAL CREDITS REQUIRED TO

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

### Long-Term Care Administrator

The Long-Term Care Administrator certificate is designed for students with a prior degree who plan to sit for Nursing Home Administrator Licensure. Students must meet the Iowa Board of Examiners for Nursing Home Administrator equivalency requirements, which include verification of a four-year degree.

Students are required to complete an application for admission, submit their official college transcripts to the DMACC Admissions Office and attend a program orientation.

For more information about the Long-Term Care Administrator certificate, please visit our website at

#### www.dmacc.edu/programs/aging/pages/ltccert.aspx.

IMPORTANT NOTE: Students are strongly advised to contact one of the staff members of Aging Services Management in Bldg. 24 on the Ankeny Campus or to call 515-964-6262 or 515-964-6814 for additional important information.

#### Location: Ankeny

#### **Required Courses**

ASM 278	Management in Senior Care Services	3
ASM 279	Healthcare Human Resources	3
ASM 280	Healthcare Delivery Systems	2
ASM 282	Aging Services	2
ASM 283	Aging Policies and Government Programs	2
SOC 225	Social Gerontology/Applications	4
SOC 226	Issues in Aging	2
Practicum		
ASM 261	Regulation of NF/SNF	3
ASM 262	Regulation of Supported Living	3
ASM 263	Practicum I: Quality of Life	2
ASM 264	Practicum II: Human Resources	1
ASM 265	Practicum III: Finance	1
ASM 266	Practicum IV: Environment	1
ASM 267	Practicum V: Leadership and Mgmt	1

# Certificates of Specialization

#### **Option Courses—Select 10 Credits from Option 1**

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

#### TOTAL CREDITS REQUIRED TO

COMPLETE THIS CERTIFICATE......40

These credits are applicable to the AS degree in Aging Services Management.

### Long-Term Care Administrator-Practicum

The Long-Term Care Administrator–Practicum certificate is designed for students who need 12 credits of practicum in a Long-Term care facility to meet the Iowa Board of Nursing Home Administrators eligibility requirements for the NAB exam.

Students are required to complete an application for admission, submit official college transcripts to the DMACC Admissions Office and attend a program orientation.

For more information about the Long-Term Care Administrator-Practicum certificate, please visit our website at

#### www.dmacc.edu/programs/aging/pages/ltccert.aspx.

IMPORTANT NOTE: Students are strongly advised to contact one of the staff members of Aging Services Management in Bldg. 24 on the Ankeny Campus or to call 515-964-6262 or 515-964-6814 for additional important information.

#### Location: Ankeny

#### **Required Courses**

ASM 261	Regulation of NF/SNF	3
ASM 262	Regulation of Supported Living	3
ASM 263	Practicum I: Quality of Life	2
ASM 264	Practicum II: Human Resources	1
ASM 265	Practicum III: Finance	1
ASM 266	Practicum IV: Environment	1
ASM 267	Practicum V: Leadership and Mgmt	1

#### TOTAL CREDITS REQUIRED TO

COMPLETE THIS CERTIFICATE...... 12

These credits are applicable to the AS degree in Aging Services Management.

### **Maintenance (Diesel)**

The purpose of the Maintenance certificate is to provide a part-time, evening option for students wishing to take classes in the Diesel Technology field. Interested students can complete just one class or all of them.

For more information about the Maintenance (Diesel) certificate, please visit our website at **https://go.dmacc.edu/programs/diesel/certificate**.

# Certificates of Specialization

#### **Required Courses**

*DSL 145	Basic Electricity	5
*DSL 733	Air Conditioning	3
*DSL 830	Operation and Maintenance	5
*DSL 605	Hydraulics and Brakes	5
DSL 330	Diesel Engine Tune-Up	3

#### TOTAL CREDITS REQUIRED TO

\*Classes marked with an \* are applicable to the diploma and AAS degree in Diesel Technology.

### 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.

For more information about the Management certificate, please visit our website at **www.dmacc.edu/programs/marketing/**.

#### **Required Courses**

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

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

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

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

### **Medical Insurance and Coding**

Medical Insurance and Coding is one of the fastest-growing medical office specialties, Medical Insurance and Coding promises to increase in importance. Students learn to transform medical diagnoses and procedures into numbers or codes for purposes of reimbursement and recordkeeping.

This program is designed for individuals with previous medical experience in hospitals, medical centers, government facilities or insurance companies. (Individuals without previous experience should consider the Medical Office Specialist program, which provides training to work in a medical office.) This certificate program can be earned in coordination with the Medical Office Specialist degree. Courses are offered online or late afternoon and evening. To successfully complete this program, a student must complete all coursework as prescribed and maintain a 2.0 grade point average. A grade of "C-" or better is required in the first course of a sequential course offering before enrolling in the second-level course of the sequence or in a prerequisite course. That includes HSC 120, BCA 133 and MAP 141.

For more information about the Medical Insurance and Coding certificate, please visit our website at

https://go.dmacc.edu/programs/btec/pages/medicalinscoding.aspx.

#### **Program Entry Requirements**

- 1. Complete an application for admission.
- Complete the required COMPASS testing, obtaining a satisfactory score in writing skills (70 or higher) or an ACT writing score of 19 or higher or completion of ENG 060 with a grade of "B" or higher or program chairperson approval.
- 3. Keyboarding speed of 40 nwpm or above as demonstrated by a five-minute test.

#### Semester 1

ADM 157	Business English	3
*HSC 120	Medical Terminology I	3
BCA 133	Word Processing Skill Dev. I	4
Semester 2	2	
*HSC 121	Medical Terminology II	3
MAP 141	Medical Insurance	3
ADM 215	Medical Office Procedures	3
Semester 3	3	
MAP 532	Human Body–Health and Disease	3
MAP 150	Adv. Medical Billing/Coding	3
TOTAL CR	EDITS REQUIRED TO	

#### COMPLETE THIS CERTIFICATE...... 25

\*Challenge test available. Must earn 74%.

Note: Graduates may sit, at their own expense, for the Certified Coding Associates designation through the American Health Information Management Association.

The majority of credits listed above are applicable to the AAS degree in Medical Office Specialist.

### **Medical Transcriptionist**

The Medical Transcriptionist certificate prepares the student to work in many aspects of the medical field converting patient records and physician dictation into medical reports. The growth of Electronic Health Records is changing the field of medical transcription taking it beyond the traditional "typed" medical report to an electronic format. This requires the student to have a strong emphasis on editing. In addition, students will learn to use voice recognition software in transcription.

This program is designed for individuals with previous medical experience in hospitals, medical centers, government facilities or insurance companies. (Individuals without previous experience should consider the Medical Office Specialist program which provides training to work in a medical office.) This certificate program can be earned in coordination with the Medical Office Specialist degree. Courses are offered online or late afternoon and evening. To successfully complete this program, a student must complete all coursework as prescribed and maintain a 2.0 grade point average. A grade of C- or better is required in the first course of a sequential course offering before enrolling in the second-level course of the sequence or in a prerequisite course. That includes HSC 120, MTR 120 and MTR 121.

For more information about the Medical Transcriptionist certificate, please visit our website at

#### https://go.dmacc.edu/programs/btec/pages/mt.aspx.

#### **Program Entry Requirements**

- 1. Complete an application for admission.
- 2. Complete the required COMPASS testing, obtaining a satisfactory score in writing skills (70 or higher) or ACT writing score of 19 or higher or completion of ENG 060 with a grade of "B" or better or program chairperson approval.
- 3. Keyboarding speed of 40 nwpm or above as demonstrated by a five-minute test.

#### Semester 1

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

#### Semester 2

HSC 121*	Medical Terminology II	3
MTR 121	Medical Transcription II	3
Semester	• 3	
	Lluman Dady, Lloalth and Disease	7

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

#### TOTAL CREDITS REQUIRED TO

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COMPLETE THIS CERTIFICATE...... 25
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\*Challenge test available. Must earn 74%.

The majority of these credits are also applicable to the Medical Office Specialist AAS degree.

### **Microcomputers**

This certificate is designed for people who want 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.

For more information about the Microcomputers certificate, please visit our website at

https://go.dmacc.edu/programs/bis/pages/microcomputerscert.aspx.

#### **Required Courses**

BUS 102	Introduction to Business	3
CIS 125	Intro to Programming Logic w/Lang	3
CIS 402	COBOL	3
CSC 110	Intro to Computers	3
BCA 113	Computer Network Literacy	3

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

ACC 131	Principles of Accounting I	Opt 1	4
ACC 132	Principles of Accounting II	Opt 1	4
ACC 311	Computer Accounting	Opt 1	3
ACC 361	Accounting Spreadsheets	Opt 1	3
CIS 413	COBOL II	Opt 1	4
CIS 604	Visual BASIC	Opt 1	3
CIS 612	Advanced Visual BASIC	Opt 1	3
CIS 161	C++	Opt 1	3
CIS 164	Advanced C++	Opt 1	3
CIS 303	Introduction to Database	Opt 1	3
CIS 332	Database and SQL	Opt 1	3
CIS 338	SQL/Oracle	Opt 1	3
CIS 346	Database Design	Opt 1	3

#### TOTAL CREDITS REQUIRED TO

### **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, along with 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.

For more information about the Network Security Manager certificate, please visit our website at

#### https://go.dmacc.edu/programs/networksecurity.

#### **Required Courses**

BCA 113	Computer Network Literacy	3
CIS 303	Introduction to Database	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

#### 

### **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.

For more information about the Office Specialist certificate, please visit our website at https://go.dmacc.edu/programs/btec/pages/os.aspx.

#### **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

#### 

These credits are applicable to the Administrative Assistant AAS degree and the Office Assistant diploma.

### **Paramedic Specialist**

The Paramedic Specialist certificate prepares individuals to use critical thinking skills to provide treatment for medical, trauma and cardiac emergencies in the pre-hospital setting. The Paramedic Specialist transports patients to and between hospitals using ground and air ambulances, and performs skills in a variety of settings including emergency departments, critical care units and cardiac catheter labs. Course content includes anatomy and physiology, pathology, and the identification and initial diagnosis of disease and injury in a variety of populations. Paramedic Specialists initiate IVs, perform endotracheal intubation, read electrocardiograms and provide cardiac defibrillation. Instruction in rescue operations, crisis scene management and medical triage is included.

Upon successful completion of the program, the student will be prepared to take the National Registry Exam for Certified Paramedic.

Criminal background checks will be completed on each student. Criminal convictions or documented history of abuse may delay or prevent students from participation in paramedic specialist education experiences. Students unable to participate in paramedic specialist education will be unable to complete the Paramedic Specialist program.

Certificates of Specialization

For more information about the Paramedic Specialist certificate, please visit our website at https://go.dmacc.edu/programs/health/paramedic.

#### Location: Ankeny

#### **Program Entry Requirements**

- 1. Complete an application for admission.
- 2. Attend any required information/registration session.
- Submit a copy of current State of Iowa EMT-Basic, Iowa EMT-Intermediate/85 or Iowa EMT-Paramedic certification (I/99). All students must have an Iowa EMT-B or EMT-I certification.
- 4. Submit evidence of a grade of "C" or better in one year of high school biology OR a grade of "C" or better in DMACC Academic Achievement Center Biology I OR equivalent.
- 5. Obtain a minimum score of 81 in Reading on the COMPASS test.
- Obtain a minimum score of 46 in Algebra on the COMPASS test OR a minimum ACT math score of 19 OR obtain a grade of "C" or better in MAT 073 or equivalent.
- Obtain a minimum score of 70 in English on the COMPASS test OR a minimum ACT English score of 19 OR a grade of "C" or better in ENG 061 or equivalent.
- 8. Submit evidence of a grade of "C" or better in one year of high school chemistry OR a grade of "C" or better in DMACC Academic Achievement Center Chemistry I and II OR equivalent.

To earn the Paramedic Specialist certificate, a grade of "C" or better is required in all EMS courses.

#### Students start Fall semester.

#### Semester 1

EMS 460	Role of the Paramedic	2
EMS 463	Medical/Legal/Ethical Issues	2
EMS 467	Prin. of Pathophysiology I	7
EMS 468	Prin. of Pathophysiology II	7
Semester 2	2	
EMS 470	Patient Assessment	4
EMS 473	Medical Emergencies	7
EMS 476	Trauma	7
Semester 3	3	
EMS 480	Special Considerations	6
EMS 483	Operations	4

#### TOTAL CREDITS REQUIRED TO

<b>COMPLETE THIS</b>	CERTIFICATE	46

### Phlebotomy

A phlebotomist draws blood from patients for diagnostic medical tests. Most phlebotomists are employed in hospitals. The program runs approximately 13 weeks and is offered Fall and Spring semesters.

Results of background checks will be shared with cooperating agencies, which may prevent placement for clinical practicum. This will affect successful program completion.

Proof of immunizations is required prior to beginning of clinical rotation.

For more information about the Phlebotomy certificate, please visit our website at **https://go.dmacc.edu/programs/phlebotomy**.

#### **Program Entry Requirements:**

- 1. Complete an application for admission.
- 2. Attend a required information/registration session or obtain the approval of the program chairperson.
- 3. Submit to the Admissions Office evidence of high school graduation or GED completion prior to enrollment.

#### **Required Courses**

PHB 113	Principles of Phlebotomy	3
PHB 280	Phlebotomy Clinical	2

TOTAL CREDITS REQUIRED TO
COMPLETE THIS CERTIFICATE

### **Printing Technologies**

The Printing Technologies certificate is designed for students in the Graphic Technologies program who wish to specialize in their degree, or for individuals with prior printing experience who wish to update their skills or seek 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 and screen printing. Job planning, cost estimating and finishing methods will also be covered.

For more information about the Printing Technologies certificate, please visit our website at **https://go.dmacc.edu/programs/printing**.

#### **Required Courses**

GRT 400	Intro to Printing Methods	4
GRT 403	Production Methods	2
GRT 409	Project Planning & Management	3
GRT 420	Advanced Printing Methods	4
GRT 427	Specialty Printing Methods	4

#### 

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

### Retailing

The Retailing certificate offers skills for students 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.

For more information about the Retailing certificate, please visit our website at **www.dmacc.edu/programs/marketing/**.

# Certificates of Specialization

#### **Required Courses**

MKT 160	Principles of Retailing	3
MKT 140	Selling	3
APP 111	Visual Merchandising & Design	3
MGT 147	Leadership Development	3

#### TOTAL CREDITS REQUIRED TO

### 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.

For more information about the Sales certificate, please visit our website at **www.dmacc.edu/programs/marketing/**.

#### **Required Courses**

MGT 147	Leadership Development	5
MCT 147		7
MGT 194	Relationship Strategies in Business	2
MKT 110	Principles of Marketing	3
MKT 140	Selling	3

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

ENG 105	Composition I	Opt 1	3
COM 703	Communication Skills	Opt 1	3
MGT 145	Human Relations in Business	Opt 2	3
PSY 111	Introduction to Psychology	Opt 2	3

### TOTAL CREDITS REQUIRED TO

### **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.

For more information about the Supervision certificate, please visit our website at **www.dmacc.edu/programs/marketing/**.

#### **Required Courses**

MGT 130	Principles of Supervision	3
MGT 101	Principles of Management	3

# PROGRAMS AVAILABLE

## Option Courses—Select a minimum of 6 credits from Option 1, and 1 Course from Option 2 and 1 Course from Option 3

BUS 102	Introduction to Business	Opt 1	3
BUS 148	Small Business Management	Opt 1	3
BUS 150	E-Commerce on the Web	Opt 1	3
MKT 145	Sales Management	Opt 1	3
MGT 115	Administrative Management	Opt 1	3
MGT 800	Business Internship I	Opt 1	4
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

## 

These credits are applicable to the diploma in Sales & Management, the AAS degree in Management and the AAS degree in Marketing.

# **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.

For more information about the Turf Maintenance certificate, please visit our website at **www.dmacc.edu/programs/ag**.

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

AGH 147	Soil Fertility for Hort.		1
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
ENV 115	Environmental Science	Opt 1	3
AGH 221	Principles of Horticulture	Opt 1	3
AGH 146	Soil Science for Horticulture	Opt 2	3
AGA 154	Fundamentals of Soil Science	Opt 2	3
		•	-

### 

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

# Viticulture

The Viticulture certificate provides training for those working with vineyards and for those who want to start a vineyard. The certificate will promote skills and practices imperative for quality grape production.

For more information about the Viticulture certificate, please visit our website at **https://go.dmacc.edu/programs/viticulture**.

## **Required Courses-Select 1 Course from Option 1**

VIN 101	Intro to Starting a Vineyard		4
VIN 102	Intro to Bearing Vineyards		4
VIN 103	Intro to Vineyard Pest Mgmt		4
VIN 920	Field Experience		3
VIN 104	Vit. for Wine Production	Opt 1	3
VIN 149	Grape and Wine Science	Opt 1	4

# TOTAL CREDITS REQUIRED TO

# Wastewater Treatment Technology

(pending approval from the Iowa Department of Education)

The Wastewater Treatment Technology certificate is designed to give entry-level students and entry-level water industry employees training in skills and theory directly related to water operations. This certificate is designed to be a starting point for people who are interested in a career in the treatment field and will prepare them for entry-level employment. The diploma and AAS degree programs are designed to build from this certificate to allow workers in treatment operations to be a more comprehensive and valuable employee by giving them the skills to work on advanced equipment, controls and troubleshoot problematic equipment.

All operators are required by law to be certified. This program provides training and educational experiences that will prepare you for certification examinations. Work experience requirements must be met before you are eligible to take an examination for certification. Be sure to refer to the certifying body in your area to determine eligibility. In Iowa, visit the DNR website located at **www.iowadnr.gov/water/files/opcert.pdf**.

For more information about the Water and Wastewater Treatment Technology program, please visit our website at **www.dmacc.edu/programs/water**.

## **Program Entry Requirements:**

- 1. Complete an application for admission.
- 2. Attend any required information/registration session.
- 3. Complete a high school biology course or equivalent with a "C" or higher.

# **Required Courses**

WAT 307	Wastewater Treatment I	4
WAT 306	Wastewater Collection Systems	4
WAT 308	Wastewater Analysis	3
WAT 311	Wastewater Treatment II	4
ENV 115	Environmental Science	3
These credits	are applicable to the Water and Wastewater Treatment	

Technology diploma and the AAS degree in Water Environmental Technology.

# 

# PROGRAMS AVAILABLE

# Water Treatment Technology

(pending approval from the Iowa Department of Education)

The Water Treatment Technology certificate is designed to give entry-level students and entry-level water industry employees training in skills and theory directly related to water operations. This certificate is designed to be a starting point for people who are interested in a career in the treatment field and will prepare them for entry-level employment. The diploma and AAS degree programs are designed to build from this certificate to allow workers in treatment operations to be a more comprehensive and valuable employee by giving them the skills to work on advanced equipment, controls and troubleshoot problematic equipment.

All operators are required by law to be certified. This program provides training and educational experiences that will prepare you for certification examinations. Work experience requirements must be met before you are eligible to take an examination for certification. Be sure to refer to the certifying body in your area to determine eligibility. In Iowa, visit the DNR website located at **www.iowadnr.gov/water/files/opcert.pdf**.

For more information about the Water and Wastewater Treatment Technology program, please visit our website at **www.dmacc.edu/programs/water**.

#### **Program Entry Requirements:**

- 1. Complete an application for admission.
- 2. Attend any required information/registration session.
- Complete a high school chemistry course or equivalent with a "C" or higher.

#### **Required Courses**

WAT 300	Water Analysis	3
WAT 304	Water Treatment I	4
WAT 305	Water Distribution Systems	4
WAT 312	Water Treatment II	4
ENV 115	Environmental Science	3

# 

# **Web Developer**

(pending approval from the Iowa Department of Education)

This certificate provides a basic set of web development skills that focus on creating commercial website applications. A student who completes this certificate should be able to design and build a commercially oriented website application. The application would include such basic e-commerce functionality as shopping carts, database-driven catalogs and payment processing.

#### Location: Ankeny

## **Program Entry Requirements**

- 1. Complete an application for admission.
- 2. Satisfy the assessment requirement.
- 3. Attend any required information/registration session.

### Students start any semester.

For more information about the Web Developer certificate, please visit our website at **www.dmacc.edu/programs/webdevelopment**.

# Certificates of Specialization

### **Required Courses**

# Semester 1–Select 1 Course from Option 1 and 1 Course from Option 2

BUS 150	E-Commerce on the Web		3
WDV 101	Intro HTML and CSS	Opt 1	3
CIS 204	Intro to Website Development	Opt 1	3
WDV 151	Intro Web Design		3
WDV 131	Intro Photoshop and Fireworks	Opt 2	3
GRD 463	Photoshop	Opt 2	3
ART 225	Photoshop for Photography	Opt 2	3
Semester 2	-Select 1 Course from Option 3		
WDV 245	Content Management Systems I		3
WDV 261	Intro Flash		3
WDV 221	Intro Javascript	Opt 3	3
CIS 240	E-Commerce Website II	Opt 3	3

# TOTAL CREDITS REQUIRED TO

# 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 required for the student to enter employment in the welding field, or for the student's own personal gain.

For more information about the Welding certificate, please visit our website at **https://go.dmacc.edu/programs/welding**.

### **Oxy-acetylene Welding**

WEL 120	Oxy-Fuel Welding/Cutting	2
These credits	s are applicable to the diploma in Welding.	

## **Shielded Metal Arc Welding**

WEL 150	Arc Welding I (SMAW)	2
WEL 165	Arc Welding II (SMAW)	3
WEL 166	Arc Welding III (SMAW)	2
WEL 167	Arc Welding IV (SMAW)	3
WEL 168	Arc Welding V (SMAW)	3
WEL 169	Arc Welding VI (SMAW)	2

TOTAL CREDITS REQUIRED FOR

# SHIELDED METAL ARC WELDING ......15

These credits are applicable to the diploma in Welding.

## **Gas Metal Arc Welding**

WEL 181	Gas Metal Arc Welding	2
These credi	ts are applicable to the diploma in Welding.	

# PROGRAMS AVAILABLE

# **Gas Tungsten Arc Welding**

WEL 190	Gas Tungsten Arc Welding
These credits	are applicable to the diploma in Welding.

## **Blueprint Reading**

WEL 111	Welding Blueprint Reading	3
These credit	s 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

# **Wine Service**

The Wine Service certificate will prepare students to objectively analyze wines, implement service standards consistent with fine dining, manage restaurant beverage programs and train wait staff. The resulting beverage expertise will increase restaurant revenue and gain repeat patrons.

For more information about the Wine Service certificate, please visit our website at **https://go.dmacc.edu/programs/viticulture**.

## **Required Courses-Choose 4 Credits from Option 1**

VIN 150	Introduction to Wine		3
VIN 153	Intro to Wine Regions		1
VIN 175	Wine Service Operations		2
HCM 550	Food and Wine Seminar		3
VIN 250	Wine Regions of the World		3
VIN 275	Sensory Science		4
VIN 151	Cellar Tech. and Operations	Opt 1	4
VIN 152	Intro. to Wine Science	Opt 1	4
VIN 932	Internship in Enology	Opt 1	3
VIN 185	Introductory Sommelier Prep.	Opt 1	2
VIN 295	Certified Sommelier Prep.	Opt 1	2
HCM 300	Beverage Management	Opt 1	2

# 

# Certificates of /Completion/Specialization

# Certificates of Completion

# **Transportation Institute**

# **Commercial Vehicle**

# **Commercial Vehicle Operator Program**

The Transportation Institute Commercial Vehicle Operator program is one of approximately 80 in the U.S. that have 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 evening in 12 weeks.

The Institute provides customized programs and services to individuals and companies, including remediation and evaluation services, advanced driver programs, Defensive Driving Courses (DDC), driver/dispatcher relationships and driver retention programs. It also offers a Train the Trainer Program that allows transportation carriers to 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.

For more information about the Commercial Vehicle Operator program, please visit our website at https://go.dmacc.edu/truckdrivingschools.

## Features

2

- 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 of \$25,000-\$40,000 the first year.
- 6. Excellent career opportunities within the industry.

Required Courses	<b>Contact Hours</b>
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 3 hours in the classroom and 5 hours of hands-on driving. Additional driving time and private lessons are available. The program specializes in safety, respect, patience and confidence in a variety of vehicles of all sizes from class A, B & C motor homes, to fifth-wheel trailers to travel trailers.

We also have RV (Recreational Vehicle) training and educational programs 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.

For more information about the RV Safety and Education Program, please visit our website at **https://go.dmacc.edu/conteddesc/pages/rv.aspx**.

# NOTES


# HOW TO READ OUR COURSE DESCRIPTIONS

The following are standard, approved subjects. Availability of any subject depends on the scheduling, program and student needs at the time. The receiving college or university determines the transferability of courses.

**ADJUNCT** Adjunct courses may be temporary or experimental and may be used to fulfill elective credit in programs that lead to a degree or diploma. Adjunct courses may not be used to fulfill or substitute for required or option courses in any degree or program.

GENERAL Noncore courses identified as freshman-sophomore courses.

**OPEN** Occupationally specific courses corresponding to courses in certain professional programs at four-year institutions.

OPEN

- **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.

#### ACC 111 3 3 0 0 0 INTRO TO ACCOUNTING

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

#### ACC 124 3 3 0 0 0 VOC/TECH ACCOUNTING PROFESSIONALISM

Covers all aspects of accounting career goal-setting, developing prospective accounting employer lists, 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 an accounting professional's duty to the community. Reviews office etiquette and common professional courtesy. (P/F)

## ACC 131 4 4 0 0 0 GENERAL PRINCIPLES OF ACCOUNTING I

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.

# ACC 132 4 4 0 0 0 GENERAL PRINCIPLES OF ACCOUNTING II

A continuation of Principles of Accounting I. Introduces accounting procedures related to corporations, manufacturing and branch operations. Course also includes an introduction to capital budgeting, analysis of financial statements and decision-making by managers. Prerequisite: ACC 131

## ACC 161 3 3 0 0 0 VOC/TECH PAYROLL ACCOUNTING

Covers payroll laws, state and federal withholding taxes, state and federal forms, salary deductions including cafeteria insurance plans and pension plans, and computerized payroll software packages. Prerequisite: ACC 131 or ACC 111

# ACC 165 2 2 0 0 0 VOC/TECH PAYROLL CERTIFICATION REVIEW

Covers fundamental payroll calculations and applications. Provides students with the basic knowledge and skills required to prepare for the Fundamental Payroll Certification (FPC) exam administered by the American Payroll Association. Recommended for payroll professionals.

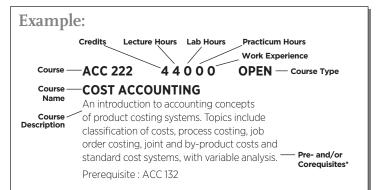
#### ACC 191 3 3 0 0 0 VOC/TECH FINANCIAL ANALYSIS

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

# ACC 193 3 3 0 0 0 VOC/TECH ACCOUNTING PROCEDURES/MGMT

Generally Accepted Accounting Principles (GAAP) are emphasized. Topics include receivables, payables, banking records, document flow, internal control, planning, organizing, leadership, human relations and business communications.

Prerequisite: ACC 131



**COLLEGE PREPARATORY (COLL PREP)** College preparatory and skill building courses. College Preparatory courses cannot be used to fulfill degree requirements.

(P/F) Indicates courses taken pass/fail.

- **PREREQUISITES** Successful completion of a course or other criterion necessary for a student to succeed in a higher level course.
- **COREQUISITES** A course that must be taken concurrently or prior to the course.

\*An instructor may deny enrollment in or drop a student from a specific course if a course prerequisite has not been met.

### ACC 222 4 4 0 0 0 COST ACCOUNTING

OPEN

An introduction to accounting concepts of product costing systems. Topics include classification of costs, process costing, job order costing, joint and by-product costs and standard cost systems with variable analysis.

Prerequisite: ACC 132

### ACC 231 4 4 0 0 0 OPEN INTERMEDIATE ACCOUNTING I

Emphasis on theory, standards and principles—the "why" of accounting. The framework goes beyond the procedural level to the conceptual level. Topics include preparation of income statements, balance sheets and related footnotes. Applicable FASB pronouncements are presented.

Prerequisite: ACC 132

#### ACC 232 4 4 0 0 0 OPEN INTERMEDIATE ACCOUNTING II

Continuation of Intermediate Accounting I. Topics include Long-Term debt, investments, equity, pensions, leases, accounting changes, earnings per share and accounting for inflation.

Prerequisite: ACC 231

### ACC 241 3 3 0 0 0 VOC/TECH TREASURY & CASH MANAGEMENT

Introduces the requisite skills and knowledge for entry-level positions in the treasury and cash management operation. Utilizes case studies and articles relevant to treasury management practice. Relates directly to accounting and financial management topics.

#### ACC 251 3 3 0 0 0 OPEN GOV'T & NONPROFIT ACCOUNTING

An introduction to the accounting and reporting principles, standards and procedures applicable to federal, state and local government. Also includes nonprofit institutions such as hospitals and universities.

Prerequisite: ACC 131

#### ACC 261 3 3 0 0 0 OPEN INCOME TAX ACCOUNTING

An introduction to personal income tax. Emphasizes computation of federal and state income taxes and preparation of tax forms.

Prerequisite: ACC 131 or ACC 111

### ACC 268 3 3 0 0 0 VOC/TECH BUSINESS TAX

Business Tax focuses on federal income tax associated with the three principal business forms: corporations, both S and C partnerships and limited liability companies. Tax aspects affecting the determination of taxable income and loss as they apply to businesses are covered.

# ACC 272 4 4 0 0 0 VOC/TECH ACCOUNTING INFORMATION SYSTEMS

Identifies the information required by accountants as it relates to financial and managerial accounting. It provides an overview of the systems design and development process.

Prerequisites: ACC 132, CSC 110 or equivalent or instructor approval

### ACC 281 3 3 0 0 0 VOC/TECH AUDITING

An introduction to auditing concepts, internal control procedures, preparation of audit programs and working papers, application of methods and procedures for conducting an audit. The legal and ethical responsibilities of auditors. Preparation of audit reports.

Prerequisite: ACC 231

# ACC 311 3 2 2 0 0 VOC/TECH COMPUTER ACCOUNTING

Emphasizes application of computerized financial software used in business. Topics include setting up a company, receivables, payables, inventory control, payroll, time tracking and job estimating.

Prerequisite: ACC 131 or ACC 111

# ACC 361 3 2 2 0 0 VOC/TECH ACCOUNTING SPREADSHEETS

Microcomputer operations with an emphasis on managerial uses. Includes topics in spreadsheet modeling, spreadsheet commands, manufacturing systems, budgeting and profit analysis.

Prerequisite: ACC 131, CSC 110 or equivalent or instructor approval

#### ACC 850 3 2 2 0 0 VOC/TECH TAX ASSISTANCE INSTITUTE

An opportunity to participate in a volunteer income tax assistance program by applying classroom skills to actual experience. Includes training to provide free tax assistance and preparation of basic tax returns for older, handicapped and low-income taxpayers. (P/F) Prerequisite: ACC 261

### ACC 932 3-4 0 0 0 12-16 VOC/TECH ACCOUNTING INTERNSHIP

An opportunity to gain practical experiences 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 hours of ACC courses, Corequisite: ACC 946

# ACC 946 11000 VOC/TECH ACCOUNTING CAREER SEMINAR

Designed to provide in-depth discussion of Accounting/Bookkeeping/Accounting Specialist work experiences.

Prerequisite: Successful completion of 11 hours of ACC credit courses; permission of the department and demonstrable job readiness with computer literacy, Corequisite: ACC 932

### ADM 105 1 0 2 0 0 VOC/TECH INTRO TO KEYBOARDING

Basic instruction on a personal computer to learn the touch system for the alphabetic keyboard, number keyboard and ten-key numeric pad.

# ADM 131 1 0 2 0 0 VOC/TECH OFFICE CALCULATORS

Electronic calculator operations. Emphasis on speed and accuracy. Includes topics in addition, subtraction, multiplication and division; also the use of constants, chain computations and prorations.

#### ADM 138 3 0 6 0 0 VOC/TECH DATA ENTRY

Competency-based course to give students an introduction to current practices, equipment and various job-related applications in data entry. The main focus is on speed and accuracy in entering data in a terminal.

Recommend keyboarding skills of at least 30 NWPM

# ADM 154 3 3 0 0 0 VOC/TECH BUSINESS COMMUNICATION

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: ADM 157 with a "C-" or better and BCA 212 with a "C-" or better

### ADM 157 3 3 0 0 0 VOC/TECH BUSINESS ENGLISH

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

#### ADM 162 3 2 2 0 0 VOC/TECH OFFICE PROCEDURES

Office Procedures is the integration of the knowledge and skills needed to function in an office environment. Topics include telecommunication techniques, components of customer relations and various responsibilities of the administrative assistant. Prerequisite: ADM 157 with a "C-" or better and BCA 133 with a "C-" or better

## ADM 164 3 2 2 0 0 VOC/TECH ADMINISTRATIVE OFFICE APPL

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

Prerequisite: ADM 162 with a "C-" or better and BCA 213 with a "C-" or better

# ADM 208 3 3 0 0 0 VOC/TECH LEGAL TERMINOLOGY

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

#### ADM 215 3 3 0 0 0 VOC/TECH MEDICAL OFFICE PROCEDURES

This course presents basic administrative skills in a medical facility. Study includes identification of medical specialties, medical law, ethics and professionalism. Administrative skills and responsibilities are studied to include telephone techniques, appointment scheduling and management of medical records. Government regulatory agencies for healthcare facilities are identified, to include HIPPA and mandate reporter. Students are introduced to medical office computerized management software.

Prerequisites: HSC 120 with a "C-" or better and BCA 137 with a "C-" or better

# ADM 221 2 2 0 0 0 VOC/TECH CAREER DEVELOPMENT SKILLS

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.

# ADM 259 3 3 0 0 0 VOC/TECH PROFESSIONAL DEVELOPMENT

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

#### ADM 265 2 0 0 0 8 VOC/TECH SUPERVISED PRACTICAL EXPERIENCE

Practical experience through on-the-job training in an approved business setting. Tasks will be consistent with students' career objectives, skills and knowledge.

(P/F) Prerequisite: ADM 157 with a "C-" or better and BCA 133 with a "C-" or better and BCA 212 with a "C-" or better, Corequisite: ADM 937

## ADM 300 11000 VOC/TECH CPS REVIEW SEC. I ECON & LAW

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

### ADM 305 11000 VOC/TECH CPS REVIEW SEC. II OFFICE SYSTEM

Section II assists students to pass Part 2 of the Certified Professional Secretary Examination by reviewing office technology, administration and communication. In addition to one hour of credit, students will be awarded 1.5 CEUs.

# ADM 310 11000 VOC/TECH CPS REVIEW SEC. III MANAGEMENT

Section III assists students to pass Part 3 of the Certified Professional Secretary Examination by reviewing behavioral science in business and human resource management. In addition to one hour of credit, students will be awarded 1.5 CEUs.

# ADM 936 3 1 8 0 0 VOC/TECH OCCUPATIONAL EXPERIENCE

Opportunity for supervised work experience related to the major academic interests of students in an approved business setting. Students are guided by coordinated efforts of the employer/supervisor and the instructor. Skills and knowledge are applied by working a minimum of 120 hours.

(P/F) Prerequisite: Minimum employable skills as determined by instructor and with instructor approval

#### ADM 937 11000 VOC/TECH PROF OFFICE CAREERS SEMINAR

An examination of topics relevant to the office internship experience, sharing workplace problems encountered and the solutions found to those problems.

Prerequisite: ADM 157 with a "C-" or better and BCA 133 with a "C-" or better and BCA 212 with a "C-" or better, Corequisite: ADM 265

# ADN 126 2 1 2 0 0 VOC/TECH PASSPORT TO ADN NURSING

Assists in preparation for a successful transition to the ADN program. Focuses on curriculum design, knowledge components, student expectations, study/time management skills, PN to RN role changes, application of nursing process with emphasis on health assessment and nursing skills across the lifespan.

Prerequisite: Acceptance into the Advanced Standing Nursing program

## ADN 416 5 3 0 6 0 FAMILY HEALTH NURSING

Provides an in-depth study of family health nursing, including childbearing, parenting, and illnesses of children and adolescents. Concepts of acute and chronic illness, disability and dying are included. Prerequisite: PNN 605, 606, 351, ENG 105, SPC 126, BIO 732 or 187, Corequisite: ADN 611

### ADN 474 5 3 0 6 0 MENTAL HEALTH NURSING

Provides an in-depth study of mental health nursing, including mental health needs, mental illness and addictive disorders. Communication and principles of group process are emphasized.

OPEN

Prerequisite: PNN 605, 606, 351, ENG 105, SPC 126, BIO 732 or BIO 187, Corequisite: ADN 611

## ADN 551 7 4 0 9 0 OPEN ADULT HEALTH NURSING

Provides an in-depth study of nursing care and therapeutic interventions for adults with complex health problems. The student applies management, collaboration and clinical decision-making skills. Prerequisite: ADN 611, 416, 474, SOC 110

#### ADN 611 2 1 2 0 0 OPEN PROFESSIONAL NURSING PRACTICE

Introduces the role of the professional registered nurse, including comprehensive planning, client care management, collaborative relationships and performance of complex skills.

Prerequisite: PNN 605, 606, 351, ENG 105, SPC 126, BIO 732 or BIO 187

#### ADN 821 31060 OPEN NURSING SEMINAR

Emphasizes the transition from nursing student to entry-level professional nurse. Clinical preceptorship occurs in a variety of healthcare settings. Prerequisite: ADN 551

## AGA 114 3 3 0 0 0 OPEN PRINCIPLES OF AGRONOMY

An introductory course in the general principles of crop production and management. Major areas of study are food production, crop classification, plant growth factors, seed production and variety selection.

## AGA 129 3 3 0 0 0 VOC/TECH INTRO TO SUSTAINABLE AGRICUL

This course will provide a broad introduction to the economic, environmental and cultural components of the food production and marketing systems popularly known as sustainable agriculture. Subjects covered include the meaning of sustainable agriculture; its emergence and growth as a social movement; pertinent soil, crop and livestock management practices and a global perspective on sustainability and 21st-century agriculture.

#### OPEN AGA 154 3 3 0 0 0 OPEN FUNDAMENTALS OF SOIL SCIENCE

An extended course in soils and fertilizers. A study of the physical, chemical and biological properties of soils. Also includes the study of fertilizers, their composition, manufacture and use. Corequisite: AGA 157

#### AGA 157 1 0 2 0 0 OPEN SOIL FERTILITY

The physical, chemical and biological study of soil properties provided through a laboratory setting. The class will review the interaction of nutrients, land measurement and environmental concerns through soil management issues.

Corequisite: AGA 154 (recommended) or AGH 146

## AGA 211 3 3 0 0 0 OPEN GRAIN AND FORAGE CROPS

An advanced course using the problem-solving approach to crop management. Principles and practices of agronomic science are used in the discussion of management problems related to corn, soybeans, forage, small grain, sorghum and alternative crops.

Prerequisite: Permission of instructor or AGA 381, 114, 154

### AGA 222 2 2 0 0 0 OPEN GRAIN MANAGEMENT

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

### AGA 284 3 3 0 0 0 OPEN PESTICIDE APPLICATION CERTIFIC

Common features of pests, methods of control, how pesticides work, pesticide labels, application equipment, calibration, laws and regulations governing pesticide use.

## AGA 381 3 2 2 0 0 OPEN CROP SCOUTING

The course develops an understanding of the factors that affect plant growth. Plant nutrients are considered as students gain experience in identifying major and micronutrient deficiency symptoms in plants by means of soil tests, plant tests and observations.

### AGB 101 3 3 0 0 0 OPEN AGRICULTURAL ECONOMICS

The study of economic principles and their application to the distribution of agricultural supplies.

### AGB 235 3 3 0 0 0 OPEN INTRO TO AGRICULTURAL MARKETS

Focus on the futures market and how it can be used as a marketing tool. Major areas of study include hedging, speculation, price forecasting, spreading, technical and fundamental analysis. The use of options as an economic marketing tool will be covered.

#### AGB 330 3 3 0 0 0 OPEN FARM BUSINESS MANAGEMENT

Includes management problem identification and solutions using business and economic principles, enterprise and total farm budgeting, adjusting to uncertainty, investment decisions, farm business organization, farm records and business analysis.

#### AGB 331 3 3 0 0 0 AGRIBUSINESS MANAGEMENT

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

# AGB 440 3 3 0 0 0 VOC/TECH AGRICULTURAL NICHE MARKETING

The marketing of agricultural products in a niche market requires an understanding of the challenges for marketing a product or service in small portions to a consumer who is not being readily served by the mainstream product or service providers. This course will explore the opportunities available and identify procedures for establishing niche markets.

#### AGB 802 2 0 0 0 8 OPEN AGRIBUSINESS INTERNSHIP I

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: AGS 113 or AGA 114

#### AGB 812 2 0 0 0 8 OPEN AGRIBUSINESS INTERNSHIP II

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: AGB 802

#### AGC 314 2 2 0 0 0 VOC/TECH LEADERSHIP IN AGRICULTURE

The course has been designed as a leadership development course that will allow students to actively engage in a variety of industry activities as preparation for their involvement as leaders within the industry. The development and practice of leadership skills is achieved through participation in a community or professional organization. Introductory skills to successfully coordinate and conduct a business meeting will be part of the course.

### AGC 420 3 3 0 0 0 VOC/TECH AGRICULTURAL ISSUES

This course will explore the current issues that affect agriculture from the perspective of the producer and consumer in a society with little direct connection to food production. The course will review today's most pressing issues: the environment, the national debt, international trade and world health and how it all relates to global society change.

#### AGH 103 1 0 2 0 0 VOC/TECH FLORAL DESIGN I

Construction and mechanics of merchandising flowers and plants at retail.

# AGH 104 1 0 2 0 0 VOC/TECH FLORAL DESIGN II

An advanced class in commercial floral design, flower shop organization and management. Advanced wedding work, funeral work and commercial flower arrangements will be taught.

Prerequisite: AGH 103

OPEN

### AGH 111 2 2 0 0 0 VOC/TECH INTRO TO TURFGRASS MANAGEMENT

The study of soil and turf relationships to planning, seed bed preparation, seed selection, fertilization, sowing and establishing of turf and lawn. The student receives practical experience in starting and maintaining new lawn areas.

Prerequisite: AGH 146 or AGA 154, AGH 147, AGH 221

### AGH 120 3 2 2 0 0 VOC/TECH HERBACEOUS PLANT MATERIALS

The identification, morphology, landscape use and culture of native and nonnative plants of the Upper Midwest. Emphasis on early and mid-season perennials and annuals.

The following courses should be completed or taken currently: AGH 155, 123

# AGH 123 3 1 4 0 0 VOC/TECH WOODY PLANT MATERIALS

The identification, morphology, landscape use and culture of native and nonnative woody plants of the Upper Midwest. First 10 weeks, emphasis on deciduous plants. Last 5 weeks, emphasis on evergreens.

Corequisite: AGH 159

# AGH 132 3 2 2 0 0 VOC/TECH INTRODUCTION TO GREENHOUSE

An introduction to greenhouse structures, heating and environmental control systems and watering. Winter and spring commercial potted plants, cut flowers and bedding plant crops will be explored vocationally in the college greenhouse.

Prerequisite: AGH 146 or AGA 154, AGH 147, and AGH 221

## AGH 133 3 2 2 0 0 VOC/TECH GREENHOUSE PROD TECHNIQUES

Greenhouse maintenance, nutrition, watering, cooling systems and pest control shall be developed further in college greenhouse facilities. Summer and fall crops will be grown by students. Prerequisite: AGH 132

Prerequisite: AGH 132

# AGH 142 3 2 2 0 0 VOC/TECH CONSTRUCTION, SAFETY & MAINT.

Principles and practices of residential landscape construction. Encompasses processes from the initial client contact to installation of plant material and hardscape. Laboratory work involves landscape installation using landscape materials and techniques.

## AGH 146 3 3 0 0 0 VOC/TECH SOIL SCIENCE FOR HORTICULTURE

A study of the management and properties of soils and rooting media for horticulturalists. The course will study the physical, chemical and biological aspects of soil management. This course also includes the study of soil amendments for fertilization, pH and salt control.

Corequisite: AGH 147

# AGH 147 1 0 2 0 0 VOC/TECH SOIL FERTILITY FOR HORT.

This course provides a study of the practical application of soil management to the various aspects unique to soil and potting media management in horticulture.

Corequisite: AGH 146 (recommended) or AGA 154

## AGH 154 3 1 4 0 0 VOC/TECH RESIDENTIAL LANDSCAPE DESIGN

Fundamentals of landscape design for homes are presented. Introduction to principles of landscaping as they apply to residential landscaping. Students are given opportunities to draw basic residential landscape plans.

Prerequisite or, Corequisite: AGH 159, 123 must be taken with or prior to this course

## AGH 155 2 1 2 0 0 VOC/TECH LANDSCAPE DESIGN II

Course will include design of residential, commercial, public areas and annual and perennial flower beds. Use of landscape construction materials in design and materials and labor estimates will be developed. Prerequisite: AGH 154, 159, 123, Corequisite: AGH 120

## AGH 159 2 2 0 0 0 VOC/TECH LANDSCAPE DRAFTING

Introduction to landscape drafting and associated drafting equipment and materials. Corequisite: AGH 123

## AGH 160 2 1 2 0 0 VOC/TECH IRRIGATION SYSTEMS

A study of the design, installation, use and maintenance and repair of the different types of irrigation systems used in the production of a wide variety of horticulture crops. Irrigation system components, materials and estimates of installation, and maintenance and operation costs will be discussed.

Prerequisite: AGH 146 or AGA 154, AGH 147, AGH 111

# AGH 211 3 2 2 0 0 VOC/TECH ADVANCED TURFGRASS MANAGEMENT

Turf management practices on golf and recreation areas with practical experience in maintaining turf on outdoor campus facilities.

Prerequisite: AGH 111

#### AGH 221 33000 VOC/TECH PRINCIPLES OF HORTICULTURE

A course designed to introduce the student to the principles of botany that are basic to plant life. Topics covered include plant cell chemistry, cell structure, functions, photosynthesis and transpiration.

#### 32200 VOC/TECH AGH 233 PLANT PROPAGATION I

An introduction to plant propagation with emphasis on grafting, herbaceous and hardwood cuttings, and greenhouse and nursery seeds. Propagation schedules, equipment, structures and growth regulators will be discussed.

Prerequisite: AGH 146 or AGA 154, AGH 147, AGH 221

#### 21200 VOC/TECH AGH 241 SPORTS TURF

Introduction to the variety of sports contests played on turfgrass fields. Students will study the sport. site selection and preparation, turfgrass species selection, establishment and maintenance of the field. Precompetition practices of field layout along with post-competition practices of repair and field recovery will be discussed.

Prerequisite: AGH 146 or AGA 154, AGH 147, AGH 111

#### AGH 251 22000 VOC/TECH **INSECTS AND DISEASES**

Identification of diseases and insects that frequently infest horticultural crops and plant materials. Structures, functions and life cycles of these pests will be studied with environmental conditions favoring development. Chemical, organic, biological and mechanical control methods will be presented. A collection will aid in the ID process.

#### AGH 262 32200 VOC/TECH FRUIT AND VEGETABLE SCIENCE

A study of tree fruits, small fruits and vegetable culture, including varietal selection, planting, pruning, fertilizing, disease and insect control programs.

Prerequisite: AGH 146 or AGA 154, AGH 147, AGH 221

#### AGH 272 32200 VOC/TECH NURSERY PRODUCTION I

Introduces the student to site selection, equipment and supplies with an introduction to field production, harvesting and marketing. Basic nursery and landscape skills will be developed on- and off-campus. Prerequisite: AGH 146 or AGA 154, AGH 147, AGH 221

#### AGH 281 32200 VOC/TECH ARBORICULTURE

A study of tree culture with emphasis on propagation, pruning, transplanting, pest control, urban environmental concerns and recognition of hazards and liabilities. Methods of evaluation of values also studied.

Prerequisite: AGH 146 or AGA 154, AGH 147, AGH 221

#### AGH 283 22000 VOC/TECH PESTICIDE APPLICATION CERTIFICATE

Types of chemicals will be identified and how to use and apply them properly will be studied. The safe handling of chemicals and calibration of spray equipment will be covered. Includes study of core manual and category for commercial pesticide license.

#### AGH 292 33000 VOC/TECH GARDEN CENTER MANAGEMENT

Display, promotion and merchandising in the modern garden center will be stressed. Problems of distribution functions of marketing and their costs will be studied. Management's role in organizing a business and financial planning will be discussed.

#### AGH 805 200010 VOC/TECH HORTICULTURE INTERNSHIP I

Experience in a business setting related to the student's career objective. Taken over a five-week period. (P/F) Prerequisite: AGH 132, 111, 123

#### AGH 815 200010 VOC/TECH HORTICULTURE INTERNSHIP II

An opportunity for the student to gain employment experience in their specialization. In many instances they will continue as full-time employees upon completion of the program. Taken over a fiveweek period.

(P/F) Prerequisite: AGH 805

#### AGM 336 33000 VOC/TECH ALTERNATIVE ENERGY IN AG

This course is designed to acquaint students with alternative energy sources in agriculture and their impact on the industry. Major areas of study will include petroleum, ethanol, biodiesel, wind energy and second generation fuel sources. Emphasis on application and selection, equipment operations, storage and handling procedures and federal regulations will be addressed.

#### AGP 333 32200 OPEN PRECISION AGRICULTURE APPL.

This course is an introduction to the general principles of Precision Agriculture. Major topic areas will include Global Positioning Systems (GPS), yield mapping, Geographic Information Systems (GIS) and remote sensing equipment.

#### AGS 113 33000 OPEN SURVEY OF THE ANIMAL INDUSTRY

An analysis of the livestock industry with emphasis on reproduction, inheritance, performance testing, selection and marketing.

#### AGS 222 32200 VOC/TECH SURVEY OF AQUACULTURE INDUSTRY

A study of the ecology and management of aquaculture systems with emphasis on fish production. A focus on environmental issues relating to water quality will be implemented through laboratory exercises.

#### AGS 225 33000 OPFN SWINE SCIENCE

The practical application of technical information to life-cycle swine production, including production systems, breeding and genetics, herd health, housing, marketing, management and nutrition.

Required: Permission of Instructor or AGS 319. 113

#### AGS 226 33000 OPEN BEEF CATTLE SCIENCE

The practical application of technical information to life-cycle beef production with emphasis on calf/cow production and feedlot management.

Prerequisite: Permission of instructor or AGS 319, 113

#### AGS 242 33000 OPFN ANIMAL HEALTH

A survey of diseases of large domestic animals, including discussion of causes, transmission, prevention and control.

#### AGS 245 11000 VOC/TECH INTRODUCTION TO ANIMAL DISEASE

This course covers the disease processes, primary and contributing causes, treatments and prevention of common medical and surgical diseases in domestic animals.

Prerequisite: AGV 120

#### AGS 319 33000 OPEN ANIMAL NUTRITION

The identification and study of feed ingredients, nutrients and additives. Determine feed requirements of various livestock classes. Ration balancing and feed formulations are computed.

#### AGS 323 33000 OPEN ANIMAL NUTRITION II

The practical application of feeding principles. An in-depth study of the various nutrients, their requirements and uses. An analysis of research feeding trials, research procedures and manufacturing terminology. Prerequisite: AGS 319

#### **VOC/TECH** AGT 120 32200 AGRICULTURAL APPL IN BIOTECH

This course will explore through discussion and laboratory demonstration the impact that biotechnology has in all agricultural applications. A variety of application techniques will be used in both the agronomic and animal science areas to provide students with an understanding of these significant developments and how they will be able to communicate more effectively with a customer base that utilizes the products being developed.

#### VOC/TECH **AGV 120** 11000 VETERINARY MEDICAL TERMINOLOGY

Course covers the origins of common medical semesters used in the veterinary field. Using analysis of the word parts, the student will be able to determine the definition of medical terminology.

Prerequisite: Acceptance into the DMACC Veterinary Technology program.

#### AGV 124 1 0 2 0 0 VOC/TECH INTRO TO VETERINARY TECHNOLOGY

This course introduces the basics of animal identification, husbandry, behavior, safety and healthcare to the student. Career opportunities in animal-related fields are explored. The student will also complete the American Red Cross Animal First Aid and CPR certification.

Prerequisite: Acceptance into the DMACC Veterinary Technology program.

#### AGV 129 3 3 0 0 0 VOC/TECH VETERINARY PHYSIOLOGY

Physiology with a veterinary clinical emphasis. Provides the basis for study of confirmation, production and pathological processes of diseases of dogs, cats, horses, sheep, cattle, swine and laboratory animals.

Prerequisite: Acceptance into the DMACC Veterinary Technology program

### AGV 133 3 2 2 0 0 VOC/TECH VETERINARY CLINIC PATHOLOGY I

This course covers parasite identification and testing and various sample collection, procedures and interpretation for common diagnostic testing performed in the veterinary laboratory.

Prerequisite: Acceptance into the DMACC Veterinary Technology program.

#### AGV 134 3 2 2 0 0 VOC/TECH VETERINARY CLINIC PATHOLOGY II

Continues Veterinary Clinical Pathology I with emphasis on coagulation studies and clinical chemistry. Selected serological tests will also be covered. Prerequisite: AGV 120, 124, 129 and 133

#### AGV 138 1 0 2 0 0 VOC/TECH CLINICAL PATHOLOGY LAB

A review of current clinical laboratory practices in veterinary pathology.

Prerequisite: AGV 134, AGV 164, AGV 172, AGV 266

## AGV 139 1 1 0 0 0 VOC/TECH INTRO VETERINARY PHARMACOLOGY

This course covers US medication laws and discusses the basic groups of pharmaceuticals and their use in veterinary medicine. This includes dosage calculations, proper labeling, storage, inventory control, recordkeeping and dispensing of medications. Prerequisite: AGV 120, 124, 129 and 133

### AGV 140 3 3 0 0 0 VOC/TECH VETERINARY PHARMACOLOGY

This course is designed to provide advanced knowledge in specific drug classification, usage and effects. This course will outline the technician's role and responsibilities in the pharmacy with regards to regulation of drugs, categories of drugs, labeling prescriptions, controlled drug logs, legal use of drugs, client education, calculations, measurement and compliance with manufacturer recommendations.

Prerequisite: AGV 134, AGV 139, AGV 151, AGV 166, AGV 932

#### AGV 141 2 2 0 0 0 VOC/TECH ADV VETERINARY PHARMACOLOGY

This course is designed to provide advanced knowledge in specific medication classification, usage and effects.

Prerequisite: AGV 139

# AGV 151 3 2 2 0 0 VOC/TECH INTRO VET TECH CLINICAL SKILLS

This course introduces the students to the basics of radiology, anesthesia, surgical preparation, veterinary customer service, veterinary computer programs, veterinary recordkeeping and other skills students will use during their internship.

Prerequisite: AGV 120, 124, 129 and AGV 133

#### AGV 160 4 2 4 0 0 VOC/TECH ANESTHESIA/SURGICAL ASSISTANCE

This course is designed to introduce the student to the common surgical procedures performed in the veterinary clinic. Emphasis is placed on sanitation, patient observation, surgical preparation, assisting in anesthesia and postoperative patient management. Prerequisite: AGV 164, AGV 172, AGV 266

### AGV 164 2 1 2 0 0 VOC/TECH CLINICAL MGMT DOMESTIC SPECIES

This course covers the management and husbandry of animals housed in a hospital or shelter situation. Proper kennel cleaning and disinfection, recordkeeping, monitoring of health parameters, nutrition, bathing, administration of common medications and diagnostic sampling. Prerequisite: AGV 134, AGV 139, AGV 151, AGV 166, AGV 932

#### AGV 165 2 1 2 0 0 VOC/TECH CLIN MGMT LAB/EXOTIC SPECIES

This course is designed to introduce the common species, husbandry procedures and basic nutrition, restraint and handling, common diseases, diagnostic procedures and medications used in various laboratory and exotic pet settings.

Prerequisite: AGV 164, AGV 172, AGV 266

## AGV 166 3 1 4 0 0 VOC/TECH VETERINARY NURSING CARE

Introduces the fundamentals of animal nursing, including handling, restraint, patient history and admissions. Emphasis will be placed on preparation and administration of vaccines and medications for hospitalized animals.

Prerequisite: AGV 120, 124, 129 and 133

## AGV 172 3 2 2 0 0 VOC/TECH LARGE ANIMAL MEDICINE/SURGERY

This course is designed to introduce common species, husbandry and management procedures, proper restraint and handling, common procedures, medication, administration and surgical concerns for common species of domestic large animals.

Prerequisite: AGV 134, AGV 139, AGV 151, AGV 166, AGV 932

### AGV 180 2 1 2 0 0 VOC/TECH VETERINARY RADIOLOGY

This course is designed to introduce the student to radiologic imaging. Topics include safety, patient positioning, processing of film, proper machine use and quality control.

Prerequisite: AGV 120, 124

#### AGV 182 3 2 2 0 0 VOC/TECH DIAGNOSTIC IMAGING

This course is designed to introduce the student to diagnostic imaging. Topics include safety, patient positioning techniques, processing of film, proper machine use, technique chart, quality control and standard diagnostic procedures. It will also introduce the student to digital radiography, ultrasound MRI, CT and nuclear technologies.

Prerequisite: AGV 134, AGV 139, AGV 151, AGV 166, AGV 932

### AGV 266 2 1 2 0 0 VOC/TECH ADV VETERINARY NURSING CARE

Continues Veterinary Nursing Care with emphasis on advanced veterinary nursing procedures.

Prerequisite: AGV 166, AGV 134, AGV 139, AGV 151, AGV 932

#### AGV 932 4 0 0 0 20 VOC/TECH VET TECHNOLOGY INTERNSHIP

Internship experience within a veterinarian-related business with an emphasis on animal care procedures. Prerequisite: AGV 134, 139, 151 and 166

## ANT 100 3 3 0 0 0 CORE INTRODUCTION TO ANTHROPOLOGY

This course is an introduction to the comparative study of humankind from biological and cultural perspectives. It surveys anthropological theory, methods and major findings regarding human origins and variations, cultural development and change, cultural systems and cross-cultural comparisons of people throughout the world.

### ANT 105 3 3 0 0 0 CORE CULTURAL ANTHROPOLOGY

The study of human cultures and their diversity. Students should develop some understanding not only of the differences that people all over the world experience in their lives and in their perceptions of others, but also those elements that are common to the human experience. This course will entail application of principles and theory to various aspects of field work. Completing Introduction to Anthropology would be helpful but it is not a requirement.

## ANT 110 3 3 0 0 0 GENERAL FACES OF CULTURE

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

#### ANT 125 3 3 0 0 0 GENERAL APPLICATIONS OF ANTHROPOLOGY

Applied anthropology uses anthropological and interdisciplinary theory and research to address social issues. This course introduces students to basic concepts in four-field anthropology, with an emphasis on cultural anthropology, and it provides an overview of major specializations and current research topics. Students will engage in primary, community-based research through a course project on a topic of choice within one applied specialty. Students in all programs of study at DMACC may benefit through better understanding of qualitative research processes, the broad array of social issues that applied anthropologists study, and the critical thinking and writing that are necessary to problemsolving and understanding of culture and society.

Prerequisite or, Corequisite: ANT 100 or 105 or instructor approval

### ANT 140 2 1 2 0 0 GENERAL CULTURE & ENV OF BOREAL FOREST

The class is an intensive on-site, six-day course taking place in the Boundary Waters Canoe Area (BWCA) of Superior National Forest in Northern Minnesota. BWCA is a designated wilderness area, accessible in the spring, summer and fall by nonmotored canoe or kavak only. Students will learn how the cultural groups residing there for the past 9.000 years have interacted with the local environment, discussing the environmental exploitation strategies of the various indigenous populations and the historic Euro-American groups in the Boreal Forest. The environment of the Boreal Forest will also be studied. encompassing geology, ecology, botany and zoology. The students will use wilderness minimal-impact camping skills and travel from 35 to 50 miles via canoe. Wilderness living skills and safe and effective canoeing techniques will be taught.

# ANT 150 3 3 0 0 0 GENERAL GLOBAL ISSUES-LOCAL PERSPECTIVE

Examines a variety of ways in which global connections affect cultural groups. Introduces the concepts and historical backdrop needed to understand global processes with specific cases from anthropological research that illuminate ties between local effect and general changes. The concept of "culture" is explained from critical and historical perspectives, along with recent shifts in theorizing and applying anthropological knowledge. The uses of qualitative field research in studies of globalization are emphasized. Students conduct a small topic-focused research project to see how globalization affects local processes in lowa.

Prerequisite or, Corequisite: ANT 100 or 105 or instructor approval

#### APP 101 2 1 2 0 0 SEWING BASICS

This course is intended for the student with very little or no sewing experience who would like to learn the basics of sewing. The course includes construction of two or more simple garments and/ or projects. Students are encouraged to provide their own sewing machine and are required to furnish their own sewing kit (straight pins, tape measure, pin cushion, hand sewing needles/sharps, seam ripper, small scissors for trimming, sewing gauge) as well as fabric and notions to complete projects. (P/F)

VOC/TECH

# APP 111 3 3 0 0 0 VOC/TECH VISUAL MERCHANDISING & DESIGN

Focus will be learning design principles and design elements in visual merchandising and merchandise display. An emphasis is placed on planning and designing successful interior store or business displays and windows with the six components, as well as implementing all of the design principles.

# APP 211 3 3 0 0 0 VOC/TECH TEXTILES

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. Other topics include printing, dyeing processes, and the finishes available today.

# APP 230 3 3 0 0 0 VOC/TECH FASHION COORD & PROMOTION

Focus is on researching, analyzing and forecasting fashion trends. Information on emerging fashion trends is communicated through a PowerPoint computer presentation. Use of this information results in the creation of a promotional plan to establish fashion leadership.

Prerequisite: APP 260

# APP 250 3 3 0 0 0 VOC/TECH DESIGN CONCEPTS

Includes a study of the history of fashion design, the effective use of design principles and analysis of future fashion trends. New industry-based computer design software will be used to design contemporary fashion apparel for women, men or children.

# APP 260 3 3 0 0 0 VOC/TECH FASHION ANALYSIS AND DESIGN

Emphasis is placed on all phases of the apparel business planning process, including strategic planning, merchandise planning, creative planning, technical planning and production planning as well as discussions of the various types of retailers that sell the apparel products to the consumer. Design elements and design principles are applied to apparel design analysis. Basic garment styles are studied. Fashion forecasting and sources of inspiration are discussed. Current trends are prepared by the student in a research project. Students will learn how to develop a successful group line. Designer history and concepts are researched and shared in a project prepared by the student. The wide variety of fashionrelated careers is also covered in this course.

#### APP 270 3 3 0 0 0 VOC/TECH FASHION BUYING

Fashion moves quickly so the buyer must be in tune with current trends and suppliers who can provide the best quality merchandise, delivery and pricing. Vendor analysis, open-to-buy and timing are studied, including the development of a six-month merchandise plan.

## APP 291 1 0 2 0 0 VOC/TECH FASHION STUDY TOUR

The student will participate in a supervised study tour, location to be announced, in which a concentrated time will be spent touring a market center and researching a variety of fashion businesses from manufacturing and marketing to merchandising, promoting and selling apparel. Prerequisite: APP 260

### ARC 114 5 2 6 0 0 VOC/TECH ARCHITECTURAL DRAFTING I

Practical application of the basic skills of drafting involving the necessary thought processes. A complete set of residential drawings will be developed by hand—involving plans, elevations, sections and details.

#### ARC 116 2 2 0 0 0 VOC/TECH CONSTRUCTION ESTIMATING

An orderly process of accounting for the items involved in a construction project.

## ARC 127 5 2 6 0 0 VOC/TECH ARCHITECTURAL DRAFTING II

This course will apply practical application of the basic skills of drafting involving the mechanics and the necessary thought processes.

Prerequisite: ARC 114 and CAD 119

## ARC 128 5 2 6 0 0 VOC/TECH ARCHITECTURAL DRAFTING III

Students will develop drawing of a small commercial building using Building Information Modeling software. Prerequisite: ARC 127

### ARC 165 3 3 0 0 0 VOC/TECH MATERIALS & ASSEMBLIES I

An introduction to building materials and assemblies through the Construction Specifications Institute's MasterFormat accounting and management system.

### ARC 167 3 3 0 0 0 VOC/TECH MATERIALS & ASSEMBLIES II

An introduction to building materials and assemblies through the Construction Specifications Institute's MasterFormat accounting and management system. Prerequisite: ARC 165

## ARC 169 3 3 0 0 0 VOC/TECH MATERIALS & ASSEMBLIES III

An introduction to building materials and assemblies through the Construction Specifications Institute's MasterFormat accounting and management system. Prerequisite: ARC 167

### ARC 180 2 2 0 0 0 VOC/TECH BUILDING CODES

A look into building codes and their interpretation.

# ARC 181 2 2 0 0 0 VOC/TECH CONSTRUCTION DOCUMENTS TECH

An investigation into the Construction Specification Institute's Construction Documents Technologist certification material and examination.

ARC 190	31400	VOC/TECH
PRESENTAT	ION GRAPHICS	

Exploration into architectural presentation graphics, schematics and finish presentation styles. Students will have an option of media to produce presentation graphics for their portfolios.

Prerequisite: ARC 127 or instructor permission

#### ART 101 3 3 0 0 0 CORE ART APPRECIATION

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

#### ART 102 3 2 2 0 0 GENERAL ARTS FOR ELEMENTARY EDUCATION

Designed for students in education and recreation to assist them with design, construction and planning for multi-art forms and materials for instructional situations.

#### ART 133 3 0 6 0 0 GENERAL DRAWING

Lab study of the tools and techniques necessary for entry-level visual arts in drawing. Emphasis on still life using gesture, contour, shape, plane, volume and value/tonal techniques. Basic drawing skills with pencil, charcoal and eraser are explored.

#### ART 136 3 0 6 0 0 GENERAL LIFE DRAWING

Drawing and painting a live model. Emphasis on structure, movement and expression.

#### ART 143 3 0 6 0 0 GENERAL PAINTING

Acrylic painting with emphasis on still life, landscape and individual composition.

# ART 148 3 0 6 0 0 GENERAL LANDSCAPE PAINTING

Landscape painting using any water-based media. Study of the elements of art to aid in composition and development of a personal painting style. Field trips will be required.

#### ART 173 3 0 6 0 0 GENERAL CERAMICS

Comprehensive "hands-on" introductory experience working clay. The discovery "process" of finding one's unique sense of touch is stressed. Fundamental techniques demonstrated in hand-building and wheel-throwing. Concepts in ceramic art discussed, connecting cultures, artists and contemporary objects.

#### ART 174 3 0 6 0 0 GENERAL CERAMICS II

Series of forms, individual help from a professional artist. Topics in ceramics: the "figure," large-scale works, architectural terra-cotta restoration, outdoor claybodies, building slide portfolio, photographing work, shows and galleries. Kiln firing.

Prerequisite: Instructor permission

ART 176	30600	GENERAL
TILEMAKING		

Design and fabricate tiles for specific applications, while emphasizing critical processes of working with clay. Transforms two-dimensional drawings to pieces in three dimensions. Study new theories in "Visual Communication."

# ART 1843 2 2 0 0OPENPRINCIPLES OF PHOTOGRAPHY

Students will learn the basic principles of photography. Topics will include basic camera operation, film developing, darkroom techniques and special effects. The camera will become an instrument to explore and communicate ideas, goals and visions effectively.

#### ART 186 3 2 2 0 0 OPEN PRINCIPLES DIGITAL PHOTOGRAPHY

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 megapixels, capable of interchangeable lenses.

### ART 190 3 3 0 0 0 GENERAL HISTORY OF PHOTOGRAPHY

Students will study the history, language and meaning of photography, including its evolving technology, notable contributors and reflection of our changing culture. Students will also learn about the social impact of photography as a news medium, the principles of photographic aesthetics and contemporary issues.

#### ART 195 3 3 0 0 0 GENERAL DESIGN: EXPLORING ART MEDIA

An introduction to basic techniques in media such as paper-making, clay, fibers and soft sculptures. Students will explore a variety of traditional approaches to express a contemporary vision.

## ART 225 3 2 2 0 0 OPEN PHOTOSHOP FOR PHOTOGRAPHY

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

#### ART 226 3 2 2 0 0 OPEN ALTERNATIVE PHOTO PROCESSES

For students who have mastered basic photographic principles and processes. This class will be a guide that demonstrates a variety of alternative processes, encompassing both traditional and non-traditional techniques. Topics include Litho Printing, EIR Film, HIE Film, Spray Developing, Fotodye, Tone Zone, Sun-printing and Photograms.

Prerequisite: ART 184, ART 186

#### ART 289 3 2 2 0 0 OPEN PHOTOJOURNALISM

Students will learn basic visual and technical aspects of photojournalism using a digital camera while photographing a series of general news, feature, performing arts, sports and community events.

(This course uses digital cameras only.)

#### ART 291 3 2 2 0 0 OPEN TRAVEL PHOTOGRAPHY

Advanced principles of image making, printing and presentation will be explored with spirit and knowledge that is expected to engender an appreciation for photography, travel and the state of Iowa. Prerequisite: ART 184

# ART 2923 2 2 0 0VOC/TECHSTUDIO PHOTOGRAPHY

Students learn to arrange and compose a photograph in a deliberate process. Students learn to analyze the elements in a scene, arrange them and use artificial light for the desired effect. Projects test student imagination, creativity, technical skills and willingness to experiment while improving their photographic expertise.

Prerequisite: ART 184, ART 186

### ART 929 2-6 0 0 6-18 0 OPEN INDIVIDUAL PROJECTS

Students will have the opportunity to further develop their photographic expertise in one or more of the following photography classifications: Architectural, Banquet, Postcards/Marketing Publications, Business Portraits, Fine Arts, Fashion, Furniture, Industrial, Illustrative, Photojournalism, Public Relations, Conventions/Special Events, Education or Weddings. Students meet with instructor for project review once a week until project is completed. This course is repeatable up to 6 credits.

Prerequisite: ART 226, ART 289, ART 291, ART 292

### ASM 150 1 1 0 0 0 OPEN COMMUNICATION WITH THE ELDERLY

This course will introduce strategies and concepts to improve communication with the elderly population. Prerequisite: Instructor approval

#### ASM 155 11000 OPEN IMPACT OF DEMOGRAPHICS

This course will address demographic changes in the elderly population and the impact on society. Prerequisite: Instructor approval

OPFN

#### ASM 160 1 1 0 0 0 ASPECTS OF AGING

This course will examine physiological, biological and psychological changes as they relate to the aging process.

Prerequisite: Instructor approval

#### ASM 165 1 1 0 0 0 OPEN HEALTHY AGING

This course will examine the research of healthy aging and the results of improving the quality of life in advancing years.

Prerequisite: Instructor approval

## ASM 180 1 1 0 0 0 OPEN CULTURAL DIVERSITY

This course will explore cultural diversity as it relates to race, national origin, gender and culture in the aging population.

Prerequisite: Instructor approval

#### ASM 200 11000 OPEN DEPRESSION, DEATH & GRIEVING

This course will cover depression, death, loss and the grieving process for both the family and the professional caregiver.

Prerequisite: Instructor approval

### ASM 238 3 3 0 0 0 OPEN FINANCIAL MANAGEMENT IN AS

Emphasis on financial practices in organizations that provide health services to seniors. Review cost and labor hour controls. Excel spreadsheets, evaluation of profit/loss and fiscal reports will be addressed.

It is suggested that the student successfully complete ACC 111 or ACC 131 prior to this course.

### ASM 239 2 2 0 0 0 OPEN INFO SYSTEMS IN HEALTHCARE

Emphasis will be placed on the analysis of healthcare 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 healthcare.

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OPEN

### ASM 256 2 0 0 0 8 AGENCY EXPERIENCE

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

## ASM 261 3 3 0 0 0 REGULATION OF NF/SNF

Emphasis is 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 healthcare services. This will include the agencies that originate, implement and monitor the regulations.

#### ASM 262 3 3 0 0 0 OPEN REGULATION OF SUPPORTED LIVING

This course will provide an overview of Supported Living agencies and an indepth study of Assisted Living programs in Iowa. The course will focus on these agencies from an operational perspective and will include the following topics: types, development, management, staffing, organization, governance, budgeting and marketing.

### ASM 263 2 0 0 0 8 OPEN PRACTICUM I: QUALITY OF LIFE

During this practical experience, the student will investigate the policies, procedures and techniques used to meet the psychosocial and physical needs of clients in nursing facilities. Special emphasis will be placed on the role and responsibilities of the administrator in assuring that client psychosocial and physical needs are met to maximize quality of life and quality of care.

### ASM 264 1 0 0 0 4 OPEN PRACT II: HUMAN RESOURCES

During this practical experience, the student will investigate the policies, procedures and techniques used to meet the administrative and business needs of the nursing care facility. Emphasis will be placed on the area of human resource management.

## ASM 265 1 0 0 0 4 OPEN PRACT III: FINANCE

During this practical experience, the student will analyze and interpret budgets and financial statements. Special emphasis will be placed on the role and responsibilities of the administrator in identifying trends in the financial performance of the facility.

## ASM 266 1 0 0 0 4 OPEN PRACT IV: ENVIRONMENT

During this practical experience, the student will investigate the physical plant needs and the environmental impact on residents. Special emphasis will be placed on the role and responsibilities of the administrator as they relate to quality assurance data and safety outcomes.

## ASM 267 1 0 0 0 4 OPEN PRACT V: LEADERSHIP & MGMT

During this practical experience, students will investigate policies, procedures and techniques used to meet the administrative and business needs of nursing care facilities. Emphasis will be placed on the administrative and leadership styles used to achieve roles and responsibilities to provide quality of life and quality of care for the clients.

## ASM 274 3 3 0 0 0 OPEN LAW & ETHICS IN HEALTHCARE

An introduction to law and its relationship to senior healthcare 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 healthcare services.

#### ASM 278 3 3 0 0 0 OPEN MANAGEMENT IN SENIOR CARE SERV

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 health services agencies.

#### ASM 279 3 3 0 0 0 OPEN HEALTHCARE HUMAN RESOURCES

Study of policies, procedures and the processes in human resource planning. This would include securing, developing and maintaining human resources, labor laws, and employee/management rights in healthcare services settings.

#### ASM 280 2 2 0 0 0 OPEN HEALTHCARE DELIVERY SYSTEMS

Provides a comprehensive overview of healthcare delivery systems and services. Includes studies in access and financing healthcare services and evaluating the delivery of care.

#### ASM 282 2 2 0 0 0 OPEN AGING SERVICES

Aging Services relates the 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 concerns, activities and social services.

## ASM 283 2 2 0 0 0 OPEN AGING POLICIES & GOV PROGRAMS

Class examines aging policies and government programs at the federal and state levels. Various agencies, advocacy groups and funding sources are investigated.

### ASM 291 4 2 0 0 8 OPEN ACTIVITY COORDINATOR

This course is designed to prepare persons to work as activity coordinators in the continuum of care communities, including the following settings: skilled care, healthcare, assisted living programs, adult day and residential care. Topics will include understanding residents' needs, rights and choices and providing appropriate activities. The course will also address resident-centered care, regulatory requirements and the survey process. The course has been approved by the lowa Department of Health and meets their requirements.

## ASM 295 3 3 0 0 0 OPEN DEATH AND DYING

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

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#### ASM 800 11 SEMINAR I

# 11000

The seminar will meet twice to discuss topics, issues and methods for applying the knowledge acquired from the modules as they relate to the elderly population.

Prerequisite: Instructor approval

#### ASM 805 11000 OPEN SEMINAR II

The seminar will meet twice to discuss topics, issues and the application of knowledge from the modules as they relate to the elderly population.

Prerequisite: Instructor approval

# ATC 320 3 0 0 0 18 VOC/TECH TECHNICAL INTERNSHIP I

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 coursework. A task list will be issued to each dealer.

ATC 328 and ATC 329 are required the same semester.

### ATC 328 4 3 2 0 0 VOC/TECH CHRYSLER ELEC SYSTEMS REPAIR

Instruction in the diagnosis, repair and service of electrical and electronic components and accessories used on current Chrysler vehicles.

Prerequisite: ATC 312, MAT 772

# ATC 330 3 0 0 0 18 VOC/TECH TECHNICAL INTERNSHIP II

Work experience at a participating dealership. The tasks will be consistent with the technician's ability and previous coursework.

Prerequisite: ATC 328, 329

# ATC 335 5 3 4 0 0 VOC/TECH SERVICE/REPAIR CHRYSLER ENGINES

Principles and operations of Chrysler engines. Service procedures and engine component repair or replacement will be emphasized. Diagnosis of engine problems will also be covered.

Prerequisite: ATC 317

### ATC 336 3 1 4 0 0 VOC/TECH CHRYSLER FUEL SYSTEMS

A course designed to acquaint the student with basic fuel system principles. Instruction will be offered in the theory, service, repair and adjustment of automotive fuel systems.

Prerequisite: ATC 328

# ATC 340 3 0 0 0 18 VOC/TECH TECHNICAL INTERNSHIP III

Work experience at a sponsoring dealership. The tasks will be consistent with the technician's ability and previous coursework.

Prerequisite: ATC 335

### ATC 346 5 3 4 0 0 VOC/TECH CHRYSLER ENGINE PERFORMANCE

Diagnosis and service of microprocessor-controlled fuel and injection systems. Oscilloscopes, engine analyzers, digital meters and other high-technology instruments will be used.

Prerequisite: ATC 335, 336

### ATC 347 3 1 4 0 0 VOC/TECH CHRYSLER HEATING & AC

Theory and operation of Chrysler air conditioning systems leading to the diagnosis, service and repair of current models of Chrysler vehicles. Prerequisite: ATC 312, 317

# ATC 350 3 0 0 0 18 VOC/TECH TECHNICAL INTERNSHIP IV

Work experience at a participating dealership. Tasks will be consistent with the technician's ability and previous coursework.

Prerequisite: ATC 340

#### ATC 354 4 2 4 0 0 VOC/TECH CHRYSLER MANUAL DRIVETRAINS

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: ATC 340

## ATC 355 4 2 4 0 0 VOC/TECH CHRYSLER AUTOMATIC DRIVETRAINS

Provides an understanding of the principles of operation in automatic transmission and transaxles including electronic controls. Proper diagnosis, service and repair procedures of these systems are studied and practiced.

Prerequisite: ATC 317, 346

### ATC 356 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: ATC 346

# ATC 360 2 0 0 0 12 VOC/TECH TECHNICAL INTERNSHIP V

Work experience at a participating dealership. Tasks will be consistent with the technician's ability and previous coursework. Prerequisite: ATC 350

# ATF 280 4 1 6 0 0 VOC/TECH FORD STEERING/SUSP/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 ASSET program

### ATF 290 2 1 2 0 0 VOC/TECH ADV. FORD STEERING/SUSP/BRAKE

Instruction in the theory and operation of advanced Ford Motor Company steering, suspension and brake systems.

Prerequisite: Admission to Automotive Student Service Education (ASSET) Program, AFT 280 and AFT 328

## ATF 312 5 3 4 0 0 VOC/TECH FORD AUTOMOTIVE ELECTRICAL

A study of the electrical systems used in Ford Motor Company vehicles. The instruction will include fundamentals of electricity, series and parallel circuits, schematics, wire repair, diodes, transistors, microprocessors and digital displays.

Prerequisite: Admission to Automotive Student Service Ed Training

## ATF 317 3 2 2 0 0 VOC/TECH FORD SHOP FUND & MINOR SVC

A study of dealership organizational structure as it relates to the technician. Use of service manuals, electronic troubleshooting manuals and service bulletins are practiced. Also provides entry level automotive task competencies.

Prerequisite: Admission to Automotive Student Service Ed Training (ASSET)

### ATF 320 3 0 0 0 18 VOC/TECH TECHNICAL INTERNSHIP I

Work experience at a sponsoring dealership. The tasks will be consistent with the technician's ability and previous coursework.

Prerequisite: Admission to Automotive Student Service Ed Training (ASSET)

### ATF 326 3 2 2 0 0 VOC/TECH FORD AUTOMOTIVE CLIMATE CTRL

Theory and operation of Ford Motor Company air conditioning, heating and air distribution systems leading to the diagnosis, service and repair of current models of vehicles.

Prerequisite: Admission to Automotive Student Service Ed Training (ASSET) and ATF 328 or AUT 652

#### ATF 328 5 3 4 0 0 VOC/TECH FORD ELECTRONIC SYSTEMS DIAG

Instruction in the operation and diagnosis/repair of electronic components and systems used on current Ford Motor Company vehicles. Required: Admission to Automotive Student Service Ed Training (ASSET). Prerequisite: ATF 312

# ATF 330 3 0 0 0 18 VOC/TECH TECHNICAL INTERNSHIP II

Work experience at a sponsoring dealership. The tasks will be consistent with the technician's ability and previous coursework.

Prerequisite: Admission to Automotive Student Service Ed Training (ASSET)

#### **ATE 333** 42400 VOC/TECH FORD ENGINE DIAGNOSIS/REPAIR

Principles and operation of Ford Motor Company engines. Service procedures and engine component diagnostics, repair and/or replacement will be emphasized.

Prerequisite: Admission to Automotive Student Service Ed Training (ASSET) and ATF 317 or AUT 114

#### VOC/TECH ATF 336 32200 FORD FUEL SYSTEMS & INJECTION

Introduction to the different types of fuels and theory of basic fuel delivery systems including diagnosis, repair and/or replacement of components in Ford electronic engine control systems.

Prerequisite: Admission to Automotive Student Service Ed Training (ASSET) and ATF 328 or AUT 652. Corequisite: ATF 337

#### ATE 337 43200 VOC/TECH FORD DRIVEABILITY & EMISSIONS

Diagnosis and service of microprocessor-controlled fuel and ignition systems. Computer-based scantools, digital meters and other high-technology instruments will be used.

Prerequisite: Admission to Automotive Student Service Ed Training (ASSET) and ATF 328 or AUT 652, Corequisite: ATF 336

#### ATF 340 300018 VOC/TECH **TECHNICAL INTERNSHIP III**

Work experience at a sponsoring dealership. The tasks will be consistent with the technician's ability and previous coursework.

Prerequisite: Admission to Automotive Student Service Ed Training (ASSET)

#### **ATE 344** 21200 VOC/TECH FORD DRIVELINE & 4X4 DIAG/RPR

Students will study rear axle and differential design and operation, driveshaft construction, transfer case design and operation. Students will also perform diagnosis and repair operation of each.

Prerequisite: Admission to Automotive Student Service Ed Training (ASSET)

#### 21200 ATE 345 VOC/TECH FORD MANUAL TRANSMISSIONS

This course is the study of Ford manual transmissions' design and operation and clutch systems. It will include diagnosis and repair of clutches and transmissions

Prerequisite: Admission to Automotive Student Service Ed Training (ASSET)

#### 43200 VOC/TECH ATF 346 FORD TRANSMISSION & TRANSAXLE

This is the study of Ford automatic transmissions and transaxles including design, operation, diagnosis and repair

Prerequisite: Admission to Automotive Student Service Ed Training (ASSET)

#### ATE 350 300018 VOC/TECH **TECHNICAL INTERNSHIP IV**

Work experience at a sponsoring dealership. The tasks will be consistent with the technician's ability and previous coursework.

Prerequisite: Admission to Automotive Student Service Ed Training (ASSET)

#### **ATE 354** 53400 VOC/TECH FORD ADV ENGINE CNTRLS. ELECT

Instruction in techniques and procedures required to diagnose and service current vehicles. New systems developed by Ford Motor Company will be included.

Prerequisite: Admission to Automotive Student Service Ed Training and ATF 333

#### ATG 312 43200 VOC/TECH **GM SPECIALIZED ELECTRONICS TRN**

A study of the electrical and electronics systems used in General Motors vehicles. The instruction includes fundamentals of electricity, series and parallel circuits, schematics, wire repair, diodes, transistors and microprocessors.

Prerequisite: Admission to Automotive Service Educational Program (ASEP)

#### ATG 320 42400 VOC/TECH **GM BRAKE SYSTEMS**

Instruction in the theory of operation and service procedures used in the maintenance and repair of General Motors brake systems.

Prerequisite: Admission to Automotive Service Educational Program (ASEP)

#### 31400 VOC/TECH ATG 322 **GM STEERING & SUSPENSION**

Instruction in the theory of operation and service procedures used in the maintenance and repair of General Motors steering and suspension systems.

Prerequisite: Admission to Automotive Service Educational Program

#### VOC/TECH ATG 326 32200 **GM AUTO AC SYSTEMS**

Theory of operation of General Motors air conditioning systems leading to the diagnosis, service and repair of current models of GM vehicles.

Prerequisite: Admission to Automotive Service Educational Program (ASEP), ATG 312 and AUT 114

#### ATG 327 32200 VOC/TECH MINOR SVC/REPAIR/GM ENGINES

Course will provide instruction in the theory and operation of the General Motors 4-stroke cycle engines. Emphasis will be placed on both design and proper disassembly/reassembly procedures.

Prerequisite: Admission to Automotive Service Educational Program, AUT 114

#### VOC/TECH ATG 328 32200 **DIAGNOSIS/REPAIR-GM ELECT SYS**

Instruction in the diagnosis, repair and service of electrical and electronic components and accessories used on current GM vehicles.

Prerequisite: Admission to Automotive Service Educational Program, MAT 772, ATG 312, AUT 114

#### ATG 329 300018 VOC/TECH **TECHNICAL INTERNSHIP I**

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 coursework. A task list will be issued to each dealer.

Prerequisite: Admission to Automotive Service Educational Program, MAT 772, ATG 312, AUT 114. ATG 320 and ATG 322.

#### ATG 330 300018 VOC/TECH **TECHNICAL INTERNSHIP II**

Work experience at a participating dealership. The tasks will be consistent with the technician's ability and previous coursework.

Prerequisite: ATG 329, 328

#### VOC/TECH ATG 333 32200 MAJOR SERVICE PROC/GM ENGINES

Evaluating, reconditioning and replacing of major components of GM engines. Instruction will also include diagnostic routines. Prerequisite: ATG 327

#### VOC/TECH ATG 336 32200 **GM FUEL SYSTEMS**

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: Admission to Automotive Service Educational Program and ATG 328

#### ATG 337 43200 VOC/TECH GM TUNE-UP PROC & EMSSN CNTRL

Diagnosis and service of microprocessor-controlled fuel and ignition systems. Oscilloscopes, engine analyzers, digital meters and other high-technology instruments will be used.

Prerequisite: ATG 336

#### ATG 340 300018 **TECHNICAL INTERNSHIP III**

Prerequisite: ATG 330, 344, 345

Work experience at a sponsoring dealership. Tasks will be consistent with the technician's ability and previous coursework.

#### ATG 344 42400 **VOC/TECH GM MANUAL DRIVETRAINS**

Provides an understanding of the principles of operation in manual powertrains, including manual transmissions and transaxles, front and rear differentials, driveshafts and transfer cases. Proper diagnosis, service and repair procedures of these systems are studied and practiced. Prerequisite: ATG 317, AUT 109

#### ATG 345 42400 **VOC/TECH GM AUTOMATIC DRIVETRAINS**

Provides 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: ATG 317, AUT 109

VOC/TECH

# ATG 350 3 0 0 0 18 VOC/TECH TECHNICAL INTERNSHIP IV

Work experience at a participating dealership. Tasks will be consistent with the technician's ability and previous coursework.

Prerequisite: ATG 340

## ATG 354 5 3 4 0 0 VOC/TECH ADVANCED GM MOTORS SYSTEMS

Instruction in techniques and procedures required to diagnose and service current vehicles. New systems developed by GM will be included. Prerequisite: ATG 350

### AUT 114 4 2 4 0 0 VOC/TECH SHOP FUND & MINOR SERVICE

A study of the organizational structure in a dealership/repair facility as it relates to the technician. Students use service manuals, electronic troubleshooting manuals and service bulletins. The course will also develop competencies in entry-level tasks required when working in a dealership or repair facility.

### AUT 140 2 0 4 0 0 VOC/TECH WELDING FOR AUTOMOTIVE MECHANI

Skills will be developed in oxy-acetylene fusion and braze welding, shielded metallic 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.).

## AUT 163 3 2 2 0 0 VOC/TECH AUTOMOTIVE ENGINE REPAIR

Course will provide instruction in the theory and operation of the 4-stroke cycle engines. Emphasis will be placed on both design and proper disassembly/reassembly procedures.

Prerequisite: AUT 109

## AUT 173 3 1 4 0 0 VOC/TECH ADV AUTOMOTIVE ENGINE REPAIR

Provides instruction in proper diagnosis of engine malfunctions and repair or replacement of defective components and assemblies. Diagnosis procedures, repair and adjustment will be emphasized.

Prerequisite: AUT 163

### AUT 242 6 3 6 0 0 VOC/TECH BASIC AUTOMOTIVE POWERTRAIN

Principles of operation and construction of automotive power trains. Includes instruction in the theory of hydraulic and mechanical systems used in automatic transmissions.

#### AUT 243 6 2 8 0 0 VOC/TECH ADV AUTOMOTIVE POWERTRAIN

The student will study powertrain and drive-line systems. Proper diagnosis procedures, service and repair will be emphasized through hands-on experience. Prerequisite: AUT 242

#### AUT 404 4 2 4 0 0 VOC/TECH BASIC SUSPENSION & STEERING

Instruction in the theory of operation and service procedures used in the maintenance and repair of automotive steering and suspension systems.

### AUT 524 4 2 4 0 0 VOC/TECH AUTO BRAKE SYSTEMS & SERVICE

Instruction in the theory of operation and service procedures of automotive brakes.

#### AUT 535 5 2 6 0 0 VOC/TECH ADV AUTO BRAKES & ALIGNMENT

The student will study advanced brakes and alignment theory, practice proper diagnosis, service and repair procedures through hands-on experience. Prerequisite: AUT 503, 404

## AUT 615 4 2 4 0 0 VOC/TECH AUTO ELECTRICITY/ELECTRONICS

Provides instruction in theory and operation of automotive electrical circuits. Safety, meters and service information will be emphasized.

#### AUT 652 3 1 4 0 0 VOC/TECH ADV AUTOMOTIVE ELECTRICITY

Provides instruction in the diagnosis, repair and service of electrical and electronic components found on current vehicles.

Prerequisite: AUT 615

## AUT 704 4 2 4 0 0 VOC/TECH AUTO HEATING & AC

Provides instruction in the theory of operation of auto air conditioning and heating systems, as well as diagnosing and servicing automotive air conditioning and heating systems.

### AUT 823 4 2 4 0 0 VOC/TECH ADVANCED AUTOMOTIVE TUNE-UP

Provides instruction in testing, diagnosis, and repair of the automobile's ignition, electrical and fuel systems. Modern test equipment, procedures and technology are utilized.

Prerequisite: AUT 844

# AUT 834 4 2 4 0 0 VOC/TECH AUTOMOTIVE FUEL SYSTEMS

A course designed to acquaint the student with basic fuel system principles. Instruction will be offered in the theory, cleaning, repair and adjustment of automotive fuel systems.

## AUT 842 4 2 4 0 0 VOC/TECH AUTO COMPUTERIZED ENG CONTROLS

This course builds upon the knowledge and skills learned in previous automotive courses to prepare the student to service On-Board Diagnosis 2 computer-controlled vehicles. The theory and operating principles of automotive computers, sensors and control devices will be emphasized. Lab instruction on late model cars will be included. Prerequisite: AUT 834

# AUT 845 2 1 2 0 0 VOC/TECH ELECTRICAL SYSTEMS DIAGNOSIS

Instruction in techniques and procedures required to diagnose and service microprocessor-controlled body electrical systems.

Prerequisite: AUT 615, AUT 652

### AUT 870 2 1 2 0 0 VOC/TECH AUTOMOTIVE SERVICE MANAGEMENT

Provides instruction in customer relations, service sales, shop management and business practices in the automotive shop.

### AVI 130 3 3 0 0 0 VOC/TECH PRIVATE PILOT GROUND SCHOOL

Provide aeronautical knowledge to meet the prerequisite in FAR Part 61 for the FAA Private Pilot Exam.

### AVI 172 2 1 2 0 0 VOC/TECH PRIVATE PILOT FLIGHT TRAINING

This course provides supervised dual and solo flight instruction that meets the required hours to qualify as a candidate for a FAA Private Pilot check-ride. Areas covered in flight training include preflight operations, flight maneuvering by reference to ground objects, flight at critically slow air speeds and recovery from stalls, takeoffs and landings, control and maneuvering an aircraft, cross-country flying and emergency operations.

Prerequisite: Third class physical, completion of or concurrent registration in AVI 130

### AVI 213 3 3 0 0 0 VOC/TECH INSTRUMENT FLIGHT THEORY

To provide the student with the necessary aeronautical knowledge to meet the prerequisites specified in FAR Part 61 for the FAA instrument pilot written examination.

# AVM 100 1 0 2 0 0 VOC/TECH CLEANING/CORROSION CONTROL

This course encompasses cleaning and prevention of corrosion on the aircraft. Units of instruction will include identifying and selecting materials, inspecting, removing aircraft corrosion and performing aircraft cleaning.

### AVM 103 2 1 2 0 0 VOC/TECH AIRCRAFT-MATERIALS/PROCESSES

This course involves basic materials and processes associated with aircraft. Areas of study will include precision measurement, testing of materials, inspection performance, heat treating, identification and installation of aircraft materials.

### AVM 104 2 1 2 0 0 VOC/TECH REGULATIONS AND PUBLICATIONS

Aircraft maintenance forms and records will be units of instruction. Additional units will include manual utilization, FAA regulations, airworthiness directives, and mechanic privileges and limitations.

# AVM 107 1 0 2 0 0 VOC/TECH WEIGHT AND BALANCE

The student will be given instruction concerning aircraft specifications, aircraft weight and balance records, weighing procedures, jacking and leveling, moment arms, reading scales, recording weights, nomenclature and algebraic signs.

### AVM 111 1 0 2 0 0 VOC/TECH GROUND OPERATIONS & SERVICING

This course will cover aircraft ground operation and servicing. Units of instruction will include fuel selection, ground operation, servicing and securing aircraft.

### AVM 112 4 2 4 0 0 VOC/TECH AIRCRAFT ELECTRICAL SYSTEMS

Electrical systems of aircraft will be covered in this course. Areas of study will include servicing of wire, controls, switches, indicators, protective devices, AC/DC electrical systems, constant speed and integrated speed drive generators, crimping, wiring inspection, repairing pins and sockets of aircraft connectors.

### AVM 121 1 1 0 0 0 VOC/TECH WEATHER AND WARNING SYSTEMS

The course will cover systems associated with positioning, warning and weather control. Topics covered will include inspection, servicing, configuration, electrical brakes, anti-skid systems, landing gear indicators, warning systems and airframe ice and rain control systems.

### AVM 124 3 1 4 0 0 VOC/TECH AIRCRAFT ASSEMBLY/RIGGING

This course will involve the study of aircraft components to include the following: Aircraft wing configuration, flight theory, landing gear, aircraft maneuvers, structure alignments, assembly components, rigging, primary flight control surfaces, secondary flight control surfaces and aircraft jacking.

### AVM 125 5 3 4 0 0 VOC/TECH AIRFRAME STRUCTURE AND REPAIR

A course for students in aviation that covers materials associated with the structure of the aircraft. Utilization of proper materials, repair, replacement, testing, and the finishing of metal and non-metal materials will be included in this course.

### AVM 129 2 1 2 0 0 VOC/TECH LANDING GEAR & BRAKE SYSTEMS

The course involves a complete study of the landing gear and brake systems associated with aircraft. Areas of study include inspection, service, repair, troubleshooting and replacement of various types of landing gear and brake systems.

### AVM 132 2 1 2 0 0 VOC/TECH AIRFRAME/POWERPLANT INSPECTION

The course covers inspections related to aircraft engines and airframes. Airframe and engine conformity and airworthiness inspections will be units of instruction.

### AVM 133 3 1 4 0 0 VOC/TECH HYDRAULIC/PNEUMATIC POWER SYS

This course will involve a complete study of the hydraulic and pneumatic systems contained within aircraft. Components of each area will be covered to include identification, installation, repair, inspection, troubleshooting and replacement of the systems.

# AVM 139 1 0 2 0 0 VOC/TECH INSTRUMENTS/FIRE PROTECTION-PP

The course will cover aircraft instrument systems, engine fire protection systems and smoke and carbon monoxide detection systems.

# AVM 141 1 0 2 0 0 VOC/TECH CONTROL SYSTEMS

The course covers heating, cooling, pressurization, air cycling and oxygen systems.

# AVM 142 4 2 4 0 0 VOC/TECH AIRCRAFT TURBINE ENGINES

Course covers turbine engine overhaul, repair of turbine engines, installation of turbine engines, troubleshooting of turbine engines.

## AVM 145 1 0 2 0 0 VOC/TECH AIRCRAFT WELDING

The course covers the applicable welding procedures associated with materials used to construct aircraft. Proper welding methods for various types of materials will be covered during the course.

### AVM 147 2 0 4 0 0 VOC/TECH AIRFRAME FUEL SYSTEMS

This course covers fueling systems throughout the airframe of the aircraft. Topics include inspection, service, troubleshooting, repair and replacement of the system components.

#### AVM 148 1 0 2 0 0 VOC/TECH ENGINE LUBRICATION SYSTEMS

The course covers the engine lubrication systems associated with aircraft. Students will study lubrication systems while performing inspections, service, troubleshooting and repair of the system. System components will be repaired and serviced according to FAA regulations.

## AVM 151 2 1 2 0 0 VOC/TECH ENGINE FUEL/METERING

A course designed to cover the fuel metering system of aircraft. Topics include inspection, service, troubleshooting, repair, and replacement of various types of fuel metering systems.

### AVM 154 8 2 12 0 0 VOC/TECH AIRCRAFT ENGINES:RECIPROCATING

Reciprocating aircraft engines will be covered extensively. Units of instruction will include inspection and repairing of a radial engine, overhauling a reciprocating engine, service and repair of a reciprocating engine, engine installations, troubleshooting and removing reciprocating engines.

### AVM 155 3 1 4 0 0 VOC/TECH AIRCRAFT PROPELLER SYSTEMS

Aircraft propellers will be the topic of the course. Units will include repair, types of propellers, governing systems, installation, removal, troubleshooting, repairing, synchronizing, lubricating, ice control systems and control system components.

#### AVM 157 1 0 2 0 0 VOC/TECH INDUCTION/COOLING/EXHAUST

This course introduces students to the induction system and engine airflow systems of aircraft. Inspecting, troubleshooting, servicing and repairing engine ice and rain control systems will be covered. Heat exchangers, superchargers, turbine airflow and temperature control systems will also be covered with carburetors and manifolds.

### AVM 160 2 0 4 0 0 VOC/TECH AIRCRAFT ELECTRICAL SYSTEMS

The course is a study of electrical systems of the aircraft engine. Units to be covered include troubleshooting, wiring controls, switches, indicators, protective devices and components repair.

# AVM 161 3 1 4 0 0 VOC/TECH AIRCRAFT IGNITION SYSTEMS

The course will provide a foundation in aircraft ignition systems and aircraft starting systems. Units will cover the magneto, ignition harness, reciprocating ignition systems and turbine ignition systems.

Prerequisite: AVM 112

# AVM 165 2 1 2 0 0 VOC/TECH COMMUNICATION AND NAVIGATION

Basic units will involve study of autopilots systems, servos systems, approach coupling systems, navigation systems, electronic communication systems, antenna systems, static pressure systems, flight instrument systems and all position-indicating systems.

## AVM 168 1 1 0 0 0 VOC/TECH FLUID LINES AND FITTINGS

Aircraft fluid lines and fittings will be covered in this course. Units of instruction will include rigid and flexible lines, fittings and their fabrication and installation.

#### AVM 170 2 1 2 0 0 VOC/TECH AIRCRAFT DRAWINGS

A course to develop understanding of aircraft drawings, symbols and schematics. Blueprint information, graphing, charting and drawing will be topics covered as they relate to aircraft.

#### BCA 111 3 3 0 0 0 VOC/TECH EMERGING TECHNOLOGIES

Students will explore changing trends in peripheral equipment, and software, review technology within the framework of today's business environment and analyze the future of hardware and software usage in various business fields.

# BCA 1133 2 2 0 0VOC/TECHCOMPUTER NETWORK LITERACY

This course is an introduction to basic concepts and terminology in computer networks and data communications. Topics include data communications equipment, media network basics and the Internet. Student will develop a personal web page. Prerequisite: CSC 110

## BCA 122 1 0 2 0 0 VOC/TECH BASIC WORD PROCESSING

Hands-on instruction using WORD in the Windows environment. Special features include working with Windows, speller, thesaurus, merge and sort.

### BCA 133 4 2 4 0 0 VOC/TECH WORD PROCESSING SKILL DEV. I

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.

Prerequisite: Must key at least 25 NWPM for five minutes

## BCA 137 3 2 2 0 0 VOC/TECH WORD PROCESSING SKILL DEV. II

Emphasis on developing speed, accuracy and proofreading techniques in preparation of business documents using word processing software. Students develop a broader understanding of software capabilities as they continue to study concepts, vocabulary and additional features. Continued development of speed and accuracy is emphasized.

Prerequisite: BCA 133 with a grade of "C-" or better

#### BCA 146 1 0 2 0 0 VOC/TECH BASIC SPREADSHEETS

Orientation to Excel. Topics include spreadsheet layout and terminology, charting, enhancing a worksheet and chart. Designed for beginning users of Excel.

#### BCA 164 1 0 2 0 0 VOC/TECH BASIC DATABASES

Introduction to relational database management software. Topics include creating, editing, querying, using forms, reports, customizing and managing data and files.

### BCA 174 1 0 2 0 0 VOC/TECH BASIC PRESENTATION SOFTWARE

Introduction to presentation software. Topics include creating, enhancing, embellishing and illustrating a presentation with charts, graphs, special effects; converting existing material, printing presentations, speaker's notes and handouts.

#### BCA 212 3 2 2 0 0 VOC/TECH INTRO COMPUTER BUSINESS APPL

The focus of this course is to use computer hardware and software as business productivity tools. Training includes a hands-on introduction to the computer applications vital in today's business and industry. Course covers operating system, e-mail, internet, word processing, spreadsheet, database and presentation applications.

### BCA 213 3 2 2 0 0 VOC/TECH INTERMED COMPUTER BUSINESS APP

Develop a proficiency in decision-making using computer software applications. Emphasizes the production of final documents for real business applications such as file integration, online forms, linked spreadsheets, and desktop publishing.

Prerequisite: BCA 212 with a grade of "C-" or better OR CSC 110 with a grade of "C-" or better

## BCA 214 3 2 2 0 0 VOC/TECH ADV COMPUTER BUSINESS APPL

Covers post-advanced applications using Microsoft Office. Working with master documents, creating index and table of contents from long reports, creating online forms, learning to use auditing and data validation tools, customizing forms and administering a database and creating complex presentations are emphasized.

Prerequisite: BCA 213 with a "C-" or better

## BCA 250 3 2 2 0 0 VOC/TECH DESKTOP PUBLISHING

In a PC environment, use image enhancement software such as Adobe Photoshop to manipulate photo and graphic files. Apply principles of desktop publishing in the development of publications using software such as Microsoft Publisher. Convert files into Web-ready format.

Prerequisite: BCA 212 with a "C-" or better or CSC 110 with a "C-" or better

### BIO 100 1 1 0 0 0 GENERAL OPPORTUNITIES IN BIOLOGY

An exploration of careers and advanced educational opportunities in the biological sciences at the local, state and national levels.

### BIO 104 3 2 2 0 0 CORE INTRODUCTORY BIOLOGY W/LAB

Introduction to basic concepts in biology. Topics include biochemistry, cell structure and function, metabolism and energetics, classical and molecular genetics and the diversity of life at the organismal level. Biology as an experimental science and biotechnology will be explored through laboratory experiences.

#### BIO 112 4 3 2 0 0 CORE GENERAL BIOLOGY I

First semester of biology for majors. Topics covered include chemistry of life, cells, bioenergetics, genetics, evolution, viruses, prokaryotes and protists. Prerequisite: H.S. biology & H.S. chemistry or equivalent

#### BIO 113 4 3 2 0 0 GENERAL BIOLOGY II

Second semester of biology for majors. Topics covered include fungi, plants, animals and ecology. It is recommended that BIO 112 be taken prior to this course.

CORE

Prerequisite: H.S. biology and H.S. chemistry or equivalent

#### BIO 135 4 3 2 0 0 CORE INTRODUCTION TO BOTANY

This course is an introduction to the biology of plants. The course acquaints students with plant classification, morphology, anatomy, physiology, diversity and evolutionary and ecological relationships. Includes laboratory and field exercises. Prerequisite: H.S. biology and/or H.S. chemistry recommended

### BIO 138 3 2 2 0 0 CORE FIELD ECOLOGY

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.

### BIO 145 3 3 0 0 0 GENERAL ECOLOGY OF IOWA

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.

#### BIO 146 3 3 0 0 0 OPEN GENETICS

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 immunology.

Prerequisite: BIO 112 or BIO 186

### BIO 156 3 2 2 0 0 CORE HUMAN BIOLOGY W/LAB

A study of biology which emphasizes the human body. Topics such as basic chemistry, the cell and human organ systems are included. Labs will reinforce course content. Designed for the non-science and inadequately-prepared health science major.

#### BIO 164 5 3 4 0 0 CORE ESSENTIALS ANATOMY/PHYSIOLOGY

A classic integration of human anatomy and physiology at the cellular level and organ/system level. Includes cat dissection.

Prerequisite: H.S. biology & H.S. chemistry or equivalent

CORE

#### BIO 168 4 3 2 0 0 ANATOMY & PHYSIOLOGY I

Anatomy & Physiology I covers the structure and function of the human body from the cellular level to organ systems. Topics at the cellular level include the fundamental basics of chemistry, cell structure and cellular metabolism, genetics and histology. The organ systems studied are the skin and integumentary system, the skeletal and muscular systems, the nervous system and the senses. Lecture and lab must be taken concurrently.

Prerequisite: A grade of "C" or better in BIO 156 Human Biology or a "C" or better in high school anatomy within the last five years

#### BIO 173 4 3 2 0 0 CORE ANATOMY & PHYSIOLOGY II

Anatomy and Physiology II is a continuation of Anatomy & Physiology I. The following organ systems are covered: the endocrine system, blood and the cardiovascular system, the lymphatic system and immunity, the respiratory system, the urinary system, the digestive system including nutrition and the reproductive system. Other topics include the body's balance of water; electrolytes and acids and bases and an introduction to human growth and development. Lecture and lab must be taken concurrently.

Prerequisite: A grade of "C" or better in BIO 168 Anatomy and Physiology I

#### BIO 186 4 3 3 0 0 CORE MICROBIOLOGY

A general microbiology course with laboratory designed for the science major. Emphasis is placed on morphology, physiology, microbial genetics, virology and basic immunology and applications.

Prerequisite: One semester of any college-level biology

#### BIO 225 4 3 2 0 0 GENERAL MARINE BIOLOGY I

Students will study polar, temperate and tropical marine organisms and their environmental and ecological relationships. They will also examine the structure and function of marine flora and fauna using preserved and live specimens. The course includes hands-on laboratory activities, comparative anatomy, field observations, marine aquarium care, snorkeling, kayaking and introductory scuba.

Prerequisite: High school or college biology

### BIO 227 4 3 2 0 0 GENERAL MARINE BIOLOGY II

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

Prerequisite: BIO 225

### BIO 243 11000 TOPICS IN BIOTECHNOLOGY

An exploration of recent advancements in biotechnology as well as current practices in research and development, manufacturing, quality control/quality assurance and safety. Prerequisite: BIO 250

#### BIO 249 3 0 0 0 12 OPEN BIOTECHNOLOGY INTERNSHIP

This internship is the final requirement for the completion of the Biotechnology AS degree requirements. It will be conducted in cooperation with potential employers. During this period, students will be expected to demonstrate their technical skills and practicum competencies in a professional manner, showing progressive independence, greater efficiency and confidence. Prerequisite: Permission of instructor

### BIO 250 5 2 6 0 0 OPEN CELL & MOLEC BIO-NUCLEIC ACIDS

This course is designed to provide training in requirements for biotechnology majors. Topics will include DNA and RNA structure, function and regulation. Strategies and tools used in genetic engineering will also be included. The lab component of the course will include lab safety, media preparation, cell culture techniques, solution preparation and other basic lab skills. Students will get hands-on training in the isolation, characterization and manipulation of nucleic acids, as well as PCR and Southern blotting.

Prerequisite: BIO 104 and 112;, Corequisite: BIO 186.

#### BIO 251 5 2 6 0 0 OPEN CELL & MOLECULAR BIO-PROTEINS

This course is designed to provide training in techniques related to protein chemistry and is a requirement for biotechnology majors. The course will focus on processes related to synthesis, control of synthesis and trafficking of proteins within the cell. Protein structure and function will be studied with special emphasis on enzymes and immunoproteins. The study of differential protein expression and regulatory mechanisms will also be included. The lab component of the course will train the student in purification, characterization, handling and storage of proteins, enzyme mechanisms and kinectics, immunoassays and two-dimensional gel electrophoresis.

Prerequisites: BIO 104, BIO 250, CHM 132, MAT 157 Pre- or, Corequisite: BIO 112

### BIO 260 3 3 0 0 0 GENERAL BIOLOGY OF AGING

This course is designed for individuals planning to work with the elderly population. It covers changes that occur in body systems during the normal aging process as well as some of the most common dysfunctions and diseases associated with aging. Furthermore, environmental factors, effects of diet and exercise in the aging process will be discussed.

#### OPEN BIO 295 4 3 2 0 0 GENERAL GENERAL ECOLOGY AND LAB

General ecology is intended for biology and related majors. Topics addressed by lecture/discussion and laboratory include historical development and scientific method, physical environment, organisms and species, communities and ecosystems and theory. Lab activities include written reports and oral presentations.

Prerequisite: BIO 112; BIO 113; ENV 115 and ENV 116 or BIO 138; or with instructor's permission

### BIO 732 4 3 2 0 0 OPEN HEALTH SCIENCE MICROBIOLOGY

Basic concepts and applications of medical microbiology. Topics include morphology and physiology of microorganisms, pathology, epidemiology and immunology. Designed for the health science major. It is recommended that H.S. chemistry be taken prior to this course.

Prerequisite: H.S. biology or equivalent

### BIO 733 3 2 2 0 0 HEALTH SCIENCE ANATOMY

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. This accompanying lab will reinforce lecture with cat dissection.

OPEN

Prerequisite: H.S. biology & chemistry or equivalent

## BIO 734 3 2 2 0 0 OPEN HEALTH SCIENCE PHYSIOLOGY

Detailed explanation of human physiology including the nervous, cardiovascular, respiratory, digestive, urinary, lymphatic, skeletal, muscular and reproductive systems.

Prerequisite: BIO 733, 164 or equivalent

### BIO 922 1-4 0 0 3-12 0 OPEN FIELD STUDIES

This course is designed to give the student an opportunity to study science outside the typical classroom setting. Students will investigate an area of the biological sciences through research and other activities in a supervised environment that meets the requirements of the investigation. This course is repeatable up to 4 credits.

Prerequisite: Permission of the instructor.

#### BMA 165 1 1 0 0 0 VOC/TECH BOILER ROOM MAINTENANCE

Boiler accessories, fittings, controls, water treatment and fundamentals for beginners.

#### BMA 167 2 2 0 0 0 VOC/TECH STEAM PLANT OPERATIONS

High-pressure steam boilers, operation, controls, burning equipment instruments. Prerequisite: BMA 165

#### BMA 175 2 2 0 0 0 VOC/TECH BASIC PLUMBING

Plumbing, plumbing components, plumbing codes, and reading blueprints.

### BMA 177 3 2 2 0 0 VOC/TECH INDUS. PLUMBING & PIPEFITTING

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 schematics; elementary pipe layout and joint construction with various materials; the purpose, use, construction and operation of valves and process control equipment used in manufacturing.

# BPT 1022 2 0 0 0VOC/TECHINTRO TO BIOMASS PROCESS TECH

This course describes the standard roles and responsibilities of the process technician to include mastering an understanding of basic equipment, design, operation, and maintenance of a process control plant.

#### BPT 111 3 2 2 0 0 VOC/TECH BIOMASS EQUIPMENT AND SYSTEMS

Biomass Equipment and Systems is designed to cover the basic equipment and technologies associated with the processing of renewable energy fuels in the biomass industry.

# BPT 1123 2 2 0 0VOC/TECHBIOMASS TECH HEALTH/SAFETY

This course is designed to focus on the key elements that contribute to the subject of Process Safety, Personnel Safety, Occupational Health and Safety, Transportation and Movement of Process Materials, and safety in general.

#### BPT 125 2 2 0 0 0 VOC/TECH PIPING & INSTRUMENT DIAGRAMS

This course is designed to provide the basic fundamentals of how to read a Piping and Instrumentation Diagram (P & ID) beginning with symbols of individual components, numbering systems and line diagrams.

# BPT 1283 2 2 0 0VOC/TECHOPERATOR BIOMASS LAB PROCESS

Biomass Laboratory Process and Techniques is designed to cover the different laboratory testing processes, sampling techniques and quality control requirements required for both the internal lab technician as well as the process plant operator.

# BUS 102 3 3 0 0 0 GENERAL INTRODUCTION TO BUSINESS

An overview of the ever-changing world of business. Provides information in the areas of ownership, management, marketing, insurance, economic systems and finance, as well as the role of government.

#### BUS 112 3 3 0 0 0 BUSINESS MATH

Mathematical computations are reviewed and strengthened with emphasis on facility and accuracy. Includes topics in the mathematics of buying and selling, banking, payroll, markups and markdowns, discounts, interest, consumer math and other related business applications.

#### BUS 131 3 3 0 0 0 VOC/TECH SMALL BUSINESS MGMT STRATEGIES

Emphasizes human resource concepts and their applications to small business operations. Leadership development, management styles and decisionmaking strategies are stressed.

# BUS 138 3 3 0 0 0 VOC/TECH SMALL BUSINESS MARKETING

Discussions and focus are on marketing applications. Workshops and strategies such as market research, product development, pricing, distribution, promotion, marketing campaigns and budgets.

#### BUS 141 3 3 0 0 0 VOC/TECH SMALL BUSINESS START-UP

This course includes information, examples, forms and activities needed for a 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.

### BUS 148 3 3 0 0 0 OPEN SMALL BUSINESS MANAGEMENT

Examines the 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.

## BUS 150 3 3 0 0 0 VOC/TECH E-COMMERCE ON THE WEB

This course will introduce the student to the basic elements of electronic commerce. It will focus on the business and technical issues faced by a company that enters the e-commerce marketplace. Topics include products, advertising, resource requirements, third-party options, technical and operational issues.

#### BUS 181 2 2 0 0 0 VOC/TECH BASIC LAW FOR ENTREPRENEURS

This course is designed to acquaint business students and those currently involved in operating small businesses with the general areas of law that may be problematic for the entrepreneur and create risks resulting in lawsuits.

## BUS 185 3 3 0 0 0 GENERAL BUSINESS LAW I

Provides introductory overview of the sources of law of the American legal system, the structure of the court systems, torts, contract law and sales law.

#### OPEN BUS 186 3 3 0 0 0 GENERAL BUSINESS LAW II

Provides for overview of negotiable instruments, debtor/creditor law (collecting judgments), secured transactions, agency relationships, and selecting the right business formation.

Prerequisite: BUS 185

#### BUS 211 4 4 0 0 0 CORE BUSINESS STATISTICS

Tabular and graphical presentation, measures of central tendency and variability, standard elementary procedures involving the binomial, normal, student's T's, chi-squares and F distributions, correlation, regression, analysis of variance, and several nonparametric procedures. Same content as MAT 157. Credit will not be granted for both BUS 211 and MAT 157. Prerequisite: 2 years of H.S. algebra or MAT 073 or department permission

# BUS 213 2 2 0 0 0 OPEN STATISTICAL BUSINESS APPL.

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 charges, simple linear regression analysis, multiple regression analysis, correction analysis, data analysis, time series analysis, hypotheses testing, and computer analysis. Same content as MAT 160; credit will not be granted for both.

Prerequisite: BUS 211 or MAT 157

## BUS 215 11000 INVESTING IN REAL ASSETS

This course analyzes procedures in residential real estate purchases. An evaluation of residential home, mobile home and condominium purchasing versus renting is discussed. Additional topics include investments in REITS, commercial property, undeveloped land, limited partnership, collectibles and gold.

OPEN

## BUS 216 1 1 0 0 0 OPEN ESTATE PLANNING

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

### BUS 218 1 1 0 0 0 OPEN LONG RANGE FINANCIAL PLANNING

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

#### BUS 220 3 3 0 0 0 OPEN INTRO INTERNATIONAL BUSINESS

The International Business course is designed to help students understand the dynamics of global trade. This course examines the cultural, economic, legal, political, social and technological environment of international business. The course also provides an overview of marketing, management, distribution and job opportunities available for business students.

### BUS 231 4 4 0 0 0 GENERAL QUANTITATIVE METHODS/BUS DECNS

An introduction to management research methods used in business. Topics include probability, breakeven analysis, inventory control, statistics and transportation models.

Prerequisite: MAT 073 or Intermediate Algebra or 2 years of H.S. algebra or department permission

OPEN

OPEN

## BUS 240 3 1 4 0 0 VIRTUAL BUSINESS FIRM

The Virtual Business Firm is a virtual business enterprise, set up and run by students to prepare them to work in a real-world business environment. With the instructor playing the role of facilitator, students determine the nature of their business, incorporating all the elements of a business plan, including company description, management and organization structure, products and/or services, marketing and sales strategies and financials within a global context. Students engage in daily operations running the virtual business, as if it were a real business, via a closed worldwide network of virtual business firms.

Prerequisite: All Business Administration or Entrepreneurship program required courses or permission of instructor

#### BUS 250 3 3 0 0 0 OPEN PRINCIPLES OF REAL ESTATE

Fundamental principles, economics, law, working concepts and terminology. Focuses on real estate law and assists those preparing for the apprentice salesperson examination.

#### BUS 260 3 3 0 0 0 INTRODUCTION TO INSURANCE

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.

### BUS 278 3 3 0 0 0 OPEN EMPLOYMENT LAW

Emphasis is on the principles of business law as it pertains to the human resource function. The course covers laws applicable to selection, testing, hiring, discipline, personnel policies and procedures. The course also covers Equal Employment laws and related discrimination issues. The Occupational Safety and Health Act, Family and Medical Leave Act, and workers compensation topics are discussed as they relate to the business environment.

#### Prerequisite: BUS 185

#### BUS 902 11000 CAREER SEMINAR

Weekly examination of topics relevant to the business internship experience, sharing workplace problems encountered and the solutions to address those problems. This course also covers aspects of the job search process and preparing for the employment interview.

(P/F) Prerequisite: Instructor Permission Corequisite: BUS 932

### BUS 904 1 0 2 0 0 VOC/TECH LEGAL STUDY TOUR

The student will participate in a supervised study tour in which time will be spent touring a government center to view how the government runs, including the history of this country and current legal policies and procedures.

Prerequisite or, Corequisite: BUS 185 or POL 111 or CRJ 132 or instructor permission

#### BUS 932 2 0 0 0 8 VOC/TECH INTERNSHIP

Practical experience through on-the-job training in a business setting approved by the DMACC Business Department. Tasks will be consistent with student's career objectives, skills and knowledge.

(P/F) Prerequisite: Instructor permission, Corequisite: BUS 902

#### CAD 119 3 2 2 0 0 VOC/TECH INTRO COMPUTER-AIDED DRAFTING

This course will introduce the student to computeraided drafting and design. Basic computer hardware, software and operating systems will be discussed. Basic two-dimensional CADD drawing creation and editing techniques will be covered. Drawings will be created and plotted.

Prerequisite: Basic computer literacy

## CAD 125 3 2 2 0 0 VOC/TECH INTERMEDIATE CADD - MECHANICAL

This course will introduce the student to advanced computer-aided drafting and design applications. Program customization, file manipulation/translation and library creation/usage will be covered. Threedimensional concepts will be discussed. Prerequisite: CAD 119

#### CAD 126 3 2 2 0 0 VOC/TECH INTERMED CADD - ARCHITECTURAL

This course will apply architectural drafting practices to the CADD 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: CAD 119

### CAD 139 3 2 2 0 0 VOC/TECH INTRO TO CAD/CAM

The objectives of this course will be to apply computer-aided design software and computeraided manufacturing software for numerically controlled (CNC) machine tools.

#### VOC/TECH CAD 148 3 2 2 0 0 VOC/TECH INTRO TO FINITE ELEMENT ANALYS

This course will introduce CAD students to the analysis of simple structures. Analysis will be examined then verified using computer analysis software in conjunction with CAD. Basic engineering statics will be taught.

Prerequisite: CAD 152, 153, 246, MAT 773

## CAD 151 6 4 4 0 0 VOC/TECH CAD GRAPHICS I

Drawing formats, geometric construction and lettering will be taught on computer-aided drafting (CAD) software. Drafting standards will be covered. CAD operations and commands will be addressed. Sketching and fundamentals of orthographic projection are stressed. Prints will be prepared. Prerequisite: CSC 110 or equivalent

### CAD 152 6 4 4 0 0 VOC/TECH CAD GRAPHICS II

Advanced geometric description applicable to all fields of drafting will be emphasized. Auxiliary views will be created. Descriptive geometry principles will be examined. Intermediate and advanced dimensioning techniques will be covered, including dimensional tolerance analysis. CAD applications will be taught.

Prerequisite: CAD 151, MAT 772

## CAD 153 3 2 2 0 0 CAD APPLICATIONS I

VOC/TECH

Mechanical components and processes used in product design will be covered. Geometric dimensioning and tolerancing will be taught. Preparation of welding drawings will be presented with the emphasis on proper usage of American Welding Society symbols. Precision bending of sheet metal will be covered.

Prerequisite: CAD 152, MAT 773

## CAD 154 3 2 2 0 0 VOC/TECH CAD APPLICATIONS II

Precision bending of sheet metal will be covered. Students will gain knowledge of heating, ventilation and air conditioning (HVAC) applications and HVAC CAD symbology. Hydraulic systems and applications will be covered. Hydraulic symbology will be covered. Mechanical power transmission will be a subject of study. Bearings, bearing seals and sealing systems will be addressed.

Prerequisite: CAD 153 & MAT 773

## CAD 155 3 2 2 0 0 VOC/TECH NETWORKING SYS INVOLVING CAD

Network system key features and functionality will be covered. System file management will be addressed. Operating systems and hardware will be examined. Relationships between computer hardware and software will be taught.

#### CAD 162 32200 VOC/TECH INTRO TO MULTIMEDIA

Basic three-dimensional concepts and applications are covered. Rendering, animating and application of basic color manipulation are discussed and used.

Prerequisite: CAD 119

#### CAD 182 32200 VOC/TECH SOLIDWORKS CAD I

Parametric solid model (3D) CAD basics will be taught using SolidWorks. Parametric concepts will be covered. Solid CAD models will be built and edited in SolidWorks. Assemblies of solid parts will be examined. Part drawings will be created and plotted. Prerequisite: CAD 152, CAD 240, MAT 773

#### VOC/TECH CAD 184 32200 SOLIDWORKS FOR DIE DESIGN

Parametric solid model (3D) CAD basics will be taught using SolidWorks. Parametric concepts will be covered. Solid CAD models will be built and edited in SolidWorks. Assemblies of progressive dies will be examined. Part drawings will be created and plotted.

Corequisite: MFG 402, MFG 403.

#### CAD 196 32200 VOC/TECH **ENGINEERING DISCIPLINES & PRAC**

Types of engineering disciplines and their application of drawings will be examined. Drawing styles, engineering units and professional standards (ANSI, ASME, etc.) will be covered.

Prerequisite: CAD 151

#### 32200 VOC/TECH CAD 215 **MECHANICAL SYSTEMS**

Standard and nonstandard fastening systems will be examined. CAD part libraries and applications will be covered. Basics of power train/mechanical components will be introduced. Mechanical bearings and hydraulic/pneumatic sealing systems will be addressed.

Prerequisite: CAD 152, MAT 773

#### CAD 220 32200 VOC/TECH MICROSTATION CAD

This course will introduce the student to MicroStation CAD software. Basic two-dimensional CAD drawings will be taught. Drawings will be created and plotted. Prerequisite: CAD 151 or equivalent

#### **VOC/TECH** CAD 240 32200 **APPLIED MATERIALS & PROCESSES**

Standard industrial raw materials and forming processes will be examined. Students will see various machining, forming and welding operations. Field trips to industry will be offered.

#### CAD 242 32200 VOC/TECH MANUFACTURING INTERFACES

Computer interfaces between manufacturing and engineering will be the primary focus of the class. File exchange formats, data compilation and machining interpretation of the model file will be addressed. Tool path generation and robotic controls will be discussed. Manufacturing system integration will be covered.

Prerequisite: MAT 772

#### CAD 246 32200 VOC/TECH PARAMETRIC CAD I

Parametric solid model CAD basics will be taught. Parametric concepts with design intent will be covered. Solid CAD models will be built and edited. Mechanical assemblies will be created. Part and assembly drawings with part lists will be created and plotted.

Prerequisite: CAD 152, 240, MAT 773

#### 32200 VOC/TECH CAD 248 PARAMETRIC CAD II

Parametric solid model CAD Intermediate commands will be taught. Parametric concepts with design intent will be covered. Solid CAD models will be built and edited. Mechanical assemblies will be created. Part and assembly drawings with part lists will be created and plotted.

Prerequisite: CAD 153, 252, MAT 773

#### CAD 252 VOC/TECH 42400 **DESIGN PROJECT I**

Detailing individual parts, types of assembly drawings and parts lists will be covered on an individual basis. Design process and procedures will be discussed. Students will conform to industry standards for their design project.

Prerequisite: CAD 152, 196, 240, MAT 773.

#### CAD 254 52600 VOC/TECH **DESIGN PROJECT II**

Continuation of CAD 252, Design Project I. Detailing individual parts, types of assembly drawings and parts lists will be covered on an individual basis. Design process and procedures will be discussed. Students will conform to industry standards for their design project.

Prerequisite: CAD 153, 215, 252

#### VOC/TECH CAT 430 42400 CATERPILLAR FUEL SYSTEMS

The student will be introduced to basic Caterpillar fuel system principles and theory for mechanical and electronic engines. General repair and diagnostic procedures will also be covered. Experienced individuals may contact the instructor to gain admittance to this course.

Prereguisite: DSL 366, 546, 605, 145

#### CAT 431 21200 VOC/TECH **CATERPILLAR FAILURE ANALYSIS**

The student will determine the root cause of failure. how to properly prepare the parts for inspection and determine what is normal and abnormal wear. Experienced individuals may contact the instructor to gain admittance to this course.

Prerequisite: DSL 366, 546, 605

#### VOC/TECH CAT 432 21200 CATERPILLAR LS/PC HYDRAULICS

This course will cover the design and theory of LS/PC hydraulic systems. This course will cover the function, operation and diagnostics of LS/PC hydraulics. Experienced individuals may contact the instructor to gain admittance to this course.

## Prerequisite: DSL 605, 145

164 DES MOINES AREA COMMUNITY COLLEGE CATALOG 2011-2012

#### CAT 433 22000 VOC/TECH **CATERPILLAR SERV INFO SYSTEM**

Instruction covers basic computer skills related to Caterpillar computer systems. Students will learn how to operate SIS, Parts Integrator, DBS Parts orders and work orders.

#### CAT 434 400016 VOC/TECH CATERPILLAR INTERNSHIP

Work experience at a local Caterpillar dealership. The work experience will be compatible with the student's ability and previous coursework. Prerequisite: DSL 366, 546, 605, 145

#### CAT 435 20400 VOC/TECH **CATERPILLAR MULTI-MEDIA**

The student will complete Caterpillar computerized tests and review modules.

Prerequisite: DSL 366, 546, 605, 145

#### **CET 102** 33000 VOC/TECH FUND OF CIVIL ENGINEERING

This course introduces concepts of the civil engineering technician field, including career opportunities, the engineering industry and basic engineering principles. The student will learn to read and understand road and bridge plans and be introduced to all the elements that make up a highway construction project.

#### 32200 VOC/TECH **CET 119** SURVEY I

This course will develop working knowledge of surveying fundamentals. Topics will include introduction to surveying instruments and equipment, measurement of distances and angles, determining elevation, note keeping, traversing, triangulation, mapping and the researching of monuments and benchmarks.

Prerequisite OR, Corequisite: MAT 773

#### **CET 135** 33000 **VOC/TECH** MATERIALS I

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

#### **CET 138** 33000 VOC/TECH CONSTRUCTION I

This course will develop a working knowledge of construction inspection fundamentals. Topics will include an introduction to construction reviews. preconstruction planning, permits processes, embankment construction, drainage solutions, stabilization methods, equipment used in construction, placement work, paving procedures and estimating time and materials.

Prerequisite: CET 102 or department approval

## CET 169 4 3 2 0 0 VOC/TECH SURVEY II

A continuation of Survey I. Topics will include construction control surveys; topographic surveys, construction site layout; coordinate systems (i.e., state plane); elementary horizontal curves; real property descriptions; right of way. Electronic data collection and global positioning will be utilized, as well as data downloading and editing using CAD programs.

Prerequisite: CET 119 or department approval

### CET 173 4 4 0 0 0 VOC/TECH HIGHWAY DESIGN I

This course will introduce the student to highway design. Topics will include an overview of the highway development process, design criteria and standards, horizontal alignments, vertical alignments, cross-sections, earthwork, construction details, specifications and estimates of quantities. A final highway design project will be completed.

Prerequisite: CET 102 and CET 178 or department approval

### CET 178 4 4 0 0 0 VOC/TECH AUTOMATED DESIGN I

This course will introduce the student to computeraided drafting (CAD) utilizing Microstation software. Microstation fundamentals will be taught, including drawing formats, placing and manipulating elements, measurements, cells, patterning, dimensioning, reference files and three-dimensional modeling. Drawings will be created and plotted.

Prerequisite: CET 102 and CSC 110 or department approval

# CET 192 4 4 0 0 0 VOC/TECH STATICS

This course is designed to acquaint the student with basic structural concepts. Emphasis is placed on the use of free body diagrams in understanding the forces acting on a structural member.

Prerequisite: MAT 773 or instructor approval

#### CET 219 4 3 2 0 0 VOC/TECH SURVEY III

Application of survey concepts to Boundary and Route Surveying. Topics will include real property descriptions; research, route surveying, horizontal curve calculation and layout, vertical curve calculations; closed and open loop survey, bench level circuit; subdivision survey and construction surveying. Electronic data collection and global positioning will be utilized.

Prerequisite: CET 169 or department approval

# CET 222 3 2 2 0 0 VOC/TECH SOILS AND FOUNDATIONS

The student will learn to recognize soil relationships with landforms and the effect on engineered construction. Concepts of geology and engineering properties including soil type, classification, strength, and deformation will be covered. Principles of soil mechanics and construction observation techniques will be learned and applied to real-world examples.

Prerequisite: MAT 773 or instructor approval

#### CET 235 3 3 0 0 0 VOC/TECH CONSTRUCTION II

This course will teach a student to define, interpret and utilize construction contract documents and contracting methods. Topics covered are bonds, contracts, bidding documents, construction insurance, subcontracts and subcontractors, dispute resolutions, ethics, safety and labor relations.

Prerequisite: CET 138 or department approval

### CET 244 3 2 2 0 0 VOC/TECH MATERIALS II

This course will develop a working knowledge of hot mix asphalt and Portland cement concrete plant operations, plant control, sampling and testing. Iowa Department of Transportation materials certifications (PCC II, HMA I) will be given to students upon successful completion of state certification exams given during the course.

Prerequisite: CET 135 or department approval

## CET 278 4 4 0 0 0 VOC/TECH AUTOMATED DESIGN II

This course will introduce the student to automated civil engineering design utilizing GEOPAK software. GEOPAK fundamentals will be taught, including the project manager, digital terrain models, coordinate geometry, alignment tools, the design and computation manager, criteria files, cross-section creation, labeling, sheeting, reports and quantity output. A complete highway design project utilizing GEOPAK will be performed.

Prerequisite: CET 178 or department approval

## CET 283 4 4 0 0 0 VOC/TECH HIGHWAY DESIGN II

This course will introduce the student to additional highway design topics. Topics will include hydrology and drainage design, intersection and interchange design, roadside design, jointing, pavement design, parking design, highway capacity and traffic engineering.

Prerequisite: CET 173 or department approval

# CET 291 3 3 0 0 0 VOC/TECH STRUCTURE DESIGN & CONST

This course is an introduction to the understanding of load and resistance factor design (LRFD) method. Topics considered include material properties, tension, compression, bending, beam columns, simple connections, base plates and bearing plates. Prerequisite: CET 192

## CET 304 4 0 0 0 16 VOC/TECH FIELD COOP

Practical experience through on-the-job training in an approved civil engineering technician setting. Tasks will be consistent with students' career objectives, skills and knowledge.

Prerequisite: Successful completion of 32 credit hours of CET program courses and/or department approval

#### CET 305 5 0 0 0 20 VOC/TECH FIELD COOP

Practical experience through on-the-job training in an approved civil engineering technician setting. Tasks will be consistent with students' career objectives, skills and knowledge.

Prerequisite: Successful completion of 32 credit hours of CET credit courses and/or department approval. Same content as SRV 305. Credit will not be granted for both CET 305 and SRV 305.

### CET 307 2 2 0 0 0 VOC/TECH FIELD ORIENTATION

This course is required for students who do not take the Field Coop. It will acquaint a student with field operations. The role of the superintendent and project manager will be discussed as well as the relationship between the contractor and owner. Visits will be made to local projects to observe construction procedures.

Prerequisite: Successful completion of 32 credit hours of CET credit courses. Written permission from the CET faculty is required to substitute this course for 2 credits of the 5 credit CET 305 requirement.

### CHM 105 3 2 2 0 0 CORE SURVEY OF CHEMISTRY

An introduction to chemical topics with little mathematics. Topics include energy, food chemistry, air and water pollution, agricultural chemicals, detergents and drugs. The course is for students who need one semester of laboratory science.

## CHM 122 4 3 2 0 0 CORE INTRO TO GENERAL CHEMISTRY

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 healthrelated programs.

Prerequisite: One year H.S. algebra or MAT 063

### CHM 132 4 3 2 0 0 CORE INTRO TO ORGANIC/BIOCHEMISTRY

A continuation of the study of organic chemistry and a study of biochemistry. 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. Prerequisite: CHM 122 or equivalent

### CHM 165 4 3 3 0 0 CORE GENERAL/INORG CHEMISTRY I

A thorough treatment of general chemistry including atomic structure, stoichiometry, chemical bonding, states of matter, solutions, acids and bases, reaction rates, equilibrium, thermodynamics and electrochemistry. This course is intended for science, engineering, pre-vet, pre-med, pre-dental and preoptometry majors.

Prerequisite: One year H.S. chemistry or CHM 122 & 2 years H.S. algebra or MAT 073  $\,$ 

### CHM 175 4 3 3 0 0 CORE GENERAL/INORG CHEMISTRY II

A continuation of General and Inorganic Chemistry I. Prerequisite: CHM 165 or equivalent

#### CHM 263 53400 CORE ORGANIC CHEMISTRY I

A study of the principles of organic chemistry, including the nomenclature and chemistry of the various organic functional groups. Structure, bonding, synthesis, reaction mechanisms and spectroscopy are emphasized. The sequence is designed to satisfy the one year of organic chemistry required by most medical schools.

Prerequisite: CHM 132 or 175 or one year collegelevel general chemistry

#### CHM 273 5 3 4 0 0 ORGANIC CHEMISTRY II

A continuation of Organic Chemistry I. Prerequisite: CHM 263 or equivalent

### CIS 125 3 3 0 0 0 OPEN INTRO TO PROGRAMMING LOGIC W/L

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. Students will define and analyze problems, design computer solution algorithms and prove the correctness of the solution.

#### CIS 130 3 3 0 0 0 VOC/TECH COMPUTER PROGRAMMING

Basic programming techniques such as writing algorithms, drawing of flow charts and developing programs that include loops and subroutines.

### CIS 140 3 2 2 0 0 VOC/TECH INTRO TO GAME DESIGN

Identify and discuss the concepts and technologies of computer game design and development. Discuss the gaming industry and its expectations and opportunities. Design and develop your own computer games using a variety of software tools.

#### CIS 152 3 3 0 0 0 OPEN DATA STRUCTURES

An object-oriented programming language will be used to introduce commonly used data structures. Programs using these data structures will be developed, written, tested and debugged.

Prerequisite: CIS 125 or equivalent

## CIS 154 3 3 0 0 0 OPEN COMPUTATIONAL STRUCTURES

Relates mathematics as a tool and language to the computer. An object-oriented language will be used to acquaint students with application areas in computer science.

Prerequisite: CIS 125

#### CIS 161 3 3 0 0 0 VOC/TECH C++

Students will examine the structure of typical C++ programs, explore the concepts of object-oriented programming and design business applications in C++.

Prerequisite: CIS 125 or equivalent

#### CIS 164 3 3 0 0 0 VOC/TECH ADVANCED C++

Review and extend the concepts of class hierarchies, encapsulation, inheritance and polymorphism. Explore class libraries, templates, streamable classes and exception handling. Develop a code for both DOS and Windows applications.

Prerequisite: CIS 161

CORE

#### CIS 169 3 3 0 0 0 VOC/TECH C#

This course is an introduction to the C# language. Object-oriented programs will be developed by students.

Prerequisite: CIS 125

# CIS 171 3 3 0 0 0 VOC/TECH JAVA

Students will learn the basic features of the Java programming language and explore the concepts of object-oriented programming, event handling, user interface programming and graphic techniques. Gain practical experience creating and modifying Java applications and applets, and embedding Java applets in web pages.

Prerequisite: CIS 125

### CIS 174 3 3 0 0 0 VOC/TECH ADVANCED C# PROGRAMMING

Students learn ASP.NET development with C# and relational database management systems. Build dynamic websites, web applications and XML web services. The course includes advanced topics such as state preservation techniques and objectoriented programming. After completing the course, students will be able to use C# and ASP.NET to build professional-quality, database-driven websites. Prerequisite: CIS 169

## CIS 178 2 2 0 0 0 VOC/TECH JAVA PROGRAMMING I

Learn Java programming techniques related to information technology and network administration. Prerequisite: NET 223, 623, 628

# CIS 179 2 2 0 0 0 VOC/TECH JAVA PROGRAMMING II

Learn advanced Java programming techniques related to information technology and network administration. Prerequisite: CIS 178

#### CIS 182 3 3 0 0 0 VOC/TECH JSP AND SERVLETS

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: CIS 171, CIS 207

# CIS 204 3 3 0 0 0 VOC/TECH INTRO TO WEBSITE DEVELOPMENT

Introduces HTML and DHTML concepts and technologies. Includes HTML, XHTML, CSS, JavaScript and the Document Object Model (DOM). Students will use a variety of current software development tools to build and publish business-oriented website applications. Prerequisite: CSC 110

### CIS 207 3 2 2 0 0 VOC/TECH FUND OF WEB PROGRAMMING

This course introduces the student to basic concepts, languages and tools used in the development of an e-commerce website. Students will identify effective design concepts and characteristics of successful websites. They will use current tools and techniques to design and create e-commerce websites. Prerequisite: CSC 110 or BCA 212

## CIS 210 3 3 0 0 0 VOC/TECH WEB DEVELOPMENT I

This course is designed to teach students how to install, configure and maintain a Web Server with an emphasis on web page creation and website authoring. Students will learn to use state-of-the-art technology and software in this course. Students are introduced to relational databases and how to use SQL to access them. Students will learn to install a Web Server, a Relational Database, and create dynamic web content containing text, graphics, hyperlinks, tables, forms and frames.

Prerequisite: NET 223, 623, 628

## CIS 211 3 3 0 0 0 VOC/TECH WEB DEVELOPMENT II

This course is designed to teach students how to create a website where customers can purchase products over the internet (e-commerce). Students will learn to work with the most widely used server side scripting languages and Common Gateway Interfaces including SSI, ASP, JSP, C, Perl and PHP. After completing this course, students will be able to install a Web Server and a Relational Database, and to create dynamic web content for e-commerce.

Prerequisite: CIS 210

#### CIS 215 3 3 0 0 0 VOC/TECH SERVER SIDE WEB PROGRAMMING

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. Students will learn the basic concepts and applications of these languages and how they can be included within a website.

Prerequisite: CIS 207 or BCA 113

### CIS 240 3 3 0 0 0 VOC/TECH E-COMMERCE WEBSITE II

Introduces Dynamic HTML, cascading style sheets, and XML, work with advanced features of FrontPage and another website development tool.

Prerequisite: CIS 207

#### CIS 247 3 3 0 0 0 VOC/TECH INTRO TO XML

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: CSC 110

### CIS 303 3 3 0 0 0 VOC/TECH INTRODUCTION TO DATA BASE

This course provides a comprehensive foundation that enables students to understand and use commercially available relational DBMS products effectively.

Prerequisite: CSC 110 or instructor approval

### CIS 332 3 2 2 0 0 VOC/TECH DATA BASE AND SQL

This course is an introduction to SQL as a database programming language to those already familiar with basic relational database concepts. Students will write executable SQL statements to create and maintain database objects.

Prerequisite: CIS 303

# CIS 338 3 2 2 0 0 VOC/TECH SQL/ORACLE

Students will use advanced techniques to retrieve data, format reports and create script files to generate SQL. The course also provides the opportunity for students to write COBOL programs that utilize embedded SQL statements.

Prerequisite: CIS 332

## CIS 346 3 3 0 0 0 VOC/TECH DATA BASE DESIGN

Students learn a systematic approach to database development using entity-relationship models, normalization and relational database design. Students will use this approach to identify and define business information requirements, create entity relationship models and transform the requirements into an initial database design. Prerequisite: CIS 303

#### CIS 402 3 3 0 0 0 OPEN COBOL

Introduces the programming language COBOL. Topics include move, logical testing, control, page breaks, totals and others. Emphasis is given to business applications.

#### CIS 413 4 4 0 0 0 OPEN COBOL II

Introduces advanced COBOL programming techniques. Emphasis is given to the SORT verb, multiple level tables and ISAM file access techniques. Prerequisite: CIS 402

## CIS 421 4 3 2 0 0 VOC/TECH COBOL-INTERMEDIATE

COBOL VSE structured programming involving sequential disk, table processing and file update processing, using IBM ICCF text editor, VSE/ESA JCL on an IBM ES/900 Mainframe.

Prerequisite: CIS 402

#### CIS 431 3 2 2 0 0 VOC/TECH COBOL-ADVANCED

ANS COBOL involving advanced editing programs, table processing, VSAM file process, programs linkage and report writer. Prerequisite: CIS 593, 421

## CIS 435 3 3 0 0 0 VOC/TECH COBOL ON THE WORLD WIDE WEB

Apply COBOL to the WWW using NetExpress from Merant. Topics include CGI Programs. Data access on the Web Server, GUI development for HTMLbased applications.

Prerequisite: CIS 402

#### CIS 463 4 4 0 0 0 VOC/TECH CICS

Provides theory and working knowledge of telecommunication programming. Students will code programs using CICS. Prerequisite: CIS 431

## CIS 485 6 4 4 0 0 VOC/TECH PROGRAMMING PROJECTS-MAINFRAME

Individual projects are assigned that require the student to apply the programming knowledge gained in prerequisite courses to the design and implementation of assigned business applications. Prerequisite: CIS 463

### CIS 505 4 4 0 0 0 VOC/TECH STRUCTURED SYSTEMS ANALYSIS

Designed to acquaint the student with the various considerations in the design of a system. The course considers project initiation, fact gathering, procedures, forms, system implementation and evaluation.

Prerequisite: CSC 110, CIS 402

#### CIS 583 4 3 2 0 0 VOC/TECH ASSEMBLER

An introductory course in the syntax rules of Assembler language programming. Business problems are analyzed and programmed. Prerequisite: CIS 402, Corequisite: CIS 593

#### CIS 588 3 3 0 0 0 VOC/TECH COMPUTER ORGANIZATION

This course focuses on the relationship between computing hardware and machine language instruction sets. Computer system and microprocessors will be examined along with supporting hardware and the organization of their instruction sets. Programming in assembly language is studied in detail.

Prerequisite: CIS 125 and CIS 154

## CIS 593 4 3 2 0 0 VOC/TECH MAINFRAME OPERATIONS

Provides an individual with a working knowledge of Disk Operating Systems/Virtual Storage Extended (DOS/VSE) job control language. Prerequisite: CIS 402

equisite: CIS 402

### CIS 604 3 3 0 0 0 VOC/TECH VISUAL BASIC

An elementary course in the use of the Visual Basic.NET programming language. The various commands will be presented. Students design, code and test several programs.

Prerequisite: CIS 125 or equivalent

### CIS 612 3 3 0 0 0 GENERAL ADVANCED VISUAL BASIC

An applications approach developed around data file programming. Manipulation of string variables, data entry, formats, error checking routines, SQL databased processing.

Prerequisite: CIS 604

### CIS 720 3 3 0 0 0 HELP DESK OPERATIONS

VOC/TECH

The purpose of this course is to provide students with a comprehensive understanding of the help desk environment and the knowledge, skills and abilities needed to work in the user support industry. Students will learn valuable problem-solving and communication skills. Through hands-on exercises and case projects, students will learn how to apply their knowledge and develop their ideas and skills. They will also learn how to work individually and in teams, that will prepare them for a team-oriented environment. Prerequisite: CSC 110

#### COM 703 3 3 0 0 0 COMMUNICATION SKILLS

VOC/TECH

Reading, writing, speaking and listening are studied as methods of exploring and evaluating technological advances in trades and industry. Adapting communication for different audiences, evaluating industry-related literature and basic business writing are emphasized.

# CON 3335 5 0 0 0VOC/TECHMATERIALS/CONSTRUCTION THEORY

An introduction to the materials used in the construction industry and the methods involved in the application of these building materials.

# CON 334 7 0 15 0 0 VOC/TECH CONSTRUCTION TECHNIQUES

A practical, hands-on introductory experience that covers the construction process, including rough and finish carpentry.

# CON 336 1 0 2 0 0 VOC/TECH CARE/USE OF HAND/POWER TOOLS

Proper care, use and selection of hand and power tools with an emphasis on maintenance and safety.

# CON 337 1 0 2 0 0 VOC/TECH CONSTRUCTION BLUEPRINT READING

Fundamentals of blueprint reading designed to allow the student to translate plans into practical job experience.

### CON 338 1 0 2 0 0 VOC/TECH MATERIALS TAKEOFF

A study of the techniques needed to create a materials list by reading a blueprint.

Prerequisite: CON 337 should be taken concurrently or prior to this course

# CON 341 2 1 2 0 0 VOC/TECH CONSTRUCTION DRAFTING & DESIGN

An introduction to the fundamentals of design and basic drafting methods. Includes the preparation of the blueprint used to construct the studentbuilt project.

Prerequisite: CON 337

### CON 342 3 0 7 0 0 VOC/TECH INTERIOR TRIM PRACTICES

Advanced lab experience that emphasizes complex finish skills. The student will be able to demonstrate the skills and work habits necessary to complete tasks in a safe manner and to adapt previously learned skills to complete more complex building tasks.

Prerequisite: CON 334

#### CON 346 4 1 6 0 0 VOC/TECH CONCRETE SYSTEMS & FORMING

An introduction to concrete as a material and to concrete design, placement and finish. Identification and application to forming systems will be studied in the classroom and applied in the lab.

Prerequisite: CON 336

## CON 480 5 0 10 0 0 VOC/TECH CONST PROCEDURE/APPLICATION I

This course includes footings, drainage, foundation, basement insulation and decking. (5-week session) Prerequisite: CON 333, 346, 342

#### CON 481 5 0 10 0 0 VOC/TECH CONSTR PROC & APPLICATIONS II

This course includes exterior wall construction, interior wall construction, ceiling joist framing, rafter framing, exterior trim, window installation and roofing. (5-week session)

Prerequisite: CON 480

# CON 482 5 0 10 0 0 VOC/TECH CONSTR PROC & APPLICATIONS III

This course includes concrete flatwork, insulation, drywall application, cabinet work and interior trim. (5-week session)

Prerequisite: CON 481

## CON 949 11000 VOC/TECH SPCL TOPIC: GREEN BLDG CONCEPTS

In this special topics course, students will examine green building concepts, concerns and material characteristics as well as selection. Students will also be introduced to current Leadership in Energy and Environmental Design (LEED) Building certification standards and processes. Theory will be provided that will help the students understand the reasoning behind green concepts and practices. Students will learn the basic concepts of a cost benefit analysis when selecting environmentally friendly or energysaving housing systems.

### CRJ 100 3 3 0 0 0 GENERAL INTRO TO CRIMINAL JUSTICE

An in-depth examination of the three components of the criminal justice system and the roles they play in society.

## CRJ 101 3 3 0 0 0 OPEN ETHICS IN CRIMINAL JUSTICE

Focuses on philosophical and theoretical issues and analyzes research findings to determine their implications for future practice. The student will learn how to identify and confront the difficult ethical decisions they are likely to face in their daily routines.

### CRJ 107 3 2 2 0 0 OPEN SURVEY CRIM JUSTICE AGENCIES

Study of the criminal justice system through an examination of actual agencies, focusing on theoretical vs. real roles and functions of the agencies. Includes on-site visits.

Prerequisite: 24 hours of CRJ Courses or instructor permission

#### CRJ 109 3 3 0 0 0 OPEN THEORIES OF INTERVIEWING

The process of gathering information from others: the interviewee, the setting, types of questions, nonverbal communication, deception and theories of communication.

#### CRJ 111 3 3 0 0 0 OPEN POLICE AND SOCIETY

An examination of the role of the police and corrections in American society, and a discussion of prominent issues. The course will examine the various eras of policing and correctional agencies. The structure and style of various policing and correctional agencies will also be covered. Agency application of internal and ethical issues including use of force will be examined. Strategies and policies to improve policing and correctional work environment will also be discussed.

#### CRJ 128 3 3 0 0 0 OPEN VICTIMOLOGY

This course is an overview of the study of victims. The course covers the history of victimology, the plight of crime victims, and society's changing view of victims, along with the role of law enforcement, the courts and corrections in dealing with victims. Victim groups with special needs, such as police officers/correctional officers who are injured or killed in the line of duty, are also examined.

#### CRJ 130 3 3 0 0 0 GENERAL CRIMINAL LAW

An examination of the elements of offenses and the procedural safeguards in the criminal process.

### CRJ 132 3 3 0 0 0 GENERAL CONSTITUTIONAL LAW

A study of the application of constitutional principles to social and political questions—including the powers of the national government vs. state government—through focus on the incorporation issue and examination of the evolution of civil liberties guarantees.

### CRJ 136 3 3 0 0 0 OPEN CORRECTIONAL LAW

Law in the field of corrections: procedural and substantive rights of both convicts and the state, "good time" detainers, multiple sentences and double jeopardy. Emphasis on sentencing and classification; efforts to reduce sentencing disparity.

### CRJ 137 3 3 0 0 0 GENERAL JUVENILE LAW

The social and legal aspects of juvenile delinquency, plus theories on procedures, legislation, juvenile court and prevention programs.

OPEN

## CRJ 141 3 3 0 0 0 CRIMINAL INVESTIGATION

Rudiments of criminal investigation: techniques, principles, problems, sources of information and evidentiary processes.

#### CRJ 167 3 2 2 0 0 OPEN OPERATING SYS. FOR FORENSICS

This course provides a comparative study of popular PC-class operating systems. Upon completion of this course, students will be familiar with the interface, file management, resource allocation and common administration procedures of various popular operating systems. Additionally, the course describes data organization and file properties that contribute to forensic investigation. Many discussion topics are reinforced with hands-on exercises and assignments. Prerequisite: CSC 110 or instructor approval

## CRJ 176 3 2 2 0 0 OPEN COMPUTER FORENSICS I

This course serves as a technical introduction to the search, seizure and processing of electronic evidence. Topics covered in the course include a strong emphasis on investigative documentation, recognition of potential evidence sources, sterile evidence acquisition and analysis and data recovery methodologies. State-of-the-art hardware and software will be used in hands-on labs and case studies.

Prerequisite: CSC 110 or instructor approval

### CRJ 178 3 3 0 0 0 OPEN E-CRIME INVESTIGATIVE METHODS

This course identifies electronic crime, instructs the student on current laws, and teaches the investigative methods used in law enforcement today to gather evidence to prosecute and testify regarding these criminal acts.

### CRJ 179 1 1 0 0 0 OPEN WHITE-COLLAR CRIME

This course provides basic understanding of whitecollar crime and some of its ramifications. Special attention will be paid to the study of white-collar crimes pertaining to corporate crime, occupational crime, governmental and political crime, enterprise/ organized crime, prevention/control mechanisms and societal responses to these crimes.

#### CRJ 195 4 0 8 0 0 OPEN CRIME SCENE INVESTIGATION

An in-depth study into the nature of physical evidence, including descriptions of forensic analysis, techniques for proper collection and preservation of evidence and interpreting the significance of scientifically evaluated evidence.

Corequisite: CRJ 141

### CRJ 222 3 3 0 0 0 OPEN CORRECTIONAL TREATMENT METHODS

Institutional options for preventing recidivism. Introduction to therapeutic techniques. Comparison of punishment, Freudian treatments and behavior modification systems. Student presentation required.

#### CRJ 229 3 3 0 0 0 PENOLOGY

The social organization and goals of correctional programs. Principles of institutional corrections and the social structure within institutions. Examination of noninstitutional alternatives including probation and parole.

OPEN

# CRJ 248 3 3 0 0 0 OPEN 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.

### CRJ 264 11000 OPEN EFFECTIVE COURTROOM TESTIMONY

An examination of the proper methods for preparing and delivering effective testimony as a criminal justice professional in a court of law. Prerequisite: CRJ 100

## CRJ 267 11000 OPEN E-DISCOVERY I-OVERVIEW

This course provides an overview of the e-discovery process. Helpful for technical practitioners and legal assistants, this course explains legal requirements, appropriate protocol and common expectations for e-discovery implementation.

## CRJ 268 11000 OPEN E-DISCOVERY II-DATA COLLECT

This course explores the data identification and collection phases of the e-discovery process. The principles of logical file systems and acquisition methods are also discussed.

## CRJ 269 11000 OPEN E-DISCOVERY III-DATA PROCESS

This course focuses on the aspects of postacquisition data processing as part of e-discovery implementations. Additional consideration is given to reviewing and reporting, as well as testimony expectations surrounding the e-discovery process. Prerequisite: CRJ 268 or CRJ 176

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## CRJ 276 3 2 2 0 0 COMPUTER FORENSICS II

This course is a continuation of study relating to computer forensics and data recovery topics. Topics discussed in this course include the investigation and analysis of password-protected and encrypted data, slack space, swap files and portable data storage/ communication devices including PDAs and mobile phones. Software and hardware tools are widely used through various case studies and exercises to reinforce discussion topics.

Prerequisite: CRJ 176

#### CRJ 277 4 2 4 0 0 OPEN ADV DIGITAL FORENSIC METHODS

This course provides a forum for discussion and experimentation with contemporary topics relating to digital/computer forensics. Topics include evidence analysis specific to networked environments and nonconventional data devices, low-level data recovery procedures, advanced cryptography and steganography and "live" analysis and recovery of server-oriented storage technologies. Software and hardware tools are widely used through various case studies and exercises to reinforce discussion topics. Prerequisite: CRJ 276 or instructor approval

## CRJ 278 11000 OPEN APPLE/MACINTOSH FORENSICS

This course provides a forensic investigation overview of contemporary Apple/Macintosh hardware and software. File system fundamentals and system artifacts that may be of evidentiary value are discussed. Additionally, investigation techniques of Apple mobile and embedded devices (running iOS) are discussed.

Prerequisite: CRJ 167

## CRJ 279 11000 OPEN MALWARE FORENSICS

Course will familiarize students with malware response and analysis methodologies, as well as the legal considerations associated with such practice. Prerequisite: CRJ 167

## CRJ 292 1 0 2 0 0 OPEN POLICE PHYS FITNESS & CONDITION

This course presents the specific requirements of the State of Iowa police physical fitness entry standards (Cooper Test) and academy physical training for the police officer. A fitness exam will be conducted and a personal exercise and nutrition program will be developed to meet each student's needs. Students will be evaluated at the beginning of the course to ensure they meet at least a 35% fitness level (as outlined in the State of Iowa Police Fitness Standards, Cooper Institute Standards). Each student's fitness levels will be monitored throughout the course and student adherence to exercise and nutrition prescription will be assessed. Students will be expected to improve at a minimum of 15% above the 35% level of fitness.

Prerequisite: CRJ 100

OPEN

### CRJ 293 11000 OPEN CRIM JUSTICE REPORT WRITING

This course will help Criminal Justice students master the ability to translate actions and observations into complete, accurate and understandable written reports for law enforcement and/or corrections professionals. Emphasis will be on the purpose of reports in the criminal justice field, the uses of reports, basic report components and guidelines for good report writing.

Prerequisite: CRJ 100 and ENG 105 or instructor permission

#### CRJ 301 3 3 0 0 0 OPEN INTRO TO HOMELAND SECURITY

The course is an examination of the role government and, more specifically, first responders play in the current threat to our nation from terrorism. The course will examine the role, authority and history of the government when faced with these threats. The structure, style and current practices will be covered along with an attempt to discover best practices and cost-effective solutions.

#### CRJ 302 3 3 0 0 0 OPEN TRANSPORTATION & BORDER SEC

This course is an examination of the field of transportation and border security. The course will examine the role of both government and private enterprise in securing one of the most vulnerable and important industries worldwide. The course will discuss the threats to this industry with a view toward passenger, cargo and infrastructure protection. Strategies and policies to improve and protect the system will be discussed.

Prerequisite: CRJ 301

#### CRJ 303 3 3 0 0 0 OPEN INTEL ANALYSIS & SEC MGMT

This course is an examination of the field of intelligence analysis and its role in the security of the United States and its citizens. The course will examine the emergence of the discipline, its global role in the prevention of terrorism, its use in the intelligence community, and its value in criminal investigations. Strategies and policies to improve intelligence and the end product will be discussed. Prerequisite: CRJ 301

### CRJ 330 11000 OPEN FORENSIC PHOTOGRAPHY I

First in a series of forensic photography courses, this course emphasizes photography fundamentals and practical techniques critical for authoritative crime scene and evidence documentation.

### CRJ 331 11000 OPEN FORENSIC PHOTOGRAPHY II

This second course in forensic photography concentrates on technical aspects specific to creating images for investigative purposes. Topics include alternate light sources and photogrammetry, as well as an exploration of special considerations for documenting specific scenes, surveillance and evidence.

Prerequisite: CRJ 330

## CRJ 332 11000 OPEN FORENSIC PHOTOGRAPHY III

This course explores the role of digital imaging technologies and processing as they relate to evidentiary photography. Discussion about legal issues and admissibility of photographs is also included.

Prerequisite: CRJ 331

#### CRJ 932 3 0 0 0 12 INTERNSHIP

Involves 150 hours of active internship for students in an agency other than one in which they may be employed. Synthesis paper required.

(P/F) Prerequisite: Criminal History Background Check to determine eligibility.

# CRR 101 2 0 4 0 0 VOC/TECH SHEET METAL WELDING

Basic skills will be developed in oxygen-acetylene fusion welding and flame cutting. Gas metal arc (MIG) welding equipment and basic understanding of procedures related to auto collision area. Safety is emphasized.

### CRR 150 1 1 0 0 0 VOC/TECH 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.

# CRR 202 3 2 2 0 0 VOC/TECH 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 refinishing of the substrates will be studied in classroom and the lab.

Prerequisite: CRR 841

# CRR 325 5 2 6 0 0 VOC/TECH SHEET METAL FUNDAMENTALS

Automobile design, the materials used in construction, collision, corrective forces, procedures for repair and services are analyzed through class and lab study.

Prerequisite: CRR 101 must be taken concurrently or prior to this course

## CRR 502 21200 VOC/TECH FRAME DAMAGE ANALYSIS

Unibody design and construction has created a need for methods of damage analysis, gauging, measuring and sequencing total collision repair. This course emphasizes new technologies.

#### CRR 655 5 1 8 0 0 VOC/TECH 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: CRR 502, 101

#### OPEN CRR 742 21200 VOC/TECH 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.

## CRR 760 2 2 0 0 0 VOC/TECH ADVANCED ESTIMATING

Estimating, customer relations and service selling are all important skills of ownership and managership. Hand and computer estimates will be written. Labor, parts and material costs and profits will be studied. Customer and employee relations will be studied. Prerequisite: CRR 742

## CRR 841 5 3 4 0 0 VOC/TECH 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.

### CRR 876 6 3 6 0 0 VOC/TECH REFINISHING PRODUCTION

Industry application of colors and clear coats requires the latest information on repair and refinishing of today's vehicles. This course covers the latest manufacturers' preferred methods for repair using current colors and chemicals. Color matching will be emphasized.

Prerequisite: CRR 877, 202

## CRR 877 7 3 8 0 0 VOC/TECH 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: CRR 841

## CSC 110 3 2 2 0 0 OPEN INTRO TO COMPUTERS

Presents the basic concepts of computers and the effect that computers are having and will continue to have in the future. Incorporates theory as well as hands-on practice. Includes an introduction to Windows, Word, Excel, Access and the internet.

## DEA 253 4 4 0 0 0 VOC/TECH DENTAL SCIENCE I

Introduction to the various sciences necessary for the dental assistant. Microbiology and oral pathology are covered.

Prerequisite: DEA 256 must be taken concurrently or prior to this course

### DEA 256 2 2 0 0 0 VOC/TECH DENTAL ANATOMY

The study of head, neck and dental anatomy is combined to give the student background information for application in dental assisting courses.

## DEA 263 2 2 0 0 0 VOC/TECH DENTAL SCIENCE II

A continuation of Dental Science I. Emphasis on effects of drugs and emergency procedures. Prerequisite: CPR certification, DEA 253, 256

### DEA 297 11000 VOC/TECH ETHICS/JURISPRUDENCE SEMINAR

Continuation of DEA 591. Also includes the study of the ethics and legal responsibilities of the dental profession as well as the functions and jurisprudence of the auxiliary personnel.

Prerequisite: Second semester standing in Dental Assisting program, Corequisite: DEA 577

### DEA 321 2 1 2 0 0 VOC/TECH DENTAL RADIOGRAPHY II

A continuation of Dental Radiography I. Weekly seminars for basic interpretation of radiographics and laboratory experience to develop student competence in making oral radiographic surveys. Prerequisite: DEA 253, 256, 507, DHY 161

#### DEA 424 1 0 2 0 0 VOC/TECH DENTAL MATERIALS LAB

Through laboratory experience, the student learns techniques in preparation and utilization of dental materials.

Prerequisite: DEA 256

#### DEA 507 6 4 4 0 0 VOC/TECH 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: DEA 253, 256, 424; DHY 221 must be taken concurrently or prior to this course

#### DEA 576 3 0 0 0 12 VOC/TECH 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.

Prerequisite: Current CPR Certification, DEA 253, 256, 507, 424, DHY 221, 161, Corequisite: DEA 591

# DEA 577 4 0 0 0 16 VOC/TECH DENTAL ASSISTING CLINIC II Continuation of DEA 576.

Corequisite: DEA 297

#### DEA 591 11000 VOC/TECH 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: DEA 253, 256, 507, 424; DHY 221, 161, Corequisite: DEA 576

## DEA 615 5 3 4 0 0 VOC/TECH CLINICAL DENTAL ASSISTING

A continuation of Preclinical Dental Assisting (DNA507) with emphasis on operative dentistry, dental specialties and advanced functions. The laboratory phase develops students' competencies in clinical assisting.

Prerequisite: DEA 253, 256, 507, 424, DHY 221, 161

### DEA 702 2 2 0 0 0 VOC/TECH DENTAL OFFICE PROCEDURES

Covers the business aspects of the dental office: patient relations, appointment book management, financial records, telephone communications, credits and collections, dental insurance, tax records, supply and inventory systems.

Prerequisite: 35 WPM keyboard skills and computer literacy

### DHY 114 4 4 0 0 0 OPEN DENT HYG ANATOMICAL SCIENCE

Programmed dental anatomy supplemented by lectures, quizzes and discussions on the development, morphology and functions of the teeth. Anatomy and physiology of the head and neck including mastication.

Prerequisite: BIO 164

### DHY 121 2 2 0 0 0 OPEN ORAL HISTOLOGY & EMBRYOLOGY

General and oral histology beginning with a consideration of cytology and followed by a study of the fundamentals of oral embryology and the normal microscopic anatomy of oral tissues. Prerequisite: BIO 164

### DHY 133 3 3 0 0 0 OPEN 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: CHM 132, DHY 114, 181, 182

## DHY 141 3 3 0 0 0 OPEN 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: BIO 164, DHY 121, 114

#### DHY 161 3 2 2 0 0 OPEN ORAL RADIOLOGY

Lecture includes radiation physics; biological effects; radiation safety and protection; properties of x-ray film and techniques of exposing; processing, mounting and evaluating film. Laboratory experiences develop competence in exposing, processing, mounting and evaluating radiographs. Corequisite: DEA 256 and DEA 507 or DHY 114

## DHY 164 2 1 2 0 0 OPEN ORAL RADIOLOGY II

A continuation of Dental Radiography I. Weekly seminars for basic interpretation of radiographs and laboratory experience to develop student competence in taking oral radiographic surveys. Prerequisite: DHY 161, Corequisite: DHY 182

### DHY 170 2 2 0 0 0 OPEN PRINCIPLES OF DENTAL HYGIENE

Basic principles of clinical dental hygiene are introduced. In the practicum portion, we will look at the etiology of deposits and their effect on oral tissue, along with the theory and instrumentation techniques in deposit removal.

Prerequisite: BIO 154, CHM 122, Corequisite: DHY 171

# DHY 171 3 0 6 0 0 OPEN PRINCIPLES OF DENTAL HYG PRACT See DHY 170. See DHY 170.

Prerequisite: BIO 164, CHM 122, Corequisite: DHY 170

### DHY 181 2 2 0 0 0 OPEN DENTAL HYGIENE I

A continuation of instrumentation techniques. Emphasis is placed on patient assessment and principles of patient education in chairside instruction. Topics include polishing techniques, topical application of fluoride and supplementary procedure. Prerequisite: DHY 170, 171, Corequisite: DHY 182

# DHY 182 4 0 8 0 0 OPEN CLINICAL DENTAL HYGIENE I See DHY 181

Prerequisite: DHY 170, 171, Corequisite: DHY 181, 164

### DHY 211 2 2 0 0 0 OPEN PERIODONTOLOGY

The clinical characteristics, histopathology, etiology and treatment of periodontal diseases are presented. Special emphasis is placed on the role of the dental hygienist in the prevention and management of periodontal diseases.

Prerequisite: DHY 121, 181, 182, Corequisite: DHY 282

### DHY 221 2 2 0 0 0 OPEN DENTAL MATERIALS

A study of materials utilized in the practice of dentistry. Properties of dental materials and ADA requirements are presented.

Corequisite: DEA 256 and DEA 424 or DHY 114 and DHY 223 must be taken concurrently or prior to this course.

#### DHY 223 1 0 2 0 0 DENTAL MATERIALS LAB

Through laboratory experience, the student learns techniques in the preparation and utilization of dental materials.

Corequisite: DHY 221

### DHY 232 4 4 0 0 0 OPEN NUTRITION/PREVENTIVE DENTISTRY

Lecture-discussion course relating to nutrients and their effects on general and oral health throughout the life cycle. An introduction to the principles of counseling and instruction in preventive dentistry necessary to maintain optimum oral health. Prerequisite: BIO 164, CHM 132

## DHY 234 11000 OPEN NUTRITION/DENTAL COUNSELING

A combined teaching, learning and practice course emphasizing the identification and analysis of diet as it relates to dental health. Students will evaluate caries and periodontal disease risk levels and perform counseling and instruction in elements of nutrition as they relate to the prevention of dental disease. Prerequisite: BIO 164, CHM 132, HCM 236

#### DHY 251 3 2 2 0 0 OPEN COMMUNITY ORAL HEALTH

The course relates the concepts of dental public health and preventive dentistry, including principles of biostatistics, epidemiology, dental manpower and delivery systems. Students plan, implement and evaluate a community dental health project.

Prerequisite: DHY 261

### DHY 261 3 2 2 0 0 OPEN DENTAL HEALTH EDUCATION

An introduction to the principles of instruction in healthcare. The course will include developing, presenting and evaluating dental health education programs for public schools and community groups. Prerequisite: DHY 170, 171

## DHY 281 2 2 0 0 0 OPEN DENTAL HYGIENE II

A continuation of clinical practices. Further instruction and application in techniques for a complete oral prophylaxis and Phase 1 therapy. Topics include smoking cessation, intraoral photography, sonic scaling and air polishing. Prerequisite: DHY 181, 182, Corequisite: DHY 282

# DHY 282 2 0 0 6 0 CLINICAL DENTAL HYGIENE II

See DHY 281.

Prerequisite: DHY 181, 182, Corequisite: DHY 281

### DHY 291 2 2 0 0 0 OPEN DENTAL HYGIENE III

A continuation of clinical practices. Topics include dental hygiene care for individuals with special needs, care planning, third-party payment applications, substance abuse and dependent adult abuse.

Prerequisite: DHY 281, 282, Corequisite: DHY 292

See DHY 291.

OPEN

Prerequisite: DHY 281, 282, Corequisite: DHY 291

### DHY 301 2 2 0 0 0 OPEN DENTAL HYGIENE IV

A continuation of clinical practices. Legal, ethical and management aspects of the dental care system are considered. Career alternatives and job seeking skills are demonstrated.

Prerequisite: DHY 292, 291, Corequisite: DHY 302

# DHY 302 5 0 0 15 0 OPEN CLINICAL DENTAL HYGIENE IV

See DHY 301.

Prerequisite: DHY 292, 291, Corequisite: DHY 301

# DRA 101 3 3 0 0 0 CORE INTRODUCTION TO THEATRE

A survey of the elements and techniques of theatre with emphasis on acting, directing and playwriting. Attendance at dramatic production encouraged.

#### DRA 130 3 3 0 0 0 GENERAL ACTING I

Training of the body, voice and mind as acting instruments. Course includes acting exercises, scene analysis and performance.

#### DRA 147 3 3 0 0 0 GENERAL CREATIVE DRAMA SCHOOL/REC

Elements of improvisational acting. Students will learn approaches for participating in as well as leading creative drama activities.

DRA 945	20400	GENERAL
PRACTICUM I		

Practical experience in acting, directing and stage design. Students will be involved in all stages of production from auditions to final performance. May be repeated for up to eight semester hours of credit.

DRA 946 PRACTICUM II See DRA 945.	30600	GENERAL
DRA 948 PRACTICUM III See DRA 945.	40800	GENERAL
DSL 145	51800	VOC/TECH

**BASIC ELECTRICITY** An introduction to the basic electricity and electronic

principles that apply to diesel-powered equipment. Systems and components covered include starting, charging, lighting and accessories.

### DSL 155 4 1 6 0 0 VOC/TECH ADVANCED ELECTRICITY

The electrical circuitry on diesel-powered equipment is covered. Included are troubleshooting, diagnosing and repair procedures. Experienced individuals may contact the instructor to gain admittance to this course.

Prerequisite: DSL 145

### 172 DES MOINES AREA COMMUNITY COLLEGE CATALOG 2011-2012

OPEN

#### OPEN DSL 330 3 1 4 0 0 VOC/TECH DIESEL ENGINE TUNE-UP

Information on preventive measures to eliminate failures and diagnose engine problems. Instruction related to tune-up procedures.

## DSL 356 6 1 10 0 0 VOC/TECH DIESEL ENGINES I

Instruction provided in the technical and nontechnical aspects of diesel engines. This information will give the students the basic understanding needed to continue in the Diesel Mechanic program.

### DSL 366 6 1 10 0 0 VOC/TECH DIESEL ENGINES II

Instruction in diagnosing problems and the nature of repairs needed. Information on preventive measures to eliminate failures.

Prerequisite: DSL 356

## DSL 407 6 1 10 0 0 VOC/TECH DIESEL FUEL SYSTEMS

The student will be introduced to basic fuel system principles and operational theory of some commonly used systems as well as general repair and diagnostic procedures.

Prerequisite: DSL 366

#### DSL 409 5 2 6 0 0 DIESEL ELECTRONICS

VOC/TECH

A study of electronic fundamentals, lab work with electronic components and testing equipment. Computer-controlled diesel engines are used in lab to demonstrate applications of electronics on dieselpower that will meet the demands of the future. Experienced individuals may contact the instructor to gain admittance to this course.

Prerequisite: DSL 145

## DSL 546 6 2 8 0 0 VOC/TECH POWER TRAINS I

Class and lab activities in the design and operation of drivetrain components including clutches, manual transmissions, drive lines, rear axles and wheel bearings.

### DSL 555 51800 VOC/TECH POWER TRAINS II

Instruction will include the basics of automatic transmissions, power shift transmissions, final drives and hydrostat drives.

Prerequisite: DSL 546, 605

## DSL 605 51800 VOC/TECH HYDRAULICS AND BRAKES

The study of basic mobile hydraulics. Introduces principles, components, fluid systems and circuits of hydraulic systems. Vehicle braking includes study of hydraulic and air brake systems.

## DSL 733 3 1 4 0 0 VOC/TECH AIR CONDITIONING

A course on basic air conditioning theory and design. Emphasis will be placed various system controls and on service operations.

#### DSL 830 51800 VOC/TECH OPERATION & MAINTENANCE

Instruction in the proper methods of maintaining all equipment. Safety will be emphasized.

#### DSL 845 51800 VOC/TECH HEAVY EQUIPMENT REPAIR

Instruction in the repair and service of equipment relating to the heavy equipment industry. This includes all phases normally done in a general repair shop. Instruction is given under structured lab and field conditions. Experienced individuals may contact the instructor to gain admittance to this course. Prerequisite: DSL 366, 546, 605, 145

#### DSL 855 51800 VOC/TECH TRUCK REPAIR

Instruction in the repair and service of equipment relating to the trucking industry. This includes all phases normally done in a general repair shop. Instruction is given under structured lab and field conditions. Experienced individuals may contact the instructor to gain admittance to this course.

Prerequisite: DSL 366, 546, 605, 145

# DTM 350 11000 VOC/TECH HEALTH FIELD

Roles of dietary personnel in health facilities and state and federal guidelines. Explore managerial aspects within facilities.

#### DTM 351 1 0 2 0 0 VOC/TECH FOOD PREPARATION

Basic principles and development of techniques as they apply to the preparation of each food group and the criterion for evaluating product quality. Laboratory experience.

# DTM 352 2 2 0 0 0 VOC/TECH SANITATION/MEAL SERVICE

Methods of efficiently serving safe, pleasing food. An awareness of sanitation will be created for all areas of food service.

## DTM 353 11000 VOC/TECH NUTRITION LIFE CYCLE

An in-depth study (social, physiological and psychological need) of residents from infancy to geriatric. Explore the therapeutic role of food.

### DTM 354 11000 VOC/TECH MODIFIED DIETS

An assessment of special diets, using the approved diet manual, a review of food guidelines and hints for making modified diets more appetizing.

## DTM 355 11000 VOC/TECH FOOD PRODUCTION MANAGEMENT

Total production needs, equipment layout, work methods, food storage, food preparation, service, sanitation and use of computers in food service.

### DTM 356 2 2 0 0 0 VOC/TECH FOOD SERVICE MANAGEMENT

The management functions required to organize and maintain an efficient, quality, dietary department are developed.

#### DTM 361 1 0 0 0 4 VOC/TECH FOOD PREP FIELD EXPERIENCE

Application and evaluation of food preparation in a healthcare facility. Practical experience in a selected healthcare facility supervised by a registered dietitian. (P/F)

# DTM 362 1 0 0 0 4 VOC/TECH SANITATION/MEAL SRVC FIELD EXP

Application and evaluation of sanitation and meal service in healthcare facilities. Practical experience in a selected healthcare facility supervised by a registered dietitian.

(P/F)

## DTM 363 1 0 0 0 4 VOC/TECH NUTRITION LIFE CYCLE FIELD EXP

Application and evaluation of nutritional aspects in healthcare facilities. Practical experience in a selected healthcare facility supervised by a registered dietitian.

(P/F)

#### DTM 364 1 0 0 0 4 VOC/TECH MODIFIED DIET/FIELD EXPERIENCE

Application and evaluation of modified diets in healthcare facilities. Practical experience in a selected healthcare facility supervised by a registered dietitian.

(P/F)

# DTM 365 1 0 0 0 4 VOC/TECH FOOD PRODUCTION FIELD EXP

Application and evaluation of food production in healthcare facilities. Practical experience in a selected healthcare facility supervised by a registered dietitian.

(P/F)

#### DTM 366 1 0 0 0 4 VOC/TECH FOOD SERVICE MGMT FIELD EXP

Application and evaluation of food service management in healthcare facilities. Practical experience in a selected healthcare facility supervised by a registered dietitian. (P/F)

### ECE 103 3 3 0 0 0 OPEN INTRO TO EARLY CHILDHOOD ED

Gives students a historical and philosophical foundation of the field of early childhood education. Includes an overview of assessment and trends that influence best practices. Explores careers in the field. Addresses influences of families and diversity.

#### ECE 106 1 0 0 0 4 OPEN CHILD DEV. ASSOCIATE STANDARDS

Develop and prepare for the Infant Toddler, Preschool or Family Child Care Child Development Associate (CDA) assessment and verification visit. Review and compile professional certificates and resources. Develop a professional resource file in accordance with CDA requirements. Practice oral interviewing and test-taking skills.

(P/F) Prerequisites: ECE 103, ECE 133, ECE 243, ECE 343, and ECE 158 or ECE 221, or instructor permission

## ECE 130 1 1 0 0 0 OPEN EMERGENCY CARE

Cardio-pulmonary resuscitation according to Iowa Heart Guidelines. Childhood diseases, immunization laws and environmental safety for children are discussed. Designed for daycare personnel. Certification for first aid and CPR are awarded upon successful completion. Course may be repeated for a maximum of 3 credits

## ECE 133 3 3 0 0 0 OPEN CHILD HEALTH, SAFETY & NUTRITION

Provision of a safe and healthy environment for young children in a group setting. Specifically covered are nutrition analysis, menu planning, indoor and outdoor safety principles and assessments, health assessments and policies, and the care of children with chronic health problems.

#### ECE 158 3 3 0 0 0 OPEN EARLY CHILDHOOD CURRICULUM I

Focuses on the development, implementation and assessment of appropriate environments and curricula for young children ages three through eight. Students prepare to utilize developmentally appropriate practices in a context of family and culturally sensitive care. Emphasis is on understanding children's developmental stages and developing appropriate learning opportunities, interactions and environments in the following areas: dramatic play, art, music, fine and gross motor play.

### ECE 159 3 3 0 0 0 OPEN EARLY CHILDHOOD CURRICULUM II

Focuses on the development, implementation and assessment of appropriate environments and curricula for young children ages three through eight. Students prepare to utilize developmentally appropriate practices in a context of family and culturally sensitive care. Emphasis is on understanding children's developmental stages and developing appropriate learning opportunities, interactions and environments in the following areas: emergent literacy, math, science, technology and social studies.

Prerequisite: ECE 158 or instructor approval, Corequisite: ECE 359 or instructor approval

#### ECE 170 3 3 0 0 0 OPEN CHILD GROWTH & DEVELOPMENT

Reviews typical and atypical development of children from conception to adolescence in all developmental domains. Presents interactions between child, family and society within a variety of community and cultural contexts. Examines theories associated with our understanding of children.

#### ECE 215 3 3 0 0 0 OPEN HOME, SCHOOL & COMM RELATIONS

Focuses on current understanding of supporting children and families in relation to home, school and community contexts. Emphasis is on building respectful, culturally sensitive relationships with families, utilizing community resources and working with diverse families.

#### ECE 221 3 3 0 0 0 OPEN INFANT/TODDLER CARE AND EDUC.

Focuses on care, education and assessment of children from birth to 36 months. Prepares students to utilize developmentally appropriate practices, including responsive caregiving, routines as curriculum, importance of relationships with diverse families and a focus on the whole child in inclusive settings.

#### ECE 243 3 3 0 0 0 OPEN EARLY CHILDHOOD GUIDANCE

Focuses on effective approaches and positive guidance strategies for supporting the development of all children. Emphasizes supportive interactions and developmentally appropriate environments. Uses assessment to analyze and guide behaviors. Studies impact of families and diversity on child guidance.

Corequisite: ECE 343 or instructor approval

#### ECE 262 3 0 0 9 0 OPEN EARLY CHILDHOOD FIELD EXPER

Supervised experience in selected early childhood setting. Includes integration of theory, research and reflective practice. Provides an understanding of developmentally appropriate practices and the developmental stages of diverse populations of young children and families. Emphasizes professional relationships and behavior, appropriate adult/child interactions, basic curriculum planning and program routines.

Prerequisite: ECE 103, ECE 133, ECE 159, ECE 170, ECE 243; "C" or better in ECE 343 and ECE 359; 2.0 program GPA; or instructor permission. Current CPR/First Aid, Universal Precautions and Mandatory Reporter Certification. Prerequisite OR, Corequisite: ECE 221

### ECE 281 2 0 0 0 8 OPEN PRACTICUM

Placement in a program for young children and/ or families. Emphasis is on the development of competencies necessary for employment in a similar setting.

Prerequisite: Accepted into ECE program, 10 ECE credits, 2.0 GPA or instructor approval. Current CPR/ First Aid, Universal Precautions, Mandatory Child Abuse Reporter Certification

#### ECE 290 3 3 0 0 0 OPEN EARLY CHILDHOOD PROGRAM ADMIN

Course covers basic principles involved in setting up and administering an early childhood program. Emphasis placed on licensing regulations, bookkeeping, insurance, enrollment and recordkeeping. Designed for second-year students and persons interested in becoming a program administrator.

Prerequisite: Accepted into the Early Childhood Education program and a minimum of 12 credits in ECE or instructor permission

## ECE 343 1 0 2 0 0 OPEN EARLY CHILDHOOD GUIDANCE LAB

Focuses on effective approaches and positive guidance strategies for supporting the development of all children. Students observe and utilize strategies taught in ECE 243.

Corequisite: ECE 243 or instructor approval

# ECE 359 1 0 2 0 0 OPEN ECE CURRICULUM II LAB

Students practice the selection and use of assessment techniques, plan and set up age, individually and culturally appropriate learning centers, activities and group experiences for young children. Emphasis is on understanding children's developmental stages, identifying and participating in appropriate learning opportunities, and interactions and environments in the following areas: emergent literacy, math, science, technology, social studies, creative art, music and movement, dramatic play, fine and gross motor play and outdoor experiences. Prerequisite: ECE 158, Corequisite: ECE 159

## ECE 932 2 0 0 0 10 OPEN EARLY CHILDHOOD INTERNSHIP

Students apply skills and knowledge related to children, families and the profession in a selfselected community-based setting. Students are encouraged to identify a placement that reflects their individual interests in the field. Emphasis on professional expectations and behavior, appropriate interactions, planning, implementation and assessment and exploring multiple facets of overall program operations.

Prerequisites: ECE 103, ECE 133, ECE 159, ECE 170, ECE 243; "C" or better in ECE 343 and ECE 359; ECE 343 and ECE 359 instructor recommendations; 2.5 program GPA; or instructor permission. Current CPR/ First Aid, Universal Precautions and Mandatory Child Abuse Reporter Certification. Internship application is required the semester prior to enrollment in the course. Prerequisite OR, Corequisite: ECE 215, ECE 221, ECE 290

## ECE 944 11000 OPEN ECE FIELD EXPERIENCE SEMINAR

Emphasis on professionalism, self-reflection and preparation for professional employment. Includes completion of all professional portfolio components. Corequisite: ECE 262

### ECN 120 3 3 0 0 0 CORE PRINCIPLES OF MACROECONOMICS

This course is an introduction to basic macroeconomic concepts and principles. It deals with problems of resource allocation, supply and demand, national income, employment, price levels, fiscal and monetary policy, money and banking systems and elements of global finance. ECN 120 is not a prerequisite for ECN 130.

### ECN 130 3 3 0 0 0 CORE PRINCIPLES OF MICROECONOMICS

Course covers survey of demand and supply conditions, cost structure, market structure and how these elements affect individual household, business firms, government and global trade. ECN 120 is not a prerequisite for ECN 130.

### EDU 213 3 3 0 0 0 OPEN INTRO TO EDUCATION

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 2 1 0 0 4 OPEN INITIAL FIELD EXPERIENCE

Course will provide opportunities to enhance understanding of the teaching profession and assist with decisions to pursue a career in education. Time spent observing, assisting and teaching in a classroom with a licensed educator. Various opportunities for interacting with students, learning instructional strategies and collaborating with teachers. Students will gain a greater understanding of the daily expectations of a teacher.

Prerequisite: EDU 213

## EDU 245 3 3 0 0 0 OPEN EXCEPTIONAL LEARNER

A survey of exceptional learners in the classroom. History, philosophy, current issues, trends and mainstreaming will be discussed.

### EGR 100 1 1 0 0 0 OPEN ENGINEERING ORIENTATION

Introduction to the engineering disciplines and the engineering profession. Considerations in choosing an engineering curriculum. Information concerning college policies, procedures and resources. Opportunities to interact with engineering departments at a four-year institution.

### EGR 150 2 2 0 0 0 OPEN ENGINEERING FORTRAN

The FORTRAN language in batch and interactive modes with an emphasis on solutions to engineering problems.

Prerequisite: MAT 130 must be taken concurrently with or prior to this course

#### EGR 151 2 2 0 0 0 GENERAL ENGINEERING VISUAL BASIC

This course provides students with a solid foundation in structured programming skills for the solution of engineering problems. Students will analyze problems, design solution algorithms, translate the algorithm to Visual BASIC computer code and present the solutions to the problems.

Prerequisite: MAT 130

#### EGR 155 2 2 0 0 0 OPEN ENGINEERING C/C++

Learn to solve engineering problems by computer using the C/C++ language. Emphasis is placed on program logic, organization and numerical methods.

Prerequisite: MAT 130 must be taken concurrently with or prior to this course

#### EGR 161 2 2 0 0 0 OPEN ENGINEERING COMPUTATIONS

This course includes the organization, solution and presentation of engineering problems. Topics include S.I. units and selected engineering topics.

Prerequisite: MAT 130 must be taken concurrently or prior to this course

### EGR 166 4 2 4 0 0 OPEN ENGR GRAPHICS/CONCPTL DESIGN

An integration of conceptual design, engineering graphics and computer-aided design. This course includes orthographic projection applied to threedimensional geometry and engineering drawing, as well as instrument and freehand application to an openended project that includes a formal engineering report.

Prerequisite: MAT 130 must be taken concurrently with or prior to this course

## EGR 180 3 3 0 0 0 OPEN STATICS

This course includes the vector and scalar analysis of coplanar and non-coplanar force systems, equilibrium concepts, friction, centroids, moments and products of inertia. Mohr's circle, radius of gyration, internal forces, shear and bending moment diagram.

Prerequisite: PHY 213, Corequisite: MAT 217 must be taken concurrently with or prior to this course.

#### EGT 400 3 3 0 0 0 ADJUNCT PLTW-INTRO TO ENGR DESIGN

This course uses a design development process while enriching technical and engineering problem-solving skills; students create and analyze models using specialized computer software (AutoCAD Inventor). Prerequisite or, Corequisite: One year of H.S. algebra

#### EGT 410 3 3 0 0 0 ADJUNCT PLTW-PRINCIPLES OF ENGINEERING

This course explores technology systems and manufacturing processes using the methodology of project-based engineering problem-solving. Learning activities explore a variety of engineering disciplines and address the social and political consequences of technological change.

Prerequisite: One year of H.S. algebra or EGT 400. Prerequisite or, Corequisite: H.S. algebra

### EGT 420 3 3 0 0 0 ADJUNCT PLTW-DIGITAL ELECTRONICS

This course teaches applied logic through work with electronic circuitry, which students also construct and test for functionality.

### ELT 093 11000 COLL PREP CONCEPTS ELECTRONICS/COMPUTERS

This course is designed for students who need additional practice and technical skills to succeed in electronics and computer networking programs. Skills that will be developed include learning how to approach problems and manipulating formulas to solve problems. College preparatory courses cannot be used to fulfill degree requirements. Corequisite: ELT 108

# ELT 106 3 3 0 0 0

## ELT 106 3 3 0 0 0 VOC/TECH BASIC MATH FOR ELECTRONICS

Mathematics related to basic electronics. Course includes basic algebra, right triangle trigonometry, scientific notation, with applications to DC and AC circuitry.

### ELT 108 4 4 0 0 0 VOC/TECH MATH-ELECTRONICS & COMPUTERS

Introduction to the mathematical skills needed by electronics/computer technicians.

# ELT 123 3 2 2 0 0 VOC/TECH PROGRAMMABLE CONTROLLERS

This course covers PLC operation and programming techniques, including 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: ELT 131

# ELT 125 3 2 2 0 0 VOC/TECH ADVANCED PLC

This course is designed for the student who is already proficient with ladder logic and loading programs into PLCs. The course will introduce the student to both hardware and software operator control panels, analog sensor interfacing, analog programming and exchange of data over networks. A hands-on lab component will give the student the opportunity to install, program and troubleshoot networked PLC hardware.

# ELT 126 2 2 0 0 0 VOC/TECH INDUSTRIAL ELECTRONICS

The devices and circuits used in thyristor control of machines are presented. Course includes phase control of DC motors, triac control of AC motors, and various speed control circuits.

Prerequisite: ELT 131

## ELT 131 3 2 2 0 0 VOC/TECH MOTOR CONTROLS

An introduction to industrial motor controls. During this course, students will use ladder diagrams and control devices to implement practical control systems.

#### ELT 143 3 2 2 0 0 VOC/TECH MECHANISMS

This introductory course covers linear and angular displacement, velocities, and accelerations of linkages, gear trains and belt and friction drives. Topics Include vectors, simple and complex machines, and toggle and intermittent motion mechanisms.

#### ELT 147 3 3 0 0 0 VOC/TECH 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, lowvoltage and remote controls.

# ELT 148 3 0 6 0 0 VOC/TECH NEC RESIDENTIAL LAB

Utilize the basic principles of the NEC for layout and residential electrical wiring systems. Apply code rules, using a hands-on approach for residential electrical installations from simplistic to complicated circuit wiring.

## ELT 172 3 3 0 0 0 VOC/TECH NEC COMMERCIAL/INDUSTRIAL

The basic principles of the NEC for layout and construction of commercial wiring and industrial wiring systems. Apply basics of wiring into the planning of typical commercial and industrial installations. Configure how load requirements are converted into branch circuits then into feeders, and into main electrical services.

## ELT 173 4 1 6 0 0 VOC/TECH NEC COMMERCIAL/INDUSTRIAL LAB

Utilize the basic principles of the NEC for layout of commercial and industrial wiring systems. Apply code rules, using a hands-on approach for commercial and industrial electrical installations from simplistic to complicated wiring.

### ELT 178 2 2 0 0 0 VOC/TECH ELECTRICAL GROUNDING

The understanding of grounding and eliminating the misconceptions when dealing with NEC requirements for installation.

#### ELT 181 1 1 0 0 0 VOC/TECH ADV MATH FOR ELECTRONICS TECH

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.

## ELT 217 3 2 2 0 0 VOC/TECH ADVANCED MOTOR CONTROLS

Additional topics in industrial motor controls. Course includes wiring of AC & DC motors, power distribution, solid-state controls, proximity controls and frequency drives.

Prerequisite: ELT 303, 131

# ELT 303 3 2 2 0 0 VOC/TECH PRINCIPLES OF ELECTRICITY

For beginners: theory, controlling electricity, voltage, amps, resistance, wattage, series and parallel circuits, DC & AC, batteries, electric lighting, generators and motors.

# ELT 307 2 2 0 0 0 VOC/TECH DIGITAL CIRCUITS

An analysis of those circuits that form basic building blocks for a digital system, including logical gates such as OR, NOR, AND and NAND, storage registers and counters.

Corequisite: ELT 308

### ELT 308 2 0 4 0 0 VOC/TECH 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 multiplexors.

Corequisite: ELT 307

# ELT 325 3 3 0 0 0 VOC/TECH DIGITAL ELECTRONICS

An analysis of those circuits that form basic building blocks for a digital system, including logical gates, such as OR, NOR, AND and NAND, storage registers, counters and microprocessors.

Corequisite: ELT 326

### ELT 326 3 0 6 0 0 VOC/TECH DIGITAL ELECTRONICS LAB

Laboratory evaluation of small-scale integrated circuits and medium-scale integrated circuits. In addition to basic and/or gates, it includes comparators, decoders, encoders, counters, multiplexers and microprocessors. Corequisite: ELT 325

ELT 368 3 3 0 0 0

#### ELT 368 3 3 0 0 0 VOC/TECH DC & AC FUNDAMENTALS

An introductory course in DC and AC fundamentals. Subject matter includes Ohm's law, series and parallel circuits and measuring instruments.

# ELT 369 3 0 6 0 0 VOC/TECH DC & AC FUNDAMENTALS LAB

This laboratory will enable the student to analyze basic L-C-R circuitry. Basic test equipment usage will also be presented.

Prerequisite: ELT 368 must be taken concurrently with or prior to this course

### ELT 385 4 4 0 0 0 VOC/TECH ELECTRIC CIRCUIT ANALYSIS I

An analytical introduction to the direct and alternating current fundamentals essential in all phases of electricity and electronics. Topics covered include Ohm's law, Kirchhoff's law, Thevenin-Norton and Superposition theorems, impedance, resonance, series and parallel circuits, resistors, capacitors, inductors, batteries and meters.

Corequisite: ELT 386

#### ELT 386 2 0 4 0 0 VOC/TECH ELEC CIRCUIT ANALYSIS I LAB

Basic experiments in AC and DC circuit analysis including familiarization with basic test instruments, series and parallel circuits (using resistors, capacitors, inductors, batteries and power supplies), and applications of electrical laws and theorems.

Corequisite: ELT 385

### ELT 387 3 3 0 0 0 VOC/TECH 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.

Prerequisite: ELT 385, 386, Corequisite: ELT 388

# ELT 388 2 0 4 0 0 VOC/TECH ELEC CIRCUIT ANALYSIS II LAB

An analysis of solid-state circuitry. Course includes both transistor and integrated circuit experiments. Linear amplifiers and active filters are evaluated. Students will attend a minimum of three industrial tours, which may take place outside of regular class time.

Prerequisite: ELT 385, 386 Corequisite ELT 387

## ELT 389 3 1 4 0 0 VOC/TECH FABRICATION TECHNIQUES

Rendering of isometric and orthographic projection drawings. Soldering techniques, fabrication of sheet metal enclosures and production of printed circuit boards using photographic and etching methods.

#### ELT 470 4 4 0 0 0 VOC/TECH BUS IMAGING & SECURITY APPLIC.

This course provides students opportunities to analyze imaging systems, which include video monitoring, copying and printing and to analyze such security systems as fire alarms and intruder alarms. Equipment includes laser printers, copiers, fax machines, scanners, monitors, cameras, LCD displays and such related accessories as document feeders and sorters.

Prerequisite: ELT 131, ELT 143, Corequisite: ELT 471

## ELT 471 3 0 6 0 0 VOC/TECH BUS IMAGING & SECURITY APP LAB

This course provides students practice in the installation, maintenance and troubleshooting of various security systems as well as experience in troubleshooting, servicing and repairing copiers, laser printers, fax machines, scanners and peripherals.

Prerequisite: ELT 131, ELT 143, Corequisite: ELT 470

# ELT 474 3 3 0 0 0 VOC/TECH 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.

Prerequisite: ELT 387, 388, Corequisite: ELT 475

#### ELT 475 3 0 6 0 0 VOC/TECH COMMUNICATIONS SYSTEMS LAB

Laboratory experiments in radio, television, satellite and microwave systems, including the construction and alignment of a broadcast radio receiver.

Prerequisite: ELT 387, 388, Corequisite: ELT 474

#### ELT 478 3 3 0 0 0 VOC/TECH BASIC IMAGING DEVICES

An analysis of various imaging systems, including laser printers, copiers, fax machines, scanners and such accessories as document feeders and sorters, monitors, cameras, and LCD displays.

Prerequisite: ELT 387, 388, Corequisite: ELT 479

## ELT 479 3 0 6 0 0 VOC/TECH BASIC IMAGING DEVICES LAB

Experience in troubleshooting, service and repair of copiers, laser printers, fax machines, scanners and peripherals, monitors, cameras, LCD displays. Prerequisite: ELT 387, 388, Corequisite: ELT 478

# ELT 482 3 3 0 0 0 VOC/TECH SECURITY SYSTEMS

Analysis of video monitoring systems, fire and intruder alarm systems, climate control systems. Prerequisite: ELT 781, 782, Corequisite: ELT 483

# ELT 483 4 0 8 0 0 VOC/TECH SECURITY SYSTEMS LAB

Installation, maintenance, and troubleshooting of various security systems.

Prerequisite: ELT 781, 782, Corequisite: ELT 482

### ELT 484 4 4 0 0 0 VOC/TECH MEDICAL ELECTRONICS SYSTEMS

This course trains the student in electrical safety testing and the repair, calibration and preventive maintenance of patient-monitoring equipment such as ECG, blood pressure, defibrillators, ICN, CCU central station monitoring systems and respiratory instrumentation. Included will be a self-paced study of medical terminology.

Prerequisite: ELT 131, ELT 143, Corequisite: ELT 485

## ELT 485 3 0 6 0 0 VOC/TECH MEDICAL ELECTRONICS SYSTEM LAB

This course covers the repair, calibration and preventive maintenance of critical care, diagnostic and life support equipment in a hands-on lab environment. Prerequisite: ELT 781, 782, Corequisite: ELT 484

# ELT 611 2 2 0 0 0 VOC/TECH MICROPROCESSORS

This course covers two major areas of microcomputers and microprocessors. The first is an investigation of the specific architecture of microprocessors and fundamental microcomputer hardware. The second area is software and studiesspecific assembly language instructions for common routines and program structures.

Prerequisite: ELT 307, 308, Corequisite: ELT 612

#### ELT 612 3 0 6 0 0 VOC/TECH MICROPROCESSORS LAB

Includes experiments that exercise microprocessor instruction sets and microcomputer central processing units, memory and I/O devices. Routines and subroutines are written in assembly language, assembled, downloaded and tested. Students will participate in a minimum of four, two-hour job-shadowing experiences, which may take place outside of regular class time.

Prerequisite: ELT 307, 308, Corequisite: ELT 611

### ELT 614 3 1 4 0 0 VOC/TECH MICROPROC. & MICROCONTROLLERS

This course covers two major areas of microcomputers and microprocessors. The first is an investigation of the specific architecture of microprocessors and fundamental microcomputer hardware. The second area is software and is concerned with the assembly-level and high-level instructions for common routines and program structures. The course includes hands-on practice programming and interfacing microcontroller devices. Students will participate in a minimum of four two-hour job shadowing experiences, that may take place outside of regular class time.

Prerequisite: ELT 325, ELT 326

# ELT 643 3 3 0 0 0 VOC/TECH PROCESS CONTROL INSTRUMENT

A comprehensive study of such process control characteristics as elements, modes and stability, along with detailed knowledge of measurement technique, control mode implementation and final control element functions. In keeping with modern trends, the digital aspects of process control technology are stressed.

Prerequisite: ELT 611, ELT 612, Corequisite: ELT 644

# ELT 644 2 0 4 0 0 VOC/TECH PROCESS CONTROL INSTR LAB

This lab includes experiments on transducers used in process control, as well as experiments on proportional, integral and derivative control.

Prerequisite: ELT 611, 612, Corequisite: ELT 643

### ELT 652 4 2 4 0 0 VOC/TECH COMPUTER REPAIR & NETWORKING

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 subjects and materials needed to assist the student in learning about computer hardware and the functions needed to pass the A Plus exam. A detailed study and hands-on lab component give students the opportunity to install and troubleshoot computer and networking hardware.

Prerequisite: ELT 387, 331

# ELT 721 3 1 4 0 0 VOC/TECH ROBOTICS

The course provides an introduction to robotic fundamentals. The student will examine parameters of robot operation and program robots for various applications.

### ELT 725 2 1 2 0 0 VOC/TECH INTRO FLEXIBLE MANUFACTURING

This course introduces the student to aspects of a flexible manufacturing cell. Course will familiarize the student with cell software and hardware, and includes labs on cell components.

Prerequisite: ELT 721

# ELT 781 2 2 0 0 0 VOC/TECH ELECTRO-MECHANICAL SYSTEMS

The basic theories, concepts and principles of such electro-mechanical devices as relays, contactors and DC/AC motors will be covered, along with the basic principles of mechanical relationships: gears, pulleys, belt drives, wheel and axle, inclined plane, screw, wedge and levers. Pneumatic devices such as compressors, motors, valves and actuators are covered, along with basic sensors.

Prerequisite: ELT 387, 388, Corequisite: ELT 782

## ELT 782 2 0 4 0 0 VOC/TECH ELECTRO-MECHANICAL SYSTEMS LAB

Application of the basic theories, concepts and principles of electro-mechanical devices. Projects are applications of principles used in business machines, security systems and medical electronics systems, including construction of various examples of compound machines using wheel and axle, gears, levers and belt drives. Projects using basic sensors, pneumatic valves, cylinders and actuators will be constructed. Students will participate in a minimum of four two-hour, job-shadowing experiences, which may take place outside of regular class time. Prerequisite: ELT 387, 388, Corequisite: ELT 781

# ELT 791 3 3 0 0 0 VOC/TECH HYDRAULICS & PNEUMATICS

The basic principles of fluid power and the operation and application of fluid power components are introduced. In the lab we will evaluate valves along with linear and rotary actuator. In addition, pneumatic position control servomechanisms are evaluated. Corequisite: ELT 792

#### ELT 792 2 0 4 0 0 VOC/TECH HYDRAULICS & PNEUMATICS LAB

The basic principles of fluid power and the operation and application of fluid power components are introduced. In the lab we will evaluate valves along with linear and rotary actuators. Corequisite: ELT 791

### ELT 793 3 2 2 0 0 VOC/TECH ADVANCED FLUID POWER

An advanced course that includes demonstrations of pressure-compensated pumps and valves. Electronic controls and monitoring of hydraulic systems, evaluating various fluids for hydraulic systems, describing and observing the operation of fluid power in various industrial/mobile situations will be covered.

Prerequisite: ELT 791, ELT 792

#### ELT 816 2 2 0 0 0 VOC/TECH SYSTEMS TROUBLESHOOTING

A study of electronic systems troubleshooting theory, methods and techniques. Prerequisites: ELT 478, 479, 474, 475, 482, 483, Corequisite: ELT 817

# ELT 817 3 0 6 0 0 VOC/TECH SYSTEMS TROUBLESHOOTING LAB

A hands-on experience troubleshooting and repairing a variety of electronic equipment, including copiers, security monitors and cameras, radio, television and satellite systems.

Prerequisite: ELT 478, 479, 474, 475, 482, 483, Corequisite: ELT 816

#### ELT 870 3 1 4 0 0 VOC/TECH ELECTRONICS CAPSTONE PROJECT

This course provides hands-on experience in a significant design project involving technological competence, open-ended problem-solving, teamwork and both written and oral communication skills.

Prerequisite: Successful completion of requirements of first four semesters of the Electronics, Robotics and Automation program or instructor permission

# ELT 932 3 0 0 0 12 VOC/TECH INTERNSHIP

A semi-structured experience in the student's chosen field working as an intern with a sponsoring organization. Students have the opportunity to network with professionals and employees in their field. Students will write a resume suitable for employment applications.

Prerequisite: Earn grades of "C" or higher in courses pertaining to the student's chosen internship area. The courses pertaining to the internship areas: ELT 474; ELT 475 or 470; ELT 471 or 484; ELT 485

# EMS 105 1 0 2 0 0 VOC/TECH IA LAW ENFORCEMENT EMERG CARE

Designed to help Iowa Law Enforcement personnel gain the knowledge, skills and attitudes necessary to be a competent, productive and valuable member of the Emergency Medical Services team.

### EMS 112 3 2 2 0 0 VOC/TECH FIRST RESPONDER

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.

## EMS 210 6 4 4 0 0 VOC/TECH EMERGENCY MEDICAL TECH BASIC

Prepares rescue personnel for the role and responsibilities of an EMT-B. 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.

Prerequisite: Current CPR card: either American Heart Association Healthcare Provider or American Red Cross CPR/AED for the Professional Rescuer. High school diploma or GED

### EMS 311 4 2 4 3 0 VOC/TECH EMT INTERMEDIATE 85

An advanced EMT training program developed by the Iowa Dept. of Public Health, Bureau of EMS, and covering techniques of emergency medical care within the scope of responsibilities of the Iowa EMT Intermediate.

Prerequisite: Current certification by State of Iowa as EMT Basic, high school diploma or GED, and evidence of successful completion of recognized healthcare provider CPR

### EMS 429 6 4 4 0 0 VOC/TECH EMT IOWA PARAMEDIC I

An advanced-care EMT training program developed by the US Department of Transportation and approved by the Iowa Department of Public Health. Course covers techniques and emergency medical care within the scope of responsibilities of the Iowa EMT Paramedic.

Prerequisite: Current certification by State of Iowa as EMT Basic or EMT Intermediate. High school diploma or GED. Evidence of successful completion of BCLS Healthcare Provider CPR

### EMS 433 7 5 4 0 0 VOC/TECH EMT IOWA PARAMEDIC II

Continuation of EMT Iowa Paramedic I with emphasis on respiratory emergencies, diabetic and allergic reactions, poisonings, environmental, OB/GYN, neonatal and pediatric emergencies.

Prerequisite: Successful completion of EMS 429 and current certification by State of Iowa as EMT Basic or EMT Intermediate. Current CPR Healthcare Provider course completion

#### EMS 438 6 0 0 0 18 VOC/TECH EMT IOWA PARAMEDIC III

Clinical and field experiences that emphasize the skills, knowledge and theory acquired in EMS 429 and EMS 433.

Prerequisite: Successful completion of EMS 433 and current certification by State of Iowa as EMT Basic or EMT Intermediate. Current CPR Healthcare Provider course completion

#### EMS 440 6 5 2 0 0 VOC/TECH ROLE OF THE PARAMEDIC

This course covers Module I of the DOT National Standard Curriculum for EMT Paramedics and prepares students for their roles and responsibilities. The lab component includes review of EMT-Basic skills using skills checklists.

Prerequisite: Admission to the Paramedic Specialist program

## EMS 441 6 5 2 0 0 VOC/TECH MEDICAL/ETHICAL/LEGAL ISSUES

This course covers Module I of the DOT National Standard Curriculum for EMT Paramedics and prepares students for their roles and responsibilities. Areas of medical, legal and ethical issues are covered, as well as injury prevention and how it pertains to the paramedic. The lab component includes review of the EMT-Basic skills using skills checklists.

#### Prerequisite: EMS 440.

#### EMS 442 6 4 2 3 0 VOC/TECH PRINCIPLES OF PATHOPHYSIOLOGY

The course covers Module II of the DOT National Standard Curriculum for EMT Paramedics and prepares students for their roles and responsibilities. General principles of pathophysiology, medication administration and emergency pharmacology will be provided in a classroom setting. Advanced airway management provides for physical assessment, field assessment, clinical decisionmaking, documentation and the assessment and management of respiratory emergencies. Prerequisite: EMS 441

### EMS 443 6 4 2 3 0 PATIENT ASSESSMENT

This course covers Module III of the DOT National Standard Curriculum for EMT Paramedics. This course includes history-taking, techniques of physical examination, patient assessment and clinical decisionmaking. Students will learn to follow an accepted format for dissemination of patient information in verbal form, either in-person or over the radio. Documentation of the essential elements of patient assessment, care and transport are covered. The lab component includes skills in history-taking, techniques of physical examination, patient assessment, clinical decision-making and communication.

Prerequisite: EMS 442

#### EMS 444 6 4 2 3 0 VOC/TECH TRAUMA

This course covers Module IV of the DOT National Standard Curriculum for EMT Paramedics. Students will predict the likelihood of injuries to the trauma patient based on mechanism of injury. Skills and management of soft tissue and burn injuries, as well as head, neck, chest and abdominal injuries are included. The lab component includes assessment and management of the patient with shock and hemorrhage, spinal cord and musculoskeletal injury using the paramedic skills checklist.

Prerequisite: EMS 443

### EMS 445 6 4 2 3 0 VOC/TECH MEDICAL EMERGENCIES

This course covers Module IV of the DOT National Standard Curriculum for EMT Paramedics. Content includes the skills and knowledge necessary to assess and manage medical emergencies, specifically for pulmonary, cardiac and neurological emergencies. This course includes techniques of physical examination on the medical patient, patient assessment and clinical decision-making. Documentation of the essential elements of patient assessment for the medical patient, care and transport is covered. The lab component includes skills in history-taking, techniques of physical examination, patient assessment, clinical decision-making and communication.

Prerequisite: EMS 444

# EMS 446 6 2 0 12 0 VOC/TECH SPECIAL CONSIDERATIONS

This course covers Modules V and VI of the DOT National Standard Curriculum for EMT Paramedics. Assessment and management of specific age groups—including neonatal, pediatric and gerontologic patients—are identified. Chronically ill patients, those who have been victims of abuse and culturally diverse patients are addressed. The practicum component will be the assessment and management of special situations, including resuscitation of infants and children. Students will assume the role of team leader while managing common medical emergencies. Paramedic skills checklists will be used to assist in completion of the course.

Prerequisite: EMS 445

VOC/TECH

### EMS 447 4 1 0 9 0 OPERATIONS

VOC/TECH

This course covers Modules VII and VIII of the DOT National Standard Curriculum for EMT Paramedics. Guidelines for safe medical transport, general incident management, rescue and crime scene management will be covered. The practicum component will include the principles of triage, rescue operations and hazardous materials incidents. Paramedic skills checklists will be used to assist in completion of the course.

Prerequisite: EMS 446

## EMS 460 2 2 0 0 0 VOC/TECH ROLE OF THE PARAMEDIC

The course covers Module I of the DOT National Standard Curriculum for EMT Paramedics and prepares students for their roles and responsibilities. The lab component includes review of EMT-Basic skills using skills checklists.

Prerequisite: Admission to the Paramedic Specialist program

### EMS 463 2 2 0 0 0 VOC/TECH MEDICAL/LEGAL/ETHICAL ISSUES

The course covers Module I of the DOT National Standard Curriculum for EMT Paramedics and prepares students for their roles and responsibilities. Areas of medical, legal and ethical issues are covered, as well as promotion of injury prevention and how it pertains to the paramedic. The lab component includes review of the EMT-Basic skills using skills checklists. Prerequisite: EMS 460

## EMS 467 7 5 4 0 0 VOC/TECH PRIN OF PATHOPHYSIOLOGY I

The course covers Module II of the DOT National Standard Curriculum for EMT Paramedics and prepares the students for their roles and responsibilities. General principles of anatomy and physiology, as well as pathophysiology, will be provided in a classroom setting. Human life span development and the role of Public Health in EMS will also be reviewed and discussed.

Prerequisite: EMS 463

#### EMS 468 7 5 4 0 0 VOC/TECH PRIN OF PATHOPHYSIOLOGY II

Course covers the Module II of the DOT National Standards Curriculum for EMT Paramedics and prepares students for their roles and responsibilities. General principles of pharmacology and medication administration will be provided in a classroom setting. Advanced airway management and IV therapy provide for physical and field assessment, clinical decisionmaking, documentation and the assessment and management of emergencies seen by the EMS provider. Prerequisite: EMS 467

### EMS 470 4 3 2 0 0 VOC/TECH PATIENT ASSESSMENT

This course covers Module III of the DOT National Standard Curriculum for EMT Paramedics. This course includes history-taking, techniques of physical examination, patient assessment and clinical decisionmaking. Students will learn to follow an accepted format for dissemination of patient information in verbal form, either in-person or over the radio. Documentation of the essential elements of patient assessment, care and transport is covered. The lab component includes skills in history-taking, techniques of physical examination, patient assessment, clinical decision-making and communication.

Prerequisite: EMS 468

#### EMS 473 7 5 2 0 7 VOC/TECH MEDICAL EMERGENCIES

This course covers Module IV of the DOT National Standard Curriculum for EMT Paramedics. Content includes the skills and knowledge necessary to assess and manage medical emergencies specifically for pulmonary, cardiac and neurological emergencies. This course includes techniques of physical examination on the medical patient, patient assessment and clinical decision-making. Documentation of the essential elements of patient assessment for the medical patient, care and transport is covered. The lab component includes skills in history-taking, techniques of physical examination, patient assessment, clinical decision-making and communication.

Prerequisite: EMS 470

### EMS 476 7 5 2 0 7 VOC/TECH TRAUMA

This course covers Module IV of the DOT National Standard Curriculum for EMT Paramedics. Students will predict the likelihood of injuries to the trauma patient based on mechanism of injury. Skills and management of soft tissue and burn injuries, as well as head, neck, chest and abdominal injuries are included. The lab component includes assessment and management of the patient with shock, hemorrhage, and spinal cord and musculoskeletal injury using the Paramedic skills checklist.

Prerequisite: EMS 473

#### EMS 480 6 1 0 0 23 SPECIAL CONSIDERATIONS

This course covers Modules V and VI of the DOT National Standard Curriculum for EMT Paramedics. Assessment and management of specific age groups—including neonatal, pediatric and gerontologic patients—is identified. Chronically ill patients, those who have been victims of abuse and culturally diverse patients are addressed. The lab component will be the assessment and management of special situations, including resuscitation of infants and children. Students will assume the role of team leader while managing common medical emergencies. Paramedic skills checklists will be used to assist in completion of the course.

VOC/TECH

Prerequisite: EMS 476

### EMS 483 4 1 0 0 15 VOC/TECH OPERATIONS

This course covers Modules VII and VIII of the DOT National Standard Curriculum for EMT Paramedics. Guidelines for safe medical transport, general incident management, rescue and crime scene management will be covered. The lab component will include the principles of triage, rescue operations and hazardous materials incidents. Paramedic skills checklists will be used to assist in completion of the course. Prerequisite: EMS 480

#### ENG 060 3 3 0 0 0 COLL PREP COLLEGE PREPARATORY WRITING I

Introduces students to writing at the basic sentence and paragraph levels, including grammar, punctuation, spelling and editing techniques. Students then compose 3–4 essays. Preparation for ENG 061 and 105.

#### ENG 061 3 3 0 0 0 COLL PREP COLLEGE PREPARATORY WRITING II

Prepares students for college-level writing while reviewing sentence and paragraph patterns, mechanics and essay development. Explores writing purposes, audience and editing based on assignment criteria. Students write 4–6 essays. For students who have taken ENG 060 or met course's objectives. Preparation for ENG 105.

#### ENG 104 3 3 0 0 0 GENERAL RESOURCES FOR COMPOSITION

This course provides a college-credit composition environment that stresses the resources and reinforces the skills necessary for negotiating college writing.

### ENG 105 3 3 0 0 0 CORE COMPOSITION I

Designed to help students read and write effectively. Exploration of the relationship of audience to writer and material. Emphasis on developing concrete detail to support main ideas.

Prerequisite: Satisfactory writing skills

#### ENG 106 3 3 0 0 0 CORE COMPOSITION II

Expository and persuasive writing developed through critical reading. The course explores structure, style, research and documentation. Prerequisite: ENG 105

#### ENG 108 3 3 0 0 0 CORE COMP 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: ENG 105

#### ENG 221 3 3 0 0 0 GENERAL CREATIVE WRITING

An introduction to the techniques of writing poetry and fiction. Students will read the works of professional writers and apply the principles of imaginative writing to their own work.

#### ENG 225 3 3 0 0 0 GENERAL CREATIVE WRITING: POETRY

A course devoted to the advanced study and writing of poetry, emphasizing the development of poetic techniques and an expanded understanding of contemporary poets and their work.

#### ENG 230 3 3 0 0 0 GENERAL CREATIVE WRITING: FICTION

A course devoted to the advanced study and writing of fiction, emphasizing the development of narrative techniques and an expanded understanding of contemporary fiction writers and their work.

## ENG 235 3 3 0 0 0 GENERAL PLAYWRITING AND SCREENWRITING

A course devoted to the advanced study and writing of stage-worthy plays and/or marketable screenplays, emphasizing appropriate techniques of each dramatic form and an expanded understanding of contemporary practitioners.

#### ENV 103 1 1 0 0 0 GENERAL SUSTAINABLE LIVING

This class provides an up-close-and-personal look at the sustainability movement. Develop an understanding of the environment you live in. Learn more about the role you can play in creating a sustainable lifestyle for yourself and your family at home, work and school.

#### ENV 115 3 3 0 0 0 CORE ENVIRONMENTAL SCIENCE

This course combines the basic principles of ecology with current environmental issues. Includes energy, land use, pesticides and pollution. Wildlife, fisheries, forestry, and soil and water conservation practices are emphasized. Designed for the non-science major.

#### ENV 116 1 0 2 0 0 CORE ENVIRONMENTAL SCIENCE LAB

This lab supplements discussion in ENV 115 Environmental Science. Lab includes laboratory and field work related to environmental science. Emphasis is placed on scientific methodology and investigation.

Prerequisite: Enrollment in or prior completion of ENV 115 or equivalent

#### ENV 145 4 3 2 0 0 CORE CONSERVATION BIOLOGY

This course presents a broad overview of the patterns and processes influencing biodiversity on multiple scales, as well as practical approaches to resource management. We will examine issues causing loss of biodiversity, reserve design and management, ecological and population monitoring techniques and conservation approaches on varying levels. Prerequisite: ENV 115, ENV 116

### ENV 160 3 2 2 0 0 GENERAL RESTORING PLANT COMMUNITIES

Introduction to the 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: ENV 115, 116, 138 or instructor permission

#### ESL 093 3 2 2 0 0 COLL PREP HIGH INTER ESL LISTENING/CONV

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.

### ESL 094 3 2 2 0 0 COLL PREP ADV ESL LISTEN/CONVERS SKILLS

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.

#### ESL 095 3 2 2 0 0 COLL PREP COMMUNICATIVE GRAMMAR FOR ESL

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 tenses, passive voice, reported speech, conditions, etc. This course cannot be used to fulfill degree requirements.

Prerequisite: Minimum scores on the TOEFL or Michigan Test

#### ESL 096 3 2 2 0 0 COLL PREP READ ENGLISH AS A 2ND LANGUAGE

This course is designed for non-native speakers of English. Reading comprehension skills are developed through vocabulary work, guided reading activities and discussion. Reading material is intellectually stimulating but not beyond the student's level of comprehension. Cannot be used to fulfill degree requirements.

Prerequisite: Minimum scores on the TOEFL or Michigan Test

#### ESL 097 3 3 0 0 0 COLL PREP INTRO TO WRITING SKILLS-ESL

An introduction to the mechanics of word order and sentence patterns of English. Writing skills are designed to meet the needs of ESL students preparing to take Basic Writing.

### ESL 103 4 4 0 0 0 GENERAL ADVANCED ACADEMIC ESL GRAMMAR

This is an advanced-level academic English grammar course for students whose first language is not English. This course emphasizes the usage of systematic functional grammar through the practice of studying the complex grammatical structures used in authentic academic settings integrated with writing skills. This course addresses the linguistic and instructional needs of non-native English speaking students. It may be taken concurrently with carefully selected college courses.

Prerequisite: 84 or above on ESL Test in COMPASS— Grammar Usage

#### ESL 104 3 3 0 0 0 GENERAL ADVANCED ACADEMIC ESL WRITING

This course develops academic writing skills for students whose first language is not English. The course emphasizes familiarizing students with writing academic essays in the traditional modes: observing, describing, informing, explaining process and/or classifying, and explaining cause(s) and/or effect(s). This course addresses the linguistic and instructional needs of nonnative, English-speaking students. It focuses on sentence expansion and modification, the writing process and developing research skills. It may be taken concurrently with carefully selected college courses.

Prerequisite: 84 or above on ESL Test in COMPASS— Grammar Usage

#### ESL 160 3 3 0 0 0 GENERAL ESL MULTICULTURAL LITERATURE

This course addresses the academic needs of advanced non-native English language students by exposing them to engaging traditional and multicultural literary works to further immerse them in a scholarly environment. Through appreciation and interpretation of a culturally diverse range of fiction, poetry and drama, students relate their immigrant experiences to the literary world while working at an advanced level of academic English. Prerequisite: 84 or above on Reading ESL COMPASS test

#### FIN 101 3 3 0 0 0 OPEN PRINCIPLES OF BANKING

This course surveys banking functions. It provides a comprehensive introduction to the diversified services offered by the banking industry today.

#### FIN 121 3 3 0 0 0 OPEN PERSONAL FINANCE

This course emphasizes family financial planning including financial statements, budgeting, taxes, risk management and retirement.

#### FIN 180 3 3 0 0 0 OPEN INTRODUCTION TO INVESTMENTS

Provides basic information to familiarize students with various investments: securities, options, commodities, tax shelters and other investment alternatives. Topics include analyzing investment opportunities, review of risks and returns, averages and indexes and analyzing securities.

## FIN 214 1 1 0 0 0 OPEN STOCKS, BONDS AND INVESTMENTS

This course explores personal investment in financial assets. Investing in stocks, bonds and mutual funds is the focus of investigation. Concepts, techniques and strategies related to realizing financial goals with these types of assets are considered.

#### FIR 124 3 3 0 0 0 BUILDING CONSTRUCTION

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Study of building materials, components and design features with regard to their reactions under fire conditions. Course also includes interpretation of Life Safety Code and its application to proposed and existing structures.

Prerequisite: FIR 230

#### FIR 138 3 3 0 0 0 OPEN PRINCIPLES OF FIRE PREVENTION

This course is a survey of the principles of fire prevention. Students will learn to interpret and apply complex fire prevention regulations. Course covers traditional regulatory aspects and functions associated with fire prevention, the fire code process, plan review, inspections and fire protection systems testing. The investigation process from the fire scene to the courtroom and state and federal agencies involved in fire investigation is also covered. Other topics are the importance of fire prevention records and recordkeeping, personnel and financial management. Prerequisite: FIR 230, 152, 220

#### FIR 152 3 3 0 0 0 FIRE PROTECTION SYSTEMS

An examination of devices and systems that support the fire service in the detection and suppression of fire. Prerequisite: FIR 230

OPEN

#### **FIR 182** 33000 HAZARDOUS MATERIALS

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: CHM 122 and FIR 230

#### **FIR 200** 33000 OPEN **OCCU S/H IN EMERGENCY SERVICES**

The fire-fighting profession is one of the most dangerous endeavors undertaken in the name of public service. The goal of this course is to enable firefighters to perform assigned tasks in a safe and effective manner through an understanding of key Occupational Safety and Health Administration (OSHA) regulations and National Fire Protection Association (NFPA) standards.

#### OPEN FIR 212 33000 EMERGENCY SCENE MANAGEMENT

Covers emergencies and incident command systems to maintain control in emergencies of fire suppression, mass casualty and hazardous materials. Information, logistics, press, finance and other areas are addressed in incident command system.

#### **FIR 220** 33000 OPEN PLANNING FOR FIRE PROTECTION

This course is designed to help develop strategic plans for fire protection of an area, community, multiple-building complex and single building. Through the use of data collection systems and other management tools, the student will be able to identify and analyze fire problems and develop alternative solutions.

#### **FIR 230** 33000 OPEN FIRE BEHAVIOR & INVESTIGATION

Course covers the behavior of fire in confined structures and the methods used to determine point of origin, cause and travel of fire within a structure.

#### **FIR 232** 33000 OPEN **PROPERTY INSURANCE-FRAUD INVES**

Covers principles of property insurance and investigation of incendiary fires with an emphasis on the investigation of insurance fraud fires.

#### **FIR 290** 400016 OPEN FIRE FIGHTER I CERTIFICATION

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 120 contact hours of Fire Fighter I training, a written exam, a practical (skills performance) exam and local documentation, all certified by a nationally recognized fire service accreditation agency

#### **FIR 291** 300012 FIRE FIGHTER II CERTIFICATION

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 86 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: FIR 290

#### FI A 141 44000 ELEMENTARY ARABIC I

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.

#### 44000 FLA 142 CORE **ELEMENTARY ARABIC II**

Continue to acquire an elementary level of Arabic language skills of reading, writing, grammar and conversational communications. Reading and conversation will be emphasized.

Prerequisite: FLA 141 or permission of instructor

#### FI & 241 44000 INTERMEDIATE ARABIC I

Continue to acquire a higher level of Arabic language skills of reading, writing, grammar and conversational communications. Writing, grammar and conversation will be emphasized.

Prerequisite: FLA 142 or permission of instructor

#### FLA 242 44000 CORE INTERMEDIATE ARABIC II

Continue to acquire a higher level of Arabic language skills of reading, writing, grammar and conversational communications. Writing, grammar and conversation will be emphasized within cultural context.

Prerequisite: FLA 241 or permission of instructor

FLC 141	44000	CORE
ELEMENTA	RY CHINESE I	

Development of the basic skills of understanding, speaking, reading and writing Chinese. Grammar analysis, classroom conversational practice and some exploration of the Chinese culture.

#### 44000 CORE FLC 142 ELEMENTARY CHINESE II

Continued practice of the four basic skills and grammar analysis. Introduction of short prose selections with conversational emphasis.

Prerequisite: FLC 141 or instructor permission

#### OPFN FI C 241 44000 CORE INTERMEDIATE CHINESE I

Review of essential grammatical construction emphasizing major areas of difficulty for English speakers. Use of Chinese cultural and literary materials to develop conversational skills.

Prerequisite: FLC 142 or instructor permission

#### **FLC 242** 44000 CORE **INTERMEDIATE CHINESE II**

Continued review of grammatical constructions using Chinese cultural materials. Reading, writing and conversation will be emphasized in the context of cultural issues and current events.

Prerequisite: FLC 241 or instructor permission

#### ELE 151 55000 CORE **ELEMENTARY FRENCH I**

An introduction to the basic skills in understanding, speaking, reading and writing French. Grammar analysis, classroom conversational practice and some exploration of French culture.

#### FLF 152 55000 CORE **ELEMENTARY FRENCH II**

Continued practice of the four basic skills and grammar analysis. Introduction of short prose selections with conversational emphasis.

Prerequisite: FLF 151 or instructor permission

#### CORE FLF 241 44000 **INTERMEDIATE FRENCH I**

Review of essential grammatical constructions emphasizing major areas of difficulty for English speakers. Use of cultural and literary materials to develop conversational skills.

Prerequisite: FLF 152 or permission of instructor

#### FI F 242 44000 CORE **INTERMEDIATE FRENCH II**

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: FLF 242 or permission of instructor

#### FLG 141 44000 CORE **ELEMENTARY GERMAN I**

Development of the basic skills of understanding, speaking, reading and writing German. Grammar analysis, classroom conversational practice and some exploration of the German culture.

#### FLG 142 44000 CORE **ELEMENTARY GERMAN II**

Continued practice of the four basic skills and grammar analysis. Introduction of short prose selections with conversational emphasis.

Prerequisite: FLG 141 or instructor permission

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#### FLG 241 4 4 0 0 0 INTERMEDIATE GERMAN I

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: FLG 142 or instructor permission

#### FLG 242 4 4 0 0 0 INTERMEDIATE GERMAN II

Continued review of grammatical constructions using German cultural materials. Reading, writing and conversation will be emphasized in the context of cultural issues and current permission. Prerequisite: FLG 241 or instructor permission

#### FLI 141 4 4 0 0 0 CORE ELEMENTARY ITALIAN I

Development of the basic skills of understanding, speaking, reading and writing Italian. Grammar analysis, classroom conversational practice and some exploration of the Italian culture.

#### FLI 142 4 4 0 0 0 CORE ELEMENTARY ITALIAN II

Continued practice of the four basic skills and grammar analysis. Introduction of short prose selections with conversational emphasis.

Prerequisite: FLI 141 or instructor permission

#### FLI 241 4 4 0 0 0 INTERMEDIATE ITALIAN I

Review of essential grammatical constructions emphasizing major areas of difficulty for English speakers. Use of Italian cultural and literary materials to develop conversational skills.

Prerequisite: FLI 142 or instructor permission

## FLI 242 4 4 0 0 0 CORE INTERMEDIATE ITALIAN II

Continued review of grammatical constructions using Italian cultural materials. Reading, writing and conversation will be emphasized in the context of cultural issues and current events.

Prerequisite: FLI 241 or instructor permission

#### FLJ 141 4 4 0 0 0 CORE ELEMENTARY JAPANESE I

Development of the basic skills of understanding, speaking, reading and writing Japanese. Grammar analysis, classroom conversational practice and some exploration of the Japanese culture.

### FLJ 1424 4 0 0 0COREELEMENTARY JAPANESE II

Continued practice of the four basic skills and grammar analysis. Introduction of short prose selections with conversational emphasis.

Prerequisite: FLJ 141 or instructor permission

#### FLJ 241 4 4 0 0 0 INTERMEDIATE JAPANESE I

Review of essential grammatical constructions emphasizing major areas of difficulty for English speakers. Use of Japanese cultural and literary materials to develop conversational skills.

Prerequisite: FLJ 142 or instructor permission

#### FLJ 242 4 4 0 0 0 CORE INTERMEDIATE JAPANESE II

Continued review of grammatical constructions using Japanese cultural materials. Reading, writing and conversation will be emphasized in the context of cultural issues and current events.

Prerequisite: FLJ 241 or instructor permission

#### FLS 151 5 5 0 0 0 CORE ELEMENTARY SPANISH I

This course addresses the skills of listening, speaking, reading and writing. The language is based on themes of everyday life. Speech will be modeled by instructors who will monitor and correct for pronunciation and accent. Students will be asked to engage in simple conversations on a controlled basis using the themes presented in the curriculum. Much class time is spent practicing speech. Students will also be expected to use software available with texts to hone listening and speaking skills.

### FLS 152 5 5 0 0 0 CORE ELEMENTARY SPANISH II

Emphasis is on the understanding and production of oral and written Spanish presented in culturally appropriate settings. The language learned is based on themes of everyday life. Students will be asked to engage in more complex conversations using the themes presented in the curriculum. Speech will be monitored for pronunciation and accent. Much class time is devoted to practicing speech. Students will also be expected to use the software accompanying the text to hone listening and speaking skills.

Prerequisite: FLS 151 or instructor permission

#### FLS 181 4 4 0 0 0 CORE SPANISH FOR HERITAGE SPKRS I

This course is designed to address the needs of Hispanic/Latino students who can communicate in Spanish but need to develop their reading, writing and speaking skills in a more accelerated environment than a traditional Spanish course. It will provide students the grammatical tools they need to write effectively with respect to register of language. Students become more familiar with accentuation rules and develop improved spelling skills through grammar drills and directed composition.

CORE

Prerequisite: Instructor permission

#### FLS 241 4 4 0 0 0 INTERMEDIATE SPANISH I

Review of essential grammatical constructions emphasizing major areas of difficulty for English speakers. Use of Hispanic cultural and literary materials to develop conversational skills.

Prerequisite: FLS 152 or instructor's permission

#### CORE FLS 242 4 4 0 0 0 CORE INTERMEDIATE SPANISH II

Having studied most of the grammar in previous courses, time will be spent reviewing the more difficult and troublesome concepts including a continuation of the study of the subjunctive mood. Comprehensible input now includes more extensive readings in Spanish literature, newspapers, websites or other print as well as visual media. While serving to increase vocabulary and knowledge of grammar, they also serve as a source of cultural information. Prerequisite: ELS 241 or instructor's permission

#### FLS 281 4 4 0 0 0 CORE SPANISH FOR HERITAGE SPKRS II

This course is the continuation of FLS 181 and is intended for students who can communicate in Spanish, but need to further develop reading, writing and speaking skills in a more accelerated environment than a traditional Spanish course. It provides further practice of writing and speaking with respect to language register. This course further develops the Spanish speaker's skills in Intermediate reading and writing through a series of more extensive readings, grammar drills and directed compositions, and continues study of more formal Spanish.

Prerequisite: FLS 181 or FLS 152 or permission of instructor

#### GEO 111 3 3 0 0 0 CORE INTRO TO GEOGRAPHY

This course utilizes the basic concepts of cultural geography (area, landscape, ecology, diffusion and integration) in a systematic examination of the contemporary world. The course is intended to provide an elementary acquaintance with the field of geography.

#### GEO 124 3 3 0 0 0 CORE REG GEOG OF THE NONWEST WORLD

This course systematically surveys the peoples, cultures, resources and problems of the cultural realms commonly designated as the Third World (Latin America, Black Africa, the Islamic World, India and China).

#### GEO 125 3 3 0 0 0 CORE REGIONAL GEOG OF THE DEV WORLD

This course systematically surveys the peoples, cultures, resources and problems of the cultural realms commonly designated as the Developed World (Anglo-America, Europe, Russia, Japan and Australia).

#### GLS 199 2 2 0 0 0 GENERAL JAPAN: THE CHANGING TRADITION

Focuses on the history and changing cultural traditions of Japan's modern era and the brief period during which Japan has developed its own distinctive urbanized, industrialized and democratic society.

#### GLS 200 3 3 0 0 0 GENERAL COUNTRY STUDY

Course is a single and specific study of a selected country, its culture and people in respect to historical, geographic economic, political and societal development. The country study course offering is dependent upon instructor selection and student interest. This course may be repeated for a maximum of 6 credits provided that each study is of a different country.

#### GLS 220 3 3 0 0 0 GENERAL THE MIDDLE EAST AND ISLAM

This course surveys the civilization of the Middle East from Muhammad and Islam to the Islamic caliphate and civilization, Ottomans, modernism, Western empires, Arab-Israeli conflict, contemporary Islamic revival, instability and terrorism, Muslim diaspora and the strategic importance of the Middle East to the United States and world economy.

#### GLS 230 3 3 0 0 0 GENERAL LATIN AMERICA

This course examines the varied history, diverse peoples and cultures of Latin America and the Caribbean beginning with the geography, pre-Columbian peoples, the European intrusion, colonial societies, independence, modernization, American influence, economic, political, cultural and social developments in the recent past and the present.

#### GLS 235 3 3 0 0 0 GENERAL INTRO TO INTERNATIONAL STUDIES

This course provides an introduction to international issues and globalization from the perspective of different continents and countries. The course will cover basic historical, geographical, political, cultural, economic, health, human rights, gender and ethnic communities around the world.

#### GRD 301 3 2 2 0 0 VOC/TECH INTRO TO DESKTOP PUBLISHING

Find out for yourself if the Mac does what a PC does, only better! This course uses the world's most advanced operating system to introduce you to a suite of graphic design industry-standard software. Learn basic digital illustration, imaging and page layout techniques in a state-of-the-art Macintosh computer lab.

Prerequisite: ADM 105 or equivalent

## GRD 401 3 2 2 0 0 VOC/TECH GRAPHIC DESIGN ORIENTATION

Immerse yourself in the dynamic digital design environment. Discover employment options and trends. Examine the work ethic and foundation skills of today's Graphic Design professionals, including print, web and color management. File formats, Mac OS X, file servers, networking, cross-platform issues, font management and presentation skills are some of the hot topics covered.

Prerequisite: Acceptance into the Graphic Design program

#### GRD 403 3 2 2 0 0 VOC/TECH COMMUNICATION DESIGN I

Learn fundamental design elements and principles. Explore how to ignite your creative spark! Study color theory and learn how to follow the design process to visually communicate an idea or message to a target audience.

Prerequisite: GRD 415 and GRD 459

## GRD 404 3 2 2 0 0 VOC/TECH TYPOGRAPHY II

Advanced exploration in the application and theory of typographic principles. Students strengthen skills in systems, typographically expressive layouts and using typographic relationships by creating a dynamic grid hierarchy to organize information. Students will be expected to conceptualize and execute a variety of typographic solutions across media platforms.

Prerequisite: GRD 405

### GRD 405 3 2 2 0 0 VOC/TECH TYPOGRAPHY I

This course explores the history, structure and fundamental principles of typography as it relates to graphic design. Topics include typeface identification, study of typeface design, designing with type and typographic grid systems. Students build skills with the basic elements of typography.

Prerequisite: GRD 415, GRD 459

#### GRD 410 3 2 2 0 0 VOC/TECH ILLUSTRATION I

Expand and refine your creative drawing skills using traditional materials and the leading digital painting software, Corel Painter. Digital painting allows you to experiment with the creative possibilities of a wide range of art tools—felt pens, ink, charcoal, chalk, airbrush, watercolors, acrylics and oils—quickly and affordably. The skills learned will apply to a wide range of Graphic Design applications as you use industry-relevant media, techniques and software.

# GRD 411 3 2 2 0 0 VOC/TECH COMMUNICATION DESIGN II

Use the fundamental principles and elements learned in Communication Design I as a guide to make effective design decisions. Learn how to combine images, color and type to create highimpact layouts. This course encourages creative thinking and problem-solving.

Prerequisite: GRD 403

## GRD 414 3 2 2 0 0 VOC/TECH ILLUSTRATION II

Unleash your creativity with a complete digital art studio—Corel Painter software and a pressuresensitive graphics tablet. Unlimited undos allow you to experiment quickly and affordably with the creative possibilities made possible by a wide range of art tools—felt pens, ink, charcoal, chalk, airbrush, watercolors, acrylics and oils. The skills learned will apply to a wide range of Graphic Design and fine art applications as you use industry-relevant media, techniques and software.

Prerequisite: GRD 410 or permission of instructor

#### I GRD 415 3 2 2 0 0 VOC/TECH INDESIGN I

This course combines basic desktop publishing skills with the specifics of how to use Adobe InDesign to create visual communications. You will learn page layout tools as you are introduced to the software interface. This course teaches the fundamental skills, basic commands and procedures used to create professional documents.

#### GRD 419 2 0 4 0 0 VOC/TECH LETTERING AND SIGN ART

The study of traditional letter forms, typography, hand lettering skills and design principles for the production of posters, signs, logos and other graphic images.

## GRD 421 3 3 0 0 0 VOC/TECH INTERNSHIP PREPARATION

Are you the best candidate for the job? Learn how to prepare for a successful interview that will land you the graphic design internship job you want. Plan an effective job search strategy by developing the right materials: a resume, cover letter and portfolio. This course will identify real-world workplace behavior and expectations.

#### GRD 424 3 1 0 0 8 VOC/TECH GRAPHIC DESIGN INTERNSHIP

Internship is an opportunity to work in a Graphic Design environment under the guidance of a design professional. In this course, you'll work toward securing an internship that will provide you with the experiences you need to succeed in your career. Prerequisite: GRD 421

# GRD 426 3 2 2 0 0 VOC/TECH COMMUNICATION DESIGN III

Combine creativity with critical thinking skills to design expressive, compelling and thoughtprovoking graphic design solutions. Analyze creative briefs and learn to collaborate with others to solve visual communication design challenges.

Prerequisite: GRD 411

### GRD 430 3 2 2 0 0 VOC/TECH INDESIGN II

Adobe InDesign is the page layout application of choice for many designers. It contains a host of advanced layout features not found in any other application. Now you can centralize your workflow by integrating seamlessly with the other Adobe applications. In this course you will learn about advanced application features necessary to the design professional. Prerequisite: GRD 415

# GRD 437 3 2 2 0 0 VOC/TECH COMMUNICATION DESIGN IV

Blend creativity and technology with advanced-level problem-solving and research strategies to create effective multichannel design solutions.

Prerequisite: GRD 426, GRD 430, GRD 471

#### GRD 449 4 2 4 0 0 VOC/TECH AIRBRUSH I

The fundamental principles of airbrush techniques and application to advertising design and use of airbrush as an illustrative tool.

#### GRD 451 4 2 4 0 0 VOC/TECH AIRBRUSH II

Advanced course in airbrush techniques as necessary for portfolio samples. Emphasis in utilization of the advanced skills learned in Airbrush I. Prerequisite: GRD 449

## GRD 459 3 2 2 0 0 VOC/TECH ILLUSTRATOR

Explore Adobe Illustrator's extensive toolbox and menu commands in a state-of-the-art Macintosh computer lab. Experiment with explosive color while discovering a variety of techniques using Illustrator's powerful drawing tools.

## GRD 462 3 1 4 0 0 VOC/TECH COMPUTER GRAPHICS II

Students will learn the tools and workflow necessary to create a website from the initial visual design and user interface to going "live" on the web. Students will use industry-standard software to create web pages, optimize images and generate HTML and JavaScript. This course includes instruction and practice creating media-rich animation and web pages with Macromedia Flash.

Prerequisite: Permission of instructor

### GRD 463 3 2 2 0 0 VOC/TECH PHOTOSHOP VOC/TECH VOC/TECH

Adobe Photoshop is the ultimate playground for bringing out the best in your digital images and transforming them into anything you can imagine. Gain a solid foundation of basic functions to create and enhance visually dynamic images in a state-ofthe-art Macintosh computer lab.

#### GRD 464 3 2 2 0 0 VOC/TECH DIGITAL ARTISTRY

Learn the hottest tips, tricks and techniques to create eye-catching digital illustrations by combining the best of Adobe Photoshop and Adobe Illustrator. Use advanced-level methods to create stellar artwork that will leave others saying "WOW!"

Prerequisite: GRD 459, GRD 463

#### GRD 470 3 2 2 0 0 VOC/TECH INTERACTIVE MEDIA I

Learn a professional workflow using Fireworks, Flash and Dreamweaver to create a website from the initial visual design to going "live" on the web. Going beyond just teaching software, this course focuses on the workflow and the skills needed in each software package to get your site up and running on the web.

Prerequisite: GRD 463 or instructor permission

#### GRD 471 3 2 2 0 0 VOC/TECH INTERACTIVE MEDIA II

Interactive Media II aligns with the Adobe Digital Design: Foundations of Web Design curriculum and is the second of two semesters. A personal capstone project is created, allowing students to refine key communication skills in design, communication, project management and web technology using Adobe Flash, Dreamweaver and Fireworks. Prerequisite: GRD 470

#### GRT 400 4 2 4 0 0 VOC/TECH INTRO TO PRINTING METHODS

A prerequisite for all graphic technology courses is an introduction to printing technology. Course will involve lecture and hands-on lab work in areas of lithography, screen printing and flexography. Bindery and finishing methods will also be covered.

## GRT 403 2 0 4 0 0 VOC/TECH PRODUCTION METHODS

In this continuation of Introduction to Printing Methods, students will learn production methods of multicolor, multipanel products for screen, offset and digital printing.

# GRT 404 2 2 0 0 0 VOC/TECH INTRO TO VISUAL COMMUNICATIONS

Immerse yourself in the dynamic Visual Communications industry. Students will explore various industry fields and career opportunities, orient themselves with the Macintosh computer and Adobe applications environments, learn the basics of color as it applies to graphics projects and gain knowledge in the legal issues specific to the visual communications industry.

#### GRT 409 3 3 0 0 0 VOC/TECH PROJECT PLANNING & MANAGEMENT

A planning and management course specifically for print communications. Cost estimating, ordering, inventory, quality control, job scheduling and management will be covered.

Prerequisite: GRT 400, GRT 403 or instructor approval

#### GRT 415 4 2 4 0 0 VOC/TECH DIGITAL IMAGING I

Students will learn digital image capture, including use of a professional-grade digital camera. Students will then use Adobe Photoshop to adjust and prepare images for professional print production and other media. Throughout this course, students will learn the principles of digital imaging, including image adjustment tools, color science and color management. Prerequisite: GRT 406

#### GRT 420 4 2 4 0 0 VOC/TECH ADVANCED PRINTING METHODS

A specialization course in offset lithography. The student will do advanced work in multicolor printing. This class will also cover all bindery operation including folding, cutting and stitching. Prerequisites: GRT 400, GRT 403

#### GRT 424 4 2 4 0 0 VOC/TECH DIGITAL IMAGING II

This course is an advanced digital imaging course for students pursuing a digital publishing emphasis in the Graphic Technologies program or the Digital Publishing certificate. Students will work primarily in Adobe Photoshop to develop advanced digital imaging skills for print and web. Color management and digital image correction will be emphasized. Prerequisite: GRD 463

#### GRT 426 4 2 4 0 0 VOC/TECH DIGITAL PUBLISHING III

This course is an advanced desktop publishing course for students pursuing a digital publishing emphasis in the Graphic Technologies program or the Digital Publishing certificate. Students will work primarily in Adobe InDesign to develop advanced skills in layout, text formatting and digital production for print and web. Prerequisite: GRD 415, GRD 430

### GRT 427 4 2 4 0 0 VOC/TECH SPECIALTY PRINTING METHODS

A course in specialty printing focusing on flexography and screen printing. The student will work in a lab environment to complete multiplecolor printed projects, advancing their skills in both printing technologies.

Prerequisite: GRT 400, 401, 409, 410

#### GRT 430 3 2 2 0 0 VOC/TECH EMERGING TECHNOLOGIES

This course explores advanced and emerging technologies in the graphic communications industry. Students will be exposed to equipment and software applications that are new to the industry and learn new publishing techniques from handson projects. Topics include interactive projects, color management, PDF workflow, variable data publishing and multichannel marketing.

Prerequisite: Completion of semesters 1, 2 and 3 of the Graphic Technologies program or instructor approval

# GRT 4534 2 4 0 0VOC/TECHPRINTING METHODS CAPSTONE

This is the final course for students pursuing an emphasis in printing technologies in the Graphic Technologies AAS degree program. Students work collaboratively to produce a capstone project, utilizing their skills developed in previous courses. In conjunction, students enter completed projects in a statewide professional competition and prepare both hard-copy and digital portfolios.

Prerequisite: Completion of the Visual Communications diploma and Semester 4 of the Graphic Technologies program

### GRT 4554 2 4 0 0VOC/TECHDIGITAL PUBLISHING CAPSTONE

This is the final course for students pursuing an emphasis in digital publishing in the Graphic Technologies AAS degree program. Students work collaboratively to produce a capstone project, utilizing their skills developed in previous courses. In conjunction, students enter completed projects in a statewide professional competition and prepare both hard-copy and digital portfolios.

Prerequisite: Completion of the Visual Communications diploma and Semester 4 of the Graphic Technologies program

#### GRT 932 3-4 1 0 0 8-12 VOC/TECH INTERNSHIP

On-the-job training for Graphic Technologies students. Included is a weekly seminar for the exchange of information review and evaluation.

Prerequisite: Completion of the Visual Communications diploma and Semester 4 of the Graphic Technologies program

# HCM 100 2 2 0 0 0 VOC/TECH SANITATION & SAFETY

Principles and methods of sanitation safety and equipment. Equipment selection and facilities planning. Also includes preventive maintenance.

### HCM 104 1 0 2 0 0 VOC/TECH SANITATION & EQUIPMENT LAB

The lab consists of sanitation practices. The student will carry out the practice of table service for international cuisine dinners and apply sanitation measures.

(P/F)

#### HCM 110 2 0 4 0 0 VOC/TECH BAKING (LAB)

This course offers instruction in baking fundamentals and procedures as applied to bread, rolls, cakes, pastries and cake decorating. Practical experience in sanitation, safety and the use of large equipment is also emphasized.

Prerequisite: HCM 143, 144 or instructor permission

#### HCM 124 2 0 4 0 0 VOC/TECH ADV BAKING/BUFFET DECORATING

Advanced principles and procedures of producing baked goods, decorative work and display pieces. Prerequisite: HCM 110, 270

#### HCM 143 3 3 0 0 0 VOC/TECH FOOD PREPARATION I

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: HCM 144

#### HCM 144 3 0 6 0 0 VOC/TECH FOOD PREPARATION I LAB

Preparation of small servings of salads, starch, cheese, egg, meat, poultry and fish products using the techniques studied in lecture. Oral and written evaluation of each product.

Corequisite: HCM 143

#### HCM 152 2 2 0 0 0 VOC/TECH FOOD PREPARATION II

The study of the principles and procedures of quantity food production as they apply to salads, soups, vegetables, entrees and desserts. Emphasis on organization and recipe standardization.

Prerequisite: HCM 143, 144

### HCM 153 2 0 4 0 0 VOC/TECH FOOD PREPARATION II LAB

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: HCM 143, 144

#### HCM 167 3 0 6 0 0 VOC/TECH CULINARY SKILLS DEVELOPMENT

Students produce and serve meals for the public in an actual restaurant experience. Emphasis is on the various management functions required to serve quality foods efficiently and Intermediate culinary preparation techniques.

Prerequisite: HCM 152, 153

## HCM 168 2 2 0 0 0 VOC/TECH ADVANCED CULINARY CUISINE

Discussion of the more intricate and difficult cooking principles and techniques of classical cuisine, along with planning for advanced culinary cuisine. Prerequisite: HCM 167. Corequisite: HCM 169

#### HCM 169 4 0 8 0 0 VOC/TECH CULINARY CUISINE LAB

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: HCM 167, Corequisite: HCM 168

#### HCM 172 3 0 6 0 0 VOC/TECH INTERNATIONAL CUISINE (LAB)

Application of gourmet cooking through actual quantity preparation of eight-course international dinners. Four evening gourmet dinners will be prepared and served during the semester.

Prerequisite: HCM 152, 153, Corequisite: HCM 173

## HCM 173 2 2 0 0 0 VOC/TECH INTERNATIONAL CUISINE

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 semesters.

Prerequisite: HCM 152, 153, Corequisite: HCM 172

### HCM 175 3 0 6 0 0 VOC/TECH INTERNATIONAL CUISINE LAB II

Application of gourmet cooking through actual quantity preparation of eight-course international dinners. Four evening gourmet dinners will be prepared and served during the semester. Prerequisite: HCM 172, 173

### HCM 200 2 0 4 0 0 VOC/TECH DINING ROOM SERVICE

A dining room service course in an actual restaurant experience with emphasis on using sound management techniques and quality customer service.

## HCM 210 2 2 0 0 0 VOC/TECH DINING MANAGEMENT

Students will plan menus and meal service in actual restaurant experience. Emphasis is on using sound management techniques for producing high-quality food and service to the public.

Prerequisite: HCM 152, 153

## HCM 231 2 2 0 0 0 VOC/TECH NUTRITION

An overview of nutrition-related topics including the psychology of eating and evaluation of food intake.

#### HCM 240 2 2 0 0 0 VOC/TECH MENU PLANNING & DESIGN

This course applies the principles of menu planning and layout to the development of menus for a variety of types of facilities and service.

#### HCM 250 2 2 0 0 0 VOC/TECH PURCHASING

Principles and methods of food purchasing with emphasis on specifications and grading of various food products. Includes financial procedures and controls used in the food service industry.

## HCM 270 2 0 4 0 0 VOC/TECH GARDE MANGER

Application of techniques used in preparation of hot and cold *hors d'oeuvres*, decorative food displays and ice carvings. Emphasis is placed on aspics, galantines and buffet presentations. Prerequisite: HCM 143, 144

Prerequisite: HCM 143, 144

## HCM 3002 2 0 0 0VOC/TECHBEVERAGE MANAGEMENT

This course will familiarize the student with all aspects of beverage service including wine and alcohol laws. The basic mechanics of beverage preparation, sales and promotion will be covered.

### HCM 320 2 2 0 0 0 VOC/TECH INTRO TO HOSPITALITY INDUSTRY

Course introduces students to the broad world of hospitality while preparing them for careers in the field. Discussed will be three primary areas of hospitality—food and beverage, lodging and tourism along with an introduction to business basics.

#### HCM 510 3 0 0 0 12 VOC/TECH WORK EXPERIENCE

An approved program of experience in one of the many hospitality areas: restaurant, hospital, club, school food service, hotel or motel. (P/F)

#### HCM 550 3 3 0 0 0 VOC/TECH FOOD AND WINE SEMINAR

This introductory course involves flavor profiles of both food and wine with a focus on culinary principles. This course is not for Culinary Arts/ Hospitality Careers majors.

### HCM 600 2 2 0 0 0 VOC/TECH INTRO TO LODGING OPERATIONS

An in-depth look at the management and operations of key services within hotel properties. Included are guest services, housekeeping, maintenance and security. Course will examine the intricacies of these services from a management perspective.

#### HCM 604 5 0 0 0 20 VOC/TECH HOTEL SERVICE INTERNSHIP

An approved program of work experience in one of the many hotel/motel properties in the area. Prerequisite: HCM 320, Corequisite: HCM 600

#### HCM 605 2 2 0 0 0 VOC/TECH HOTEL ADMINISTRATION

A management course that introduces the student to advanced studies of property management, catering, sales, legal aspects, security and maintenance of all departments of the hotel.

#### HCR 253 5 2 6 0 0 VOC/TECH RESIDENTIAL HEATING & AC

Residential heating and cooling basics. Study of installation and service procedures through class and lab practices.

Prerequisite: HCR 307

#### HCR 256 5 2 6 0 0 VOC/TECH APPLIED HEATING & AC

This course covers the installation and troubleshooting techniques dealing with residential heating, cooling and refrigeration systems.

Prerequisite: HCR 253

#### HCR 260 3 1 4 0 0 VOC/TECH HVAC TRADE SKILLS I

This course covers all types of soldering and brazing used in the heating, air conditioning refrigeration industry.

#### HCR 270 5 2 6 0 0 VOC/TECH ADVANCED HEATING & AC

This course covers installation, advanced troubleshooting, maintaining and repairing of geothermal heat pumps, gas, fuel oil and electric heating systems.

Prerequisite: HCR 256

### HCR 2905 2 6 0 0VOC/TECHCOMMERCIAL HVAC/REFRIGERATION

Course covers basic commercial refrigeration systems, components and their use, applications, methods of installation, maintenance, diagnosis and repairs. Prerequisite: HCR 270, 506

# HCR 307 5 2 6 0 0 VOC/TECH FUNDAMENTALS OF REFRIGERATION

This course covers the principles of refrigeration, domestic systems and equipment.

#### HCR 404 5 2 6 0 0 VOC/TECH ELECTRICITY

A study of basic electricity principles: 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.

#### HCR 440 5 2 6 0 0 VOC/TECH ELECTRICAL CONTROLS & CIRCUITS

The application of motor control circuits used in industrial application, in particular in the HVAC/R field. These applications include contactors, starters, starting relays, interlocks, relays, thermostats, split phase, shaded pole, capacitor start motors and three-phase motors.

Prerequisite: HCR 404

#### HCR 506 3 2 2 0 0 VOC/TECH AIR DISTRIBUTION

Involves the study of fans, blowers and dampers, the design of duct systems for proper air delivery, and final system balancing. Includes lab practice. Prerequisite: HCR 256

### HCR 515 3 1 4 0 0 VOC/TECH SHEET METAL FABRICATION

This course covers all types of sheet metal fabrications pertaining to the HVAC profession. Prerequisite: HCR 260

#### HCR 717 3 2 2 0 0 VOC/TECH BLUEPRINT READING

A study of blueprint reading related to the HVAC/R trade. Drafting symbols and terminology will be covered, along with the skills needed to make simple scaled drawings.

#### HCR 803 5 2 6 0 0 VOC/TECH ENVIRONMENTAL CONTROLS

This course offers a basic understanding of building environmental and energy management systems, along with computerized (DDC), pneumatic and electro-mechanical controls.

Prerequisite: HCR 307, 440, 506, Corequisite: HCR 290

## HCR 840 2 1 2 0 0 VOC/TECH COMPUTER LOAD CALCULATIONS

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: HCR 506

#### HCR 932 4 0 0 0 16 VOC/TECH INTERNSHIP

On-the-job training for Heating, Air Conditioning, Refrigeration program students who have a "C" average or better in the program. Must have valid driver's license.

Prerequisite: HCR 253, 440, 515

#### HIS 112 4 4 0 0 0 CORE WEST CIV: ANCIENT TO EARLY MOD

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.

#### HIS 113 4 4 0 0 0 CORE WEST CIV: EARLY MODERN TO PRES

Survey of political, economic, social and intellectual developments from the 18th century to the present. Enlightenment, revolutions and reactions, national unifications, national rivalries, world wars and postwar developments.

#### HIS 150 4 4 0 0 0 CORE U.S. HISTORY TO 1877

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 presettlement, Colonial, Revolutionary, Antebellum Civil War and Reconstruction eras.

#### HIS 153 4 4 0 0 0 CORE U.S. HISTORY SINCE 1877

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.

#### HIS 201 3 3 0 0 0 GENERAL IOWA HISTORY

A broad survey of Iowa history from Indian cultures and pioneer farming through modern agriculture, gradual social changes and Long-Term political trends.

#### HIS 216 4 4 0 0 0 ADJUNCT HISTORY OF MODERN RUSSIA

Students survey the history of Russia from the reign of Nicholas (II) Romanov through the presidency of Dmitry Medvedev. Students will study political change from absolutist to parliamentary, the rise of the Communist Party, the struggle for control of the Communist Party, the harsh rule of Stalin, the impact of WWII, post-WWII international influence of the Soviet Union, Soviet Union's involvement with Iowa, downfall of the Soviet Union and the rise of post-Communist Party Russia.

#### HIS 249 3 2 2 0 0 GENERAL STUDYABROAD: BRITLIFE & CULTURE

This course is a survey of British Life and Culture, limited to students in the London Study Abroad program. Taught by various professional guest lecturers, this course examines various historical, geographic, political, economic and social contexts. Students will compare and contrast conditions and lifestyles of different time periods while undertaking related visits in London and throughout Britain. Course assignments, determined by the DMACC faculty member, will focus on major historical themes and ideas as expressed in the history and culture of Great Britain. Students may not receive credit for both HIS 249 and HUM 249.

#### HIS 257 3 3 0 0 0 CORE AFRICAN-AMERICAN HISTORY

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.

#### HIS 266 3 3 0 0 0 GENERAL THE CIVIL WAR

This telecourse 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.

## HIT 120 1 1 0 0 0 VOC/TECH PHARMACOLOGY FOR HIT

This course provides an introduction to common medication, medication therapies and drug effects relevant to the subject of health information technology. Students will learn the basics of electronic prescribing (e-prescribing), the role of health information technology in drug safety and the current pharmacology environment in the U.S.

#### HIT 125 2 1 2 0 0 VOC/TECH ESSENTIALS OF HEALTH RECORDS

This course familiarizes students with the origin, uses, content and format of health records, including both paper and electronic health records. It covers required standards for health records, organization of records and analysis of health record data. The role of health information management professionals is also introduced.

#### HIT 162 2 2 0 0 0 VOC/TECH DATA SECURITY FOR HEALTH IT

This course provides knowledge of current data security issues in the healthcare environment. A high-level emphasis is placed on identifying vulnerabilities and protection schemes. Additionally, the confidentiality, integrity and availability of protected health information will be discussed.

Prerequisite: BCA 113.

#### HIT 290 3 2 2 0 0 REIMBURSEMENT METHODS

This introduction to health insurance and reimbursement studies payment systems for all types of healthcare systems and managed care. Changing trends in the reimbursement of healthcare services are reviewed. Topics include prospective payment systems, charge master maintenance, DRGs, APCs, ASC Groups, RBRVs, third-party payers, EOB, Quality Improvement Organizations, managed care/capitation and compliance. Students practice completing claim forms for a variety of medical scenarios and learn the importance of accurate coding and medical necessity to ensure proper reimbursement.

Prerequisites: All first year HIT courses (HIT 120, 125, 162, 360, 450, 520)

# HIT 315 2 2 0 0 0 VOC/TECH ELECTRONIC APP FOR HEALTH DATA

This course provides an overview of health informatics and explores the impact of information technology on the healthcare industry. Students will use electronic spreadsheet and database applications to analyze and format data for presentations and decision-making. A variety of electronic applications are reviewed in a computer lab and/or field trip setting.

Prerequisite: HIT 125

## HIT 339 2 2 0 0 0 VOC/TECH QUALITY MANAGEMENT

This course provides a basic understanding of the principles of clinical quality measurement, TQM/CQI, effective management practices and evidence-based medicine. It covers the tools of healthcare quality management and the organizational context in which management practices are applied. Students will learn how systems can be used to improve organizational performance.

Prerequisite: Completion of all first-year HIT courses (HIT 125, HIT 450, HIT 162, HIT 120, HIT 360, HIT 520) or instructor approval

#### HIT 360 3 3 0 0 0 VOC/TECH INTRODUCTION TO HIT

This course covers the basics of health information technology (HIT) and electronic health information exchange (HIE). Current and emerging e-health applications will be discussed, including electronic health records (EHRs), registries, clinical decision support tools, etc. Other topics include current federal and state e-health initiatives, the clinical value of health information technology and the potential impact on the healthcare system.

# HIT 420 2 2 0 0 0 VOC/TECH LEGAL ASPECTS OF HEALTH INFO

This course focuses on the legal aspects of health information and health records, including access and use of both paper and electronic information. Topics covered include confidentiality, release of health information, liability issues, patient rights, fraud and abuse and ethics. Students will study federal and lowa-specific laws and regulations related to protected health information.

Prerequisites: Completion of all first-year HIT courses (HIT 120, 125, 162, 360, 450 and 520) or instructor approval

#### VOC/TECH HIT 430 3 2 2 0 0 VOC/TECH QUALITY IMPROVEMENT

This course covers outcomes-based quality improvement methodologies for healthcare organizations. Students learn how to measure customer satisfaction, implement quality management programs and apply best practices and standards. It also covers patient safety and how to create a culture of safety in the organization. Prerequisite: HIT 360

#### HIT 450 2 2 0 0 0 VOC/TECH HEALTH STATISTICS

This course covers the collection, analysis, verification and display of health statistics. Students will learn uses for health statistics, basic statistical principles, commonly computed rates, vital health statistics, uniform reporting requirements and effective data display.

#### HIT 520 2 0 0 0 8 VOC/TECH INTERNSHIP I

This course is a supervised 120-hour professional practice experience that introduces the student to basic functions in a health information technology setting. The student will observe daily operations and apply knowledge and skills learned in the classroom as applicable. Students will be required to meet objectives, submit a written report of the experience and undergo a job performance evaluation. Site to be arranged by the instructor. Prerequisites: HIT 125, HSC 120, or instructor approval

## HIT 521 4 0 0 0 16 VOC/TECH INTERNSHIP II

This course is a supervised 240-hour professional practice experience designed to further develop and build upon the experiences of Internship I, at the same or a different organization. The student will observe daily operations and apply knowledge and skills learned in the classroom as applicable. Students will be required to meet objectives, submit a written report of the experience and undergo a job performance evaluation. Site to be arranged by the instructor.

Prerequisite: HIT 520

#### HIT 605 11000 VOC/TECH MEDICAL TRANSCRIPTION SURVEY

This course familiarizes students with the profession of medical transcription and how the data is utilized in health IT systems.

#### HSC 102 1 1 0 0 0 VOC/TECH EMERGENCY CARE

Learn to perform care for medical emergencies: fractures, burns, resuscitation, basic CPR (cardiopulmonary resuscitation, American Heart Level II Standards) Certification.

#### **HSC 105** 11000 VOC/TECH SURVEY OF HEALTH CAREERS

This course introduces both the variety and requirements for healthcare 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.

#### **HSC 109** 33000 VOC/TECH **INTRO TO HEALTH CAREERS**

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.

#### **HSC 120** 33000 VOC/TECH **MEDICAL TERMINOLOGY I**

Builds a medical vocabulary through an understanding of anatomic roots for words denoting body structures, prefixes, suffixes and body functions.

#### VOC/TECH **HSC 121** 33000 MEDICAL TERMINOLOGY II

Continues to build a medical language vocabulary by studying the musculoskeletal, endocrine, nervous and integumentary systems.

Prerequisite: HSC 120 with a grade of "C-" or better

#### **HSC 159** 33000 VOC/TECH ESL PREP FOR HEALTHCARE EDUC.

This course is designed for the non-native Englishspeaking student who plans to enter a healthcarefocused educational program. Students will learn career-specific professional and colloquial English to improve the receiving and sending of messages in healthcare courses, the educational practicum setting, and in the professional clinical setting. Speaking, writing and reading skills will be integrated. The course content is designed to help the student better understand cultural implications when learning about and providing healthcare in the United States to a diverse population.

Prerequisite: A minimum score of 94 in all areas of the ESL COMPASS Test; BIO 733 or instructor permission

#### HSC 172 32030 VOC/TECH NURSE AIDE 75 HOURS

VOC/TECH

Entry-level skills to seek employment in Iowa skilled facilities. Meets OBRA87 standards.

Prerequisite: Criminal/Abuse background check; Immunization form as required by clinical site; Flu vaccine—October through April. See the DMACC website for more information.

#### **HSC 182** 32030 **ADVANCED NURSE AIDE**

A continuation of the Nurse Aide course, providing additional skills and clinical to work in hospital.

Prerequisite: HSC 172 or a state-approved 75-hour nurse aide class; Criminal/Abuse background check; Physical and Immunization form as required by clinical site; Flu vaccine—October through April; CPR certification. See the DMACC website for more information

#### VOC/TECH **HSC 183** 11000 **CCDI-DEMENTIA ILLNESS TRAINING**

This 15-hour course has been developed to meet the training requirements for Intermediate Care Facilities by providing basic knowledge about Alzheimer's disease and other chronic dementia illnesses. Emphasis is on the physical and psychological changes that take place in the Alzheimer patient and the importance of appropriate communication. Explanation of the stages of Alzheimer's disease and appropriate interventions will be introduced.

#### HSC 231 21004 VOC/TECH MEDICAL SCIENCE OBSERVATION I

Supervised experience in a medical healthcare agency. Enables students to learn about medical health, accumulate site hours for admission into graduate programs, and apply their skills and knowledge by working directly in the professional field.

#### HSC 232 21004 VOC/TECH MEDICAL SCIENCE OBSERVATION II

Extended supervised experience in a medical science area. Enables students to learn about the field of their interest in medical science, accumulate site hours for admission into graduate programs and apply their skills and knowledge by working directly in the professional field.

Prerequisite: HSC 231

#### 33000 HSC 240 VOC/TECH HUMAN NUTRITION

Understanding and implementing present-day knowledge of nutrition, along with the use of food for health and satisfaction of the individual and family.

#### HSC 281 54030 VOC/TECH LIMITED RADIOLOGY

IBN#22 State-required course for people employed in a clinic to take chest and extremities, sinus or spinal x-rays.

#### **HSV 109** 33000 GENERAL INTRO TO HUMAN SERVICES

History and introduction to the social welfare institution. Theoretical perspectives, concepts, values and intervention strategies are examined. Systems theory is used to explore legislation and services designed to meet client needs.

#### **HSV 130** 33000 OPEN INTERVIEWING/INTERPER RELATION

Study of interviewing theories including roles and relationships between the interviewer and the interviewee. Methodology of developing questions, conducting interviews, recording data and analyzing it, and writing assessments and histories are emphasized.

#### **HSV 133** 33000 CONFLICT RESOLUTION

This course is designed to study the history, components and process of conflict resolution and to examine the implications for the use of conflict resolution within the human services, psychology and social work fields. This course will provide students with the opportunity to develop conflict resolution skills as well as to examine their own comfort with conflict and how conflict is presented in the media. The course will also focus on the application of mediation in semesters of social justice issues, in particular on child welfare, juvenile problems and restorative justice.

OPEN

#### HSV 135 33000 OPEN WOMEN'S ISSUES

This course explores selected concerns that women are likely to bring into a counseling situation. Topics include sex roles, gender and socialization, and their impact on women's lives.

#### HSV 185 33000 OPEN DISCRIMINATION AND DIVERSITY

This course will address theoretical and historical perspectives on racism, sexism, and other forms of discrimination; applications to social work, culturally competent practice, change strategies, and intercultural communication strategies. Students will explore and process their own personal prejudices and biases in class. Students will learn skills to increase cultural competency and work effectively with persons from diverse backgrounds.

#### **HSV 220** 33000 OPEN INTRO TO COUNSELING THEORIES

Introduction to major counseling theories including psychoanalysis, gestalt, existential, family systems, reality therapy, behavioral therapy and personcentered therapy. Applications in mental health and social services settings are considered.

#### **HSV 228** 33000 OPEN **GROUP COUNSELING TECHNIQUES**

A study of group processes, functions and leadership and how this affects the work of the human services professional. This course focuses on developing knowledge and skills related to types of groups, stages of group development, facilitation appropriate to each type of group and stage, as well as knowledge and skills related to potential problem areas within groups that may face a human services professional.

#### HSV 230 33000 OPEN COMMUNITY ORGANIZATION

A study of various theories, methods and techniques to bring about needed and desirable changes in political, economic, social and bureaucratic structures and processes. Emphasis is placed upon application of learned skills.

Prerequisite: 6 hours of Social Sciences

#### HSV 255 3 3 0 0 0 OPEN ADDICTIVE DISEASE CONCEPTS

A historical and theoretical background to current concepts of addiction. A variety of addictive behaviors are examined with special focus on psychoactive drug dependency.

#### HSV 286 3 3 0 0 0 OPEN INTERVENTION THEORIES/PRAC I

Study of several management and planning theories and practices used to assess client needs, establish goals, identify resources and make appropriate referrals. Community resources are explored. Only offered Fall and Spring semesters.

Prerequisite: HSV 109, 130

#### HSV 288 3 3 0 0 0 OPEN INTERVENTION THEORIES/PRAC II

Theories and values of the social sciences, including human services, are used to interpret and respond to client behaviors. Written analysis is emphasized. Evaluation theory and its applications are also stressed. Only offered Spring and Summer semesters.

Prerequisite: HSV 130, HSV 286 (with minimum grade of C), Corequisite: HSV 802

#### HSV 802 3 0 0 0 13 OPEN INTERNSHIP

Supervised experience in a human services agency enables students to apply their skills and knowledge by working directly with clients. Offered Spring and Summer semesters only.

Prerequisite: HSV 130, HSV286, Corequisite: HSV288

#### HSV 811 3 0 0 0 12 OPEN PRACT: CHEM DEPEND COUNSEL I

Supervised experience in three of these treatment programs for chemically dependent people: inpatient, outpatient, follow-up care, halfway house and family therapy.

Prerequisite: Acceptance at an approved practicum site

#### HSV 812 3 0 0 0 12 OPEN PRACT: CHEM DEPEND COUNSEL II

Supervised experience in one of these treatment programs for chemically dependent people: inpatient, outpatient, residential, adolescent dual diagnosis or family services.

Prerequisite: Acceptance at an approved practicum site

#### HUM 116 3 3 0 0 0 ENCOUNTERS IN HUMANITIES

An interdisciplinary course exploring the human condition through literature, painting, sculpture, architecture, music and dance. The course examines the cultural context of individual works and movements, the thematic relationships between the arts and the relevance of the arts in our lives today.

#### HUM 120 3 2 2 0 0 INTRODUCTION TO FILM

An introduction to the conventions, scope, purposes and techniques of films. Includes viewing and writing about a variety of films.

# HUM 1213 2 2 0 0COREAMERICA IN THE MOVIES

An interdisciplinary course that combines the insights of history and literature by examining popular American movies. The course explores the social, cultural and ethical questions raised in such films.

#### HUM 249 3 2 2 0 0 GENERAL STUDYABROAD: BRITLIFE & CULTURE

This course is a survey of British life and culture, limited to students in the London Study Abroad program. Taught by various professional guest lecturers, this course examines various aspects of the social fabric, including some of the main institutions, the geographic and political context and the arts. Students will compare and contrast conditions and lifestyles of different time periods while undertaking related visits in London and throughout Britain. Course assignments, determined by the DMACC faculty member, will focus on major humanities themes and ideas as expressed in art and culture. Students may not receive credit for both HUM 249 and HIS 249.

# IND 124 2 2 0 0 0 VOC/TECH CONTROL SYSTEMS OVERVIEW

An overview of control systems in an industrial environment, including hydraulic, pneumatic and electrical/electronic systems. Topics include valves, actuators, motor starters, relays, timers and programmable controllers.

### IND 144 4 3 2 0 0 VOC/TECH PUMP OVERHAUL AND REPAIR

Overview of internal parts, principles of operation and maintenance of positive displacement and centrifugal pumps.

#### IND 146 3 2 2 0 0 VOC/TECH MECH POWER TRANSMISSION I

A course in fundamental mechanical power transmission used in manufacturing. Topics covered include the inspection, maintenance and repair of chain and belt-driven equipment. This will include the sizing of belts and pulleys, determining speed ratios and the importance of proper sizing for process control.

### IND 147 4 3 2 0 0 VOC/TECH MECHANICAL POWER TRANS II

A fundamental course in the principles of mechanical power transmission. Topics include the use of gears to effect speed changes, the identification and use of bearings, clutches, couplings and brakes.

Prerequisite: IND 146

CORE

#### CORE INF 110 3 3 0 0 0 VOC/TECH FUNDAMENTAL INFORMATICS

Students explore the core principles of informatics and will gain a strong understanding of the changing role of today's informatics professional through current examples and informatics references. No matter what their major, students can use the principles learned in this course to function more effectively as workers, managers, decision-makers and organizational leaders applying today's technology.

### INF 130 3 3 0 0 0 VOC/TECH SOCIAL INFORMATICS

Introduction to key social research perspectives and literatures on the use of information and communication technologies. Topics include ethics, relevant legal frameworks and popular and controversial uses of technology. Outlines research methodologies for social informatics.

## INF 220 3 3 0 0 0 VOC/TECH HUMAN-COMPUTER INTERACTION

The analysis of human factors and the design of computer application interfaces. A survey of current Human Computer Interaction designs with an eye toward what future technologies will allow. The course will emphasize learning HCI based on understanding implementation and testing of interfaces.

Prerequisites: INF 110 and CIS 125

# INF 230 3 3 0 0 0 VOC/TECH ORGANIZATION INFORMATICS

Examines the various needs, uses and consequences of information in organizational contexts. Topics include organizational types and characteristics, functional areas and business processes, informationbased products and services, the use of and redefining the role of information technology, the changing character of work life and organizational practices, sociotechnical structures and the rise and transformation of global information-based industries. Prerequisite: INF 110 and INF 130

#### INF 310 3 3 0 0 0 VOC/TECH INFORMATICS SECURITY

This course will enable students to evaluate and conceptualize an area of specialization to consider the topics from their perspective of security. Vulnerabilities that combine standard hardware and software configurations will be examined because they illuminate both security and computer networks. Operating systems and file systems are examined from the perspective of access control, permissions and availability of system services.

Prerequisite: INF 110

# INF 320 3 3 0 0 0 VOC/TECH LEGAL INFORMATICS ISSUES

This course examines that set of ethical and legal problems most tightly bound to the issues of information control. The interaction and technology changes, but the core issues have remained: privacy, intellectual property, Internet law, concepts of jurisdiction, speech anonymity versus accountability and ethical decision-making in the network environment.

Prerequisites: INF 110 and INF 130

### INT 124 3 3 0 0 0 VOC/TECH INTERIOR DESIGN ANALYSIS

Emphasizes the acquisition of knowledge and experience needed to create pleasing and effective interior design. Focus will be on space planning, furniture styles, color schemes, wall coverings and floor and window treatments. Also includes exploration of the interior design profession and related career areas.

#### INT 125 3 3 0 0 0 VOC/TECH INTERIOR DESIGN PLANNING

Focuses on the development of interior design plans and the execution of these plans. Builds upon knowledge acquired in Interior Design Analysis through analyzing client needs and creating design boards and presentations to meet those needs. Prerequisite: INT 124

#### ITR 101 3 3 0 0 0 OPEN INTRO INTERPRET & TRANSLATION

A general introduction to the field of oral language interpreting and translation (I/T), 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.

#### ITR 102 3 3 0 0 0 OPEN TOOLS INTERPRET & TRANSLATE

In-depth training in the research and technological tools that interpreters and translators use in their field. Extensive use of monolingual and bilingual dictionaries and thesauri. Features of Microsoft Word and Excel for language work and glossary development. Internet tools for vocabulary research and enrichment. Interpretation equipment. Digital recorders for modified consecutive interpretation. Introduction to TRADOS translation memory program. Corequisite: ITR 101 or permission of instructor

#### ITR 103 3 3 0 0 0 OPEN FUNDAMENTALS OF INTERPRETATION

Study and practice of the basic theory and techniques of language interpretation, applied to general topics of current events. The modes of interpretation: sight translation, consecutive interpretation, simultaneous. Introduction to lexicography and vocabulary development. Prerequisite: ITR 101 and ITR 102 or instructor permission

#### ITR 104 3 3 0 0 0 OPEN FUNDAMENTALS OF TRANSLATION

Study and practice of the basic theory and techniques of language translation applied to general topics of current events. Translation as product, translation as process, cultural problems in translation, denotative vs. connotative meanings, formal properties of texts, language variety and glossary development.

Prerequisites: ITR 101 and a functional proficiency in English and a second language or instructor permission

#### ITR 109 3 3 0 0 0 INTERP/TRANS ETHICS I

Introduction to basic professional ethics as applied to interpretation and translation, including exploration of prior attitudes, frameworks for intellectual and ethical maturity, conflict resolution, core values, ethical decision-making and business practices. Case studies are used to develop a sense of professional ethics.

Prerequisite: Complete three required ITR courses with a minimum grade of "C."

#### ITR 120 1 1 0 0 0 OPEN ETHICS FOR THE INTERP/TRANS

This course provides an introduction to basic interpreter and translator ethics, including accuracy, representation of qualifications, avoidance of conflicts of interest, professional demeanor, confidentiality, maintaining a proper role, competency, reporting ethical violations, professional development, disputes with clients, collegiality and contracts. Model scenarios are used for developing and applying ethical judgments.

Prerequisite: Minimum of "C" in all ITR courses and complete minimum of three ITR courses

### ITR 209 3 3 0 0 0 OPEN INTERP/TRANS ETHICS II

In-depth analysis and application of interpreter and translator codes of ethics including accuracy, representation of qualifications, avoidance of conflicts of interest, professional demeanor, confidentiality, maintaining a proper role, competency, reporting ethical violations, professional development, disciplinary procedures and cultural advocacy. Model scenarios are used for developing and applying ethical judgments. Prerequisite: ITR 109

#### ITR 211 3 3 0 0 0 OPEN BUSINESS SEMESTER & SIGHT TRANS

Identification of the origins of business terminology. Advanced sight translation training focusing on business documents. Lexicographical training in locating, understanding and using common terminology in business contexts. Intensive practice in sight translating selected business documents: applications, business correspondence, resumes and contracts.

Prerequisite: Complete the ITR required courses with a minimum grade of "C" in each course, Prerequisite or, Corequisite: BUS 102 or instructor permission

### ITR 213 3 3 0 0 0 OPEN BUSINESS INTERPRETATION I

Theory and practice of consecutive interpretation as applied to common business situations. Advanced consecutive interpretation skills-building: listening/ prediction, analysis, note-taking, recall, positioning, situational control and interpreting. Intensive practice in consecutive interpretation in the following business situations: interviews, small group activities, lectures and negotiations.

Corequisite: ITR 211

#### OPEN ITR 214 3 3 0 0 0 OPEN BUSINESS INTERPRETATION II

Theory and practice of simultaneous interpretation as applied to business conference interpretation. Advanced simultaneous interpretation skills-building: listening/prediction, shadowing and decalage, notetaking, positioning, situational control, equipment use and interpreting. Intensive practice in simultaneous conference interpretation in the following business areas: finance, agriculture, insurance and biotechnology.

Prerequisite: ITR 213 or instructor permission

#### ITR 217 3 3 0 0 0 OPEN BUSINESS TRANSLATION

Advanced written translation training focusing on business documents. Advanced lexicographical training in business terminology. Intensive practice in translating the following types of business documents: correspondence, financial statements, web pages and promotional materials.

Prerequisite: ITR 211 or instructor permission

### ITR 231 3 3 0 0 0 OPEN EDUCATION SEMESTER & SIGHT TRANS

Identification of the origins of education terminology. Advanced sight translation training focusing on education documents. Lexicographical training in locating, understanding and using common education terminology in K-12 school contexts. Intensive practice in sight translating selected education documents: enrollment intake forms, notes and letters between school personnel and parents, grade/conference reports and student transcripts and Individual Education Plans (IEPs).

Prerequisite: Complete the ITR required courses with a minimum grade of "C" in each course, Prerequisite or, Corequisite: EDU 213 or instructor permission

#### ITR 233 3 3 0 0 0 OPEN EDUCATION INTERPRETATION I

Theory and practice of consecutive interpretation as applied to common education situations. Advanced consecutive interpretation skills-building: listening/ prediction, analysis, note-taking, recall, positioning, situational control and interpreting. Intensive practice in consecutive interpretation in the following education situations: parent-teacher conferences, informational sessions, IEP meetings and disciplinary interventions. Corequisite: ITR 231

OPEN

#### ITR 234 3 3 0 0 0 EDUCATION INTERPRETATION II

Theory and practice of simultaneous interpretation as applied to education interpretation. Advanced simultaneous interpretation skills-building: listening/ prediction, shadowing and decalage, note-taking, positioning, situational control, equipment use and interpreting. Intensive practice in simultaneous conference interpretation in the following education areas: curriculum and instruction, educational leadership and counseling, educational psychology and special education.

Prerequisite: ITR 233 or instructor permission

OPFN

#### ITR 237 3 3 0 0 0 EDUCATION TRANSLATION

Advanced written translation training focusing on education documents. Advanced lexicographical training in education terminology. Intensive practice in translating the following types of education documents: letters to parents, forms, school web pages and individual education plans (IEPs).

Prerequisite: ITR 231 or instructor permission

#### ITR 251 3 3 0 0 0 OPEN HUM SERV SEMESTER & SIGHT TRANS

Identification of the origins of human services terminology. Advanced sight translation training focusing on human/social services documents. Lexicographical training in locating, understanding and using common human services terminology in social services contexts. Intensive practice in sight-translating selected human services documents: applications/financial affidavits, release of information forms, informational materials and notice of decision letters.

Prerequisite: Complete the ITR required courses with a minimum grade of "C" in each course, Prerequisite or, Corequisite: HSV 109 or instructor permission

#### ITR 253 3 3 0 0 0 OPEN HUM SERV INTERPRETATION I

Theory and practice of consecutive interpretation as applied to common human service situations. Advanced consecutive interpretation skills-building: listening/prediction, analysis, note-taking, recall, positioning, situational control and interpreting. Intensive practice in consecutive interpretation in the following human services situations: intake interviews, informational sessions, therapy sessions and interventions.

Corequisite: ITR 251

#### ITR 254 3 3 0 0 0 OPEN HUM SERV INTERPRETATION II

Theory and practice of simultaneous interpretation as applied to human services interpreting. Advanced simultaneous interpretation skills-building: listening/ prediction, shadowing and decalage, note-taking, positioning, situational control, equipment use and interpreting. Intensive practice in simultaneous interpretation situations (informational meetings, family team meetings, group therapy sessions and administrative hearings) in the following human services areas: Title XIX and related programs, child abuse interventions, substance abuse treatment and workforce development.

Prerequisite: ITR 253 or instructor permission

#### ITR 257 3 3 0 0 0 OPEN HUM SERV TRANSLATION

Advanced written translation training focusing on human services documents. Advanced lexicographical training in human services terminology. Intensive practice in translating the following types of human services documents: correspondence to clients, forms, agency web pages and family team plans.

#### ITR 271 3 3 0 0 0 OPEN HEALTHCARE SEMESTER & SIGHT TRANS

Identification of the origins of healthcare terminology. Advanced sight translation training focusing on healthcare documents. Lexicographical training in locating, understanding and using frequently used legal terminology in healthcare environments. Intensive practice in sight translating the following types of healthcare documents: consents for treatment, advanced directives, beneficiary notifications and instructions for taking medication.

Prerequisite: Complete the ITR required courses with a minimum grade of "C" in each course, Prerequisite or, Corequisite: BIO 156 or instructor permission

#### ITR 273 3 3 0 0 0 OPEN HEALTHCARE INTERPRETATION I

Theory and practice of consecutive interpretation as applied to common healthcare situations. Advanced consecutive interpretation skills-building: listening/prediction, analysis, note-taking, recall, positioning, situational control and interpreting. Intensive practice in consecutive interpretation in the following healthcare situations: admitting interviews, well-baby visits, informational sessions and standard doctor visits.

Corequisite: ITR 271

#### ITR 274 3 3 0 0 0 OPEN HEALTHCARE INTERPRETATION II

Theory and practice of simultaneous interpretation as applied to healthcare. Advanced simultaneous interpretation skills-building: listening/prediction, shadowing and decalage, note-taking, positioning, situational control, equipment use and interpreting. Intensive practice in simultaneous interpretation situations (informational meetings, emergency room interventions, operating room procedures, mental health consultations/interventions) in the following healthcare areas: infectious disease prevention/ control, cardiovascular events, labor/childbirth and mental health.

Prerequisite: ITR 273 or instructor permission

#### ITR 277 3 3 0 0 0 OPEN HEALTHCARE TRANSLATION

Advanced written translation training focusing on healthcare documents. Advanced lexicographical training in healthcare terminology. Intensive practice in translating the following types of healthcare documents: discharge information, degrees and diplomas, living wills and patient educational materials.

Prerequisite: ITR 271 or instructor permission

#### ITR 291 3 3 0 0 0 OPEN JUDICIARY SEMESTER & SIGHT TRANS

Identification of the origins of judiciary terminology. Advanced sight translation training focusing on court/ law enforcement documents. Lexicographical training in locating, understanding and using frequently used legal terminology in judicial proceedings. Intensive practice in sight translating the following types of judicial documents: trial information and indictments, waivers of detention hearings, plea agreements and presentencing reports.

Prerequisite: Complete the ITR required courses with a minimum grade of "C" in each course, Prerequisite or, Corequisite: CRJ 130 or instructor permission

### ITR 293 3 3 0 0 0 OPEN JUDICIARY INTERPRETATION I

Theory and practice of consecutive interpretation as applied to common judiciary situations. Advanced consecutive interpretation skills-building: listening/ prediction, analysis, note-taking, recall, positioning, situational control and interpreting. Intensive practice in consecutive interpretation in the following judiciary situations: attorney-client interviews, proffer interviews, depositions and witness testimony. Corequisite: ITR 291

#### ITR 294 3 3 0 0 0 OPEN JUDICIARY INTERPRETATION II

Theory and practice of simultaneous interpretation as applied to judiciary interpretation. Advanced simultaneous interpretation skills-building: listening/ prediction, shadowing and decalage, note-taking, positioning, situational control, equipment use and interpreting. Intensive practice in simultaneous interpretation situations in the following judiciary areas: initial appearances, bail/detention hearings, change of plea hearings and sentencing hearings. Prerequisite: ITR 293 or instructor permission

#### ITR 297 3 3 0 0 0 OPEN JUDICIARY TRANSLATION

Advanced written translation training focusing on judiciary documents. Advanced lexicographical training in judiciary terminology. Intensive practice in translating the following types of judiciary documents: birth certificates, degrees and diplomas, plea agreements and wills.

Prerequisite or, Corequisite: ITR 291 or instructor permission

#### ITR 811 3 2 0 3 0 BUSINESS I/T INTERNSHIP

OPEN

Application of the knowledge, skills and attitudes gained in the classroom by interning under qualified/ certified interpreters and translators in a variety of business environments. Interns develop professional resumes, cover letters and portfolios. After securing an internship position, interns will shadow their mentors and then move into actual translation/translation assignments in appropriate monitored situations.

(P/F) Prerequisite: Minimum of "C" in all ITR courses, Corequisite: ITR 209

Prerequisite: ITR 251 or instructor permission

OPFN

#### ITR 831 3 2 0 3 0 EDUCATION I/T INTERNSHIP

Application of the knowledge, skills and attitudes gained in the classroom by interning under qualified/certified interpreters and translators in a variety of education environments. Interns develop professional resumes, cover letters and portfolios. After securing an internship position, interns will shadow their mentors and then move into actual translation/translation assignments in appropriate monitored situations.

(P/F) Prerequisite: Minimum of "C" in all ITR courses, Corequisite: ITR 209

#### ITR 851 3 2 0 3 0 OPEN HUM SERV I/T INTERNSHIP

Application of the knowledge, skills and attitudes gained in the classroom by interning under qualified/ certified interpreters and translators in a variety of human services environments. Interns develop professional resumes, cover letters and portfolios. After securing an internship position, interns will shadow their mentors and then move into actual translation/translation assignments in appropriate monitored situations.

(P/F) Prerequisite: Minimum of "C" in all ITR courses, Corequisite: ITR 209  $\,$ 

#### ITR 871 3 2 0 3 0 OPEN HEALTHCARE I/T INTERNSHIP

Application of the knowledge, skills and attitudes gained in the classroom by interning under qualified/ certified interpreters and translators in a variety of healthcare environments. Interns develop professional resumes, cover letters and portfolios. After securing an internship position, interns will shadow their mentor and then move into actual translation/translation assignments in appropriate monitored situations.

(P/F) Prerequisite: Minimum of "C" in all ITR courses, Corequisite: ITR 209

#### ITR 891 3 2 0 3 0 OPEN JUDICIARY I/T INTERNSHIP

Application of the knowledge, skills and attitudes gained in the classroom by interning under qualified/ certified interpreters and translators in a variety of judiciary environments. Interns develop professional resumes, cover letters and portfolios. After securing an internship position, interns will shadow their mentors and then move into actual translation/translation assignments in appropriate monitored situations.

(P/F) Prerequisite: Minimum of "C" in all ITR courses, Corequisite: ITR 209

#### ITR 910 3 3 0 0 0 EMPHASIS SEMINAR

A survey of specialized fields of judiciary interpretation/translation, healthcare interpretation/ translation, human services interpretation/ translation, educational interpretation/translation and business translation/interpretation. Introduction to typical texts and interpreting situations in each specialty area. Students must take this course before enrolling in a specialty emphasis plan.

Corequisite: ITR 111 or ITR 115, bilingual or instructor permission

#### JOU 110 3 3 0 0 0 OPEN INTRO TO MASS MEDIA

An introduction to mass communication in a global marketplace. Emphasizes print and electronic media, advertising and public relations, ethics and new technology.

#### JOU 121 3 3 0 0 0 OPEN BASIC REPORTING PRINCIPLES

Designed to provide students with experiences in gathering, organizing and writing news stories.

### JOU 125 3 1 4 0 0 OPEN NEWSPAPER PRODUCTION

Special work in journalism. Students will produce a DMACC newspaper on one of the campuses and will gain experience in writing, copyediting, layout and design. May be repeated for three additional semesters.

#### JOU 163 3 3 0 0 0 OPEN ADVANCED REPORTING: POLITICS

Designed to provide experience in producing news stories on political candidates, campaigns and elections. The role of the news media in American electoral strategy and outcomes and the relationship between reporters and public officials will be examined. Emphasis is placed on the most recent general election and its coverage.

OPEN

Prerequisite: JOU 110, Corequisite: POL 127

#### JOU 165 3 3 0 0 0 PRINCIPLES OF ADVERTISING

Course explores advertising as a tool and socioeconomic force.

LIT 101	33000	CORE
INTRO TO	LITERATURE	

Introduction to the study and appreciation of poetry, fiction and drama. Basic critical approaches are emphasized, and a broad range of authors from a variety of cultural and ethnic groups and a wide span of historical periods is presented.

#### LIT 105 3 3 0 0 0 GENERAL CHILDREN'S LITERATURE

Study historical and sociocultural contexts surrounding children's literature, examine current trends and issues in the field, analyze and evaluate children's literature, and develop an awareness and appreciation for the variety of literature available.

#### OPEN LIT 110 3 3 0 0 0 CORE AMER LITERATURE TO MID 1800S

In-depth study of works of selected major writers (including Native American) particularly from Puritan times to 1865. Basic critical approaches are emphasized.

#### LIT 111 3 3 0 0 0 CORE AMER LITERATURE SINCE MID-1800s

Examines American literature from the mid-1800s through contemporary America. Emphasizes major literary works and their social and cultural contexts.

#### LIT 130 3 3 0 0 0 CORE AFRICAN-AMERICAN LITERATURE

Introduction to the study and appreciation of literature written by African-American writers. A broad range of Black American authors will be presented.

#### LIT 142 3 3 0 0 0 CORE MAJOR BRITISH WRITERS

Introduction to the study and appreciation of major British writers particularly from the post-Renaissance through the contemporary period. Basic critical approaches are emphasized.

#### LIT 166 3 3 0 0 0 CORE SCIENCE FICTION

A survey of speculative fiction from Frankenstein to 21st-century literature. Examines major influential works in their literary, social and cultural contexts. Critical analysis is emphasized.

#### LIT 180 3 3 0 0 0 GENERAL MYTHOLOGY

An introduction to world mythology. The course explores Classical, Nordic, Eastern, African and American/British myths.

#### LIT 185 3 3 0 0 0 CORE CONTEMPORARY LITERATURE

Introduction to the study and appreciation of significant contemporary writers and literary movements since 1945. The relationship of current literature to society and basic critical approaches are emphasized.

#### LIT 188 3 3 0 0 0 CORE DETECTIVE FICTION

Introduction to the study and appreciation of detective fiction. A literary investigation of the components of detective fiction and basic critical approaches are emphasized.

#### LIT 190 3 3 0 0 0 CORE WOMEN WRITERS

Introduction to the study and appreciation of literature written by women. Examines major influential works from a variety of historical, social and cultural contexts. Critical analysis is emphasized.

#### LIT 193 3 3 0 0 0 CORE HUMOR IN LITERATURE

Introduction to the study and appreciation of humor as literary genre. An investigation of origins, types, techniques and purposes of humor and basic critical approaches are emphasized.

#### MAP 110 2 1 2 0 0 VOC/TECH MEDICAL OFFICE MANAGEMENT I

Course emphasizes administrative responsibilities. Students will use critical thinking skills to incorporate cognitive knowledge in the performance of psychomotor and affective domains including written communications, records management, mail regulations, patient accounts, bookkeeping, banking and payroll. In addition, this course includes computer skills in word processing, medical reports and business correspondence; professional applications of e-mail and internet research, introduction to computerized medical office and HIPAA requirements.

#### MAP 118 4 3 2 0 0 VOC/TECH MEDICAL OFFICE MANAGEMENT II

Study of health insurance, HMOs, Workers' Compensation, Medicare, Tricare and Medicaid. Students will use critical thinking skills to incorporate cognitive knowledge in the performance of psychomotor and affective domains including insurance filing, CPT, ICD and HCPCS coding, posting of charges/payments both manually and with computer applications, telephone techniques, fax machine, appointment scheduling and chart audits. Students keep financial records and utilize both EMR and traditional charts to manage patient records. Psychomotor skills include inventory control, purchasing, quality control, quality improvement and management of facility, equipment and supplies. Students utilize policy, procedure and safety manuals.

Prerequisite: Grade of "C" or better in MAP 110

#### MAP 129 1 0 2 0 0 VOC/TECH MEDICAL TERMINOLOGY

Basic prefixes, suffixes and root words related to all body systems are studied. Spelling, pronunciation and definitions are included.

#### MAP 141 3 3 0 0 0 VOC/TECH MEDICAL INSURANCE

This course provides a practical approach in medical insurance billing. Emphasis will be placed on current procedural codes (CPT-4) and international classification of diseases codes (ICD-9-CM) used to facilitate proper coding in submitting claims. Pertinent billing tips will be offered for each type of insurance.

Prerequisite: HSC 120 with a "C-" or better

#### MAP 150 3 2 2 0 0 VOC/TECH 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: MAP 141 with a grade of "C-" or better

#### MAP 225 4 3 2 0 0 MED LAB PROCEDURES I

Introduction to the medical laboratory. Students will use critical thinking skills to incorporate cognitive knowledge in the performance of psychomotor and affective domains during practice of giving patient instructions, obtaining specimens, following ethical guidelines, performing routine urinalysis, immunology testing, microbiologic testing and quality control procedures. Adhering to standard precautions, disposing of biohazardous materials, performing routine maintenance of clinical equipment (microscope and centrifuge) and using methods of quality control are also covered. Includes study of OSHA, CLIA, MSDS sheets, warning labels, the metric system and laboratory personnel. Corequisite: MAP 347

### MAP 228 3 2 2 0 0 VOC/TECH MED LAB PROCEDURES II

Students will use critical thinking skills to incorporate cognitive knowledge in the performance of psychomotor and affective domains during skill development in venipuncture, capillary puncture, hematology testing, blood chemistry analysis, EKG acquisition, patient education activities, compliance with OSHA, CLIA and quality control requirements including use and routine maintenance of standard laboratory equipment.

Prerequisite: Grade of "C" or better in MAP 225, Corequisite: MAP 348

#### MAP 250 2 2 0 0 0 VOC/TECH DIAGNOSTIC RADIOGRAPHY I

Course includes radiological principles and encourages the use of critical thinking skills to incorporate cognitive knowledge in the performance of psychomotor and affective domains during practice in the areas of film evaluation, processing techniques, positioning of patients and radiation protection of patients and workers. Introduction to digital radiography concepts. This course with MAP 252 meets the requirements for students to take the State of Iowa exam to become a "Limited Diagnostic Radiographer" in the areas of chest and extremities. Prerequisite: MAP 225

#### MAP 252 2 2 0 0 0 VOC/TECH DIAGNOSTIC RADIOGRAPHY II

Continuation of Diagnostic Radiography I. Course emphasizes the use of critical thinking skills to incorporate cognitive knowledge in the performance of taking patient films under direct supervision in the physician's office. Includes evaluation of films exposed by the student. Incorporates state-approved component on pediatric radiography.

Prerequisite: Grade of "C" of better in MAP 250, Corequisite: MAP 624

#### VOC/TECH MAP 347 3 2 2 0 0 VOC/TECH MEDICAL OFFICE PROCEDURES I

Introduction to medical office clinical skills. Students will use critical thinking skills to incorporate cognitive knowledge in the performance of psychomotor and affective domains during practice of patient communication, obtaining vitals, measurements, vision, hearing, pulmonary function testing, patient preparation, assisting physician, patient histories, documentation, medical and surgical asepsis, sterilization techniques, minor surgical procedures, compliance: OSHA, HIPAA and ADA. Patient education will include wellness, stress reduction, preventive medicine and treatment compliance with instructions according to patient needs. Corequisite: MAP 225

#### MAP 348 3 2 2 0 0 VOC/TECH MEDICAL OFFICE PROCEDURES II

Students will use critical thinking skills to incorporate cognitive knowledge in the performance of psychomotor and affective domains during practice of giving patient instructions according to their needs, including instruction for health maintenance and disease prevention, patient education, preparing and maintaining treatment areas, assisting with minor surgical procedures, wound care, hemoccult testing, Holter monitor, scheduling procedures, using insurance referral information, administering oral and parenteral (excluding IV) medications and vaccines. Procedures for emergency preparedness.

Prerequisite: Grade "C" or better in MAP 347, Corequisite: MAP 228

#### MAP 423 3 3 0 0 0 VOC/TECH PROFESSIONAL DEVELOPMENT

General competencies including professional behavior, responsibilities of the certified medical assistant in identifying and responding to issues of confidentiality as governed by HIPAA, serving as a patient advocate, performing within legal and ethical boundaries and demonstrating knowledge of federal and state healthcare regulations. Students will incorporate critical thinking skills based on knowledge of medical specialties, basic first aid principles, medical law and ethics. Competencies include the ability to recognize and respond to verbal and nonverbal communication and to respect individual diversity.

#### MAP 532 3 3 0 0 0 VOC/TECH HUMAN BODY-HEALTH & DISEASE

Designed to provide specialized knowledge of the human body relating to disease processes and possible methods of treatment. Drug terminology is added, as well as basic knowledge of symbols and abbreviations.

Prerequisite: HSC 120 with a "C-" or better

#### MAP 544 4 4 0 0 0 VOC/TECH HUMAN BODY-HEALTH & DISEASE I

Students will incorporate critical thinking skills based on knowledge of course competencies to identify human anatomy and physiology, including the interrelationship of organ systems and homeostasis in the healthy body. Also covered will be common pathology, diagnostic aids and treatment options, including pharmacology related to each body system. Study of the interaction that occurs between systems and changes to the structure and function that occur across the life span as well as patient education procedures. Safety procedures will be reviewed with each unit. Internet research will be used for a variety of health topics. Units studied are structural organization, disease process and integumentary, skeletal, muscular, blood and circulatory. Remaining systems studied in MAP 554.

#### MAP 554 4 4 0 0 0 VOC/TECH HUMAN BODY-HEALTH & DISEASE II

Students will incorporate critical thinking skills based on knowledge of course competencies to identify human anatomy and physiology, including the interrelationship of organ systems and homeostasis in the healthy body. Also covered will be common pathology, diagnostic aids and treatment options, including pharmacology related to each body system. Study of the interaction that occurs between systems and changes to the structure and function that occur across the life span as well as patient education procedures. Safety procedures will be reviewed with each unit. Internet research will be used for a variety of health topics. Units studied: lymphatic, respiratory, digestive, nutrition, nervous, sensory, endocrine, urinary, reproductive, common childhood diseases and end-of-life care.

Prerequisite: Grade of "C" or better in MAP 544

#### MAP 603 11000 VOC/TECH EMPLOYMENT SEMINAR

Students identify job opportunities, update resumes, compose cover letters and complete paper and online employment applications. Mock interviewing, guest speakers and application processes assist students in securing employment. Mandatory reporter training is also included.

Corequisite: MAP 624

## MAP 606 1 0 2 0 0 VOC/TECH PROFESSIONAL DEVELOPMENT III

Course provides an opportunity for students to discuss situations that arise in the practicum experience. Weekly time sheets and activity reports are reviewed by the practicum coordinator to ensure that the student has adequate opportunity to utilize cognitive knowledge in the application of psychomotor and affective skills while working in all areas of the clinic. Oral reports are given by the students to incorporate critical thinking skills. Students are made aware of a wide variety of community services available to patients.

Corequisite: MAP 624

#### MAP 624 5 0 0 0 21 PRACTICUM

This course provides the student a supervised practicum in an ambulatory healthcare setting. A minimum of 280 hours is obtained. Onsite supervision is provided by an individual who has knowledge of the medical assistant profession. Students will not receive compensation/payment, monetary or otherwise, from the practicum site. The practicum experience allows the student to demonstrate critical thinking by incorporating cognitive knowledge in the performance of psychomotor and affective domain skills in the administrative, clinical and laboratory areas.

VOC/TECH

Prerequisite: Satisfactory completion of all courses in first two semesters, Corequisite: MAP 252

# MAP 803 3 0 0 0 12 VOC/TECH INTERNSHIP-MEDICAL OFFICE SPEC

This course includes 180 hours of experience in an approved medical facility plus a weekly onehour seminar class. Emphasis is on the technical, interpersonal and team skills required to be successful in the medical office environment.

(P/F) Prerequisites: HSC 121 with a "C-" or better and MAP 532 with a "C-" or better and MTR 121 with a "C-" or better and ADM 215 with a "C-" or better

### MAT 034 3 3 0 0 0 COLL PREP ARITHMETIC

A review of the fundamental operations of arithmetic, including addition, subtraction, multiplication and division of whole numbers, decimals and fractions. This is a college preparatory course designed for those students who need to review and improve their knowledge of the fundamentals of mathematics. College preparatory courses cannot be used to fulfill degree requirements.

#### MAT 053 4 4 0 0 0 COLL PREP PRE-ALGEBRA

A review of arithmetic and an introduction to algebra. This is a college preparatory course designed to strengthen arithmetic skills and introduce basic concepts of algebra in preparation for MAT 063. College preparatory courses cannot be used to fulfill degree requirements.

#### MAT 063 4 4 0 0 0 COLL PREP ELEMENTARY ALGEBRA

A beginning algebra course covering most elementary topics of algebra. This includes the real number system, solving equations and inequalities, polynomials, fractional equations and radical expressions. This is a college prep course designed for students with no algebra background or for students who need review. College preparatory courses cannot be used to fulfill degree requirements.

#### MAT 073 4 4 0 0 0 COLL PREP ELEMENTARY ALGEBRA II

A review of elementary algebra along with new topics, including exponents and radicals, functions and graphs, quadratic equations, inequalities and systems of equations. This course cannot be used to fulfill degree requirements.

Prerequisite: One year H.S. algebra, department permission or MAT 063

#### MAT 093 11000 COLL PREP MATH STUDY SKILLS

Provides students with the study techniques necessary for successful completion of their college preparatory or college credit math courses. It also addresses feelings and attitudes that might block math learning and offers strategies and techniques designed to overcome these feelings. College preparatory courses cannot be used to fulfill degree requirements.

#### MAT 110 3 3 0 0 0 CORE MATH FOR LIBERAL ARTS

The student will begin to think critically by studying logic, sets and statistical reasoning. The student will examine problem-solving and decision-making by studying probability, application of statistical data, modeling, and financial mathematics. The student will become aware of possible abuses of mathematics. Finally, the student will understand the broad usefulness of mathematics by studying history of mathematics and application of mathematics in art, music, business and/or politics.

Prerequisite: One year of H.S. algebra or MAT 063

#### MAT 114 3 2 2 0 0 CORE ELEMENTARY EDUCATORS MATH I

This is the first of two courses focusing on math concepts taught in K–6. Topics will be covered from both a practical and theoretical standpoint, with an emphasis on practical understanding using concrete examples. Course content includes problem-solving, systems of whole numbers, numeration, algorithms for computation, topics from number theory, and topics from geometry including measurement, polygons, polyhedra, congruence and transformations. This course is for students in education fields and is not appropriate for students majoring in other areas. This is not a methods course.

Prerequisite: Two years of H.S. algebra or MAT 073 or department permission

#### MAT 116 3 2 2 0 0 CORE ELEMENTARY EDUCATORS MATH II

This course is a continuation of MAT 114. Course content includes basic 2D and 3D geometry and measurement, elementary probability, data analysis and statistics, operations and algorithms for computing with fractions, decimals, percents and integers.

Prerequisite: MAT 114 with a grade of "C-" or better

#### MAT 121 4 4 0 0 0 GENERAL COLLEGE ALGEBRA

This course provides an intensified study of algebraic techniques and prepares students for future study in mathematics. The central theme of this course is the concept of a function and its graph. Topics include functions, exponents, logarithms, systems of equations, matrices, polynomials, conic sections and probability.

Prerequisite: Two years of H.S. algebra or MAT 073

#### MAT 129 5 5 0 0 0 CORE PRECALCULUS

Polynomial and rational functions, exponential and logarithmic functions, trigonometric functions, analytic trigonometry, vectors, complex numbers, elementary theory of equations, linear systems, matrices and analytic geometry.

Prerequisite: MAT 130 or equivalent or department permission

#### MAT 130 3 3 0 0 0 CORE TRIGONOMETRY

Circular functions and their inverses, trigonometric identities, trigonometric equations, solving triangles and graphing.

Prerequisite: Two years H.S. algebra, department permission or MAT 073

#### MAT 141 4 4 0 0 0 CORE FINITE MATH

A general education course in practical mathematics for those students not majoring in mathematics or science. This course will include such topics as set operations and applications, methods of counting, probability, systems of linear equations, matrices, geometric linear programming and an introduction to Markov chains.

Prerequisite: One year H.S. algebra or MAT 063

#### MAT 148 4 4 0 0 0 GENERAL LINEAR ALGEBRA W/APPLICATIONS

A study of the use and application of matrices in the solution of systems of linear equations, determinants, vector spaces, linear transformations, eigenvalues, eigenvectors, bases and projections. Linear algebra is a core course in many engineering, physics, mathematics and computer science programs. This course makes heavy use of computing technology. Graphing calculators required.

Prerequisite: MAT 211 or equivalent

#### MAT 157 4 4 0 0 0 CORE STATISTICS

Tabular and graphical presentation, measures of central tendency and variability, standard elementary procedures involving the binomial, normal, student's T, chi-square and F distributions, correlation, regression, analysis of variance and several nonparametric procedures. Students will not receive credit for both MAT 157 and BUS 211.

Prerequisite: Two years H.S. algebra, department permission or MAT 073

#### MAT 160 2 2 0 0 0 STATISTICAL BUSINESS APPL.

This is the second course in the statistics sequence. Course content includes application and interpretation of probability and statistics as applied to business situations by using sampling, confidence intervals, control charges, simple linear regression analysis, multiple regression analysis, correlation analysis, data analysis, time series analysis, hypothesis testing and computer analysis. Prerequisite: BUS 211 or MAT 157

#### MAT 162 4 3 2 0 0 CORE PRIN. OF BUSINESS STATISTICS

Make inferences about population parameters. Conduct regression inferential analyses. Obtain, present and organize statistical data using measures of location and dispersion; the Normal distribution; sampling distributions; estimation and confidence intervals; inference for simple linear regression analysis. Use computers to visualize and analyze data. Prerequisite: MAT 141 or MAT 157 or equivalent

### MAT 166 4 4 0 0 0 CORE CALCULUS FOR BUSN/SOCIAL SCI

Functions, graphs, differential calculus, integral calculus, introduction to max-min theory for functions of two variables. Emphasis on application of calculus to business problems. Not a substitute for MAT 211 and MAT 217.

Prerequisite: Two years H.S. algebra and MAT 141; or MAT 073 and MAT 141  $\,$ 

#### MAT 211 5 5 0 0 0 CORE CALCULUS I

Absolute values, inequalities, functions, limits, continuity, differentiation, definite integral, exponential and logarithmic functions.

Prerequisite: MAT 129 or Equivalent or department permission

#### MAT 217 5 5 0 0 0 CORE CALCULUS II

Continuation of Calculus I. Topics include applications of integration, integration techniques, L'Hopital's rule, improper integrals, infinite sequences, series, Taylor and Maclaurin series, the calculus of plane curves, parametric equations and polar equations.

Prerequisite: MAT 211

#### MAT 219 4 4 0 0 0 CORE CALCULUS III

Continuation of Calculus II. Topics include vectors and vector-valued functions, tangent and normal vectors, arc length and curvature, vector fields, line and surface integrals, Green's theorem, the divergence theorem and Stokes's theorem, multi-variable functions, partial derivatives, directional derivatives and gradients, optimization of multi-variable functions.

Prerequisite: MAT 217 or equivalent

#### OPEN MAT 227 4 4 0 0 0 CORE DIFF EQUATIONS WITH LAPLACE

Ordinary differential equations, systems of ordinary differential equations, Laplace transforms, numerical methods and applications.

Prerequisite: MAT 217 or equivalent must be taken concurrently or prior to this course

#### MAT 772 3 3 0 0 0 VOC/TECH APPLIED MATH

A course in elementary mathematical skills for technicians. Topics covered include fundamental operations with whole numbers, fractions, decimals and signed numbers; percents; geometric figures and basic constructions; area and volume formulas; English/Metric systems; measurements; and the interpretation of graphs and charts.

#### MAT 773 3 3 0 0 0 VOC/TECH APPLIED MATH II

A course in algebra and trigonometry for technicians. Topics covered include polynomials, equations, systems of linear equations, factoring, quadratic equations, trigonometry, powers, roots and logarithms. Prerequisite: MAT 772 or instructor permission

#### MFG 105 3 2 2 0 0 VOC/TECH MACHINE SHOP MEASURING

A study of measurements as used in industry. Units of instruction include tools, gauges, comparators, gauge blocks and inspection practices.

#### MFG 121 2 0 4 0 0 VOC/TECH MACHINE TRADE PRINTREADING I

A beginning and Intermediate blueprint reading course covering basic visualization of shapes and sizes and freehand sketching of objects. Includes section lining, print alterations and projections.

#### MFG 132 3 1 4 0 0 VOC/TECH MACHINE TRADE PRINTREADING II

An advanced blueprint reading course involving study of industrial metal work drawings as they apply to planning and laying out of jigs and fixtures. Prerequisite: MFG 121

## MFG 140 1 1 0 0 0 VOC/TECH GEOMETRIC DIMENSION/TOLERANCE

A basic course explaining the GD & T system and the symbols used within it.

#### MFG 152 1 1 0 0 0 VOC/TECH REL WELD BLUEPRINT—MFG TECH

Basic skills will be developed in reading welding blueprints with emphasis on welding symbols.

#### MFG 171 2 0 4 0 0 VOC/TECH MANUFACTURING WELDING I

Basic skills will be developed in welding beads and buildup surfacing in the flat position, welding with oxy-acetylene equipment, and an introduction to GMAC welding.

#### MFG 172 3 0 6 0 0 VOC/TECH RELATED WELDING—INDUST MAINT

A related welding course for industrial maintenance technicians. Topics include the theory and operation of welding equipment, related safety issues, metallurgy and related properties.

#### MFG 200 3 3 0 0 0 VOC/TECH INTRO TO SAFETY SCIENCE

This course will cover the introduction to safety in business and industry. It will familiarize students with terminology and economics, along with the socials, environmental, ethical and regulatory pressures of today. Overview of physical safety, protection and chemical, biological and mechanical hazards.

#### MFG 250 11000 VOC/TECH ENGINE LATHE THEORY

An introductory-level course explaining the theory of the basic operation and care of an engine lathe. Corequisite: MFG 251

#### MFG 251 2 0 4 0 0 VOC/TECH ENGINE LATHE OPERATIONS LAB

An introductory-level course for the metal-cutting lathe. During this course, students will become familiar with the basic setups, as well as safe operation and care of a lathe in a lab environment. Prerequisite: MFG 250

#### MFG 252 2 2 0 0 0 VOC/TECH ENGINE LATHE THEORY II

An advanced level course explaining complex setups and procedures for lathes.

Prerequisite: MFG 250, Corequisite: MFG 253

#### MFG 253 3 0 6 0 0 VOC/TECH ENGINE LATHE OPERATIONS LAB II

An advanced course for the metal-cutting lathe. During this course, students will become familiar with advanced setups as well as the safe operation and care of a lathe.

Prerequisite: MFG 251, Corequisite: MFG 252

#### MFG 260 11000 VOC/TECH MILL OPERATIONS THEORY

An introductory-level course explaining the theory of the basic operation and care of vertical milling machines. Prerequisite: MFG 261

#### MFG 261 2 0 4 0 0 VOC/TECH MILLING OPERATIONS LAB

An introductory-level course for the vertical mill. During this course, students will become familiar with basic setups as well as the safe operation and care of a milling machine in a lab environment. Corequisite: MFG 260

#### MFG 270 11000 VOC/TECH GRINDERS THEORY

Theoretical explanation of procedures in surface grinding.

#### Corequisite: MFG 271

#### MFG 271 3 0 6 0 0 VOC/TECH GRINDERS LAB

During this course, students will become familiar with basic setups as well as the safe operation and care of a surface grinder in a lab environment. Corequisite: MEG 270

#### MFG 273 2 2 0 0 0 VOC/TECH MILL OPERATIONS II

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 the safe operation and care of milling machines.

Prerequisite: MFG 260, Corequisite: MFG 274

### MFG 274 3 0 6 0 0 VOC/TECH MILL OPERATIONS LAB II

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 the safe operation and care of milling machines.

Prerequisite: MFG 261, Corequisite: MFG 273

### MFG 276 1 0 2 0 0 VOC/TECH HAND & BENCH MACHINE TOOLS

Machine shop procedures including shop safety, hand tools, layout and tool grinding. Operations on drill presses, pedestal grinders and sawing machines.

## MFG 290 11000 VOC/TECH HEAT TREATMENTS

An introduction to the physical and mechanical characteristics of metals directly associated with the area of heat treatment. Includes structure and composition of metals, testing, hardening, tempering and annealing.

### MFG 330 11000 VOC/TECH CNC MILL OPERATIONS THEORY

An introductory-level course explaining the theory behind the basic operation and programming of a CNC vertical machining center.

Corequisite: MFG 331

## MFG 331 21200 VOC/TECH CNC MILL OPERATIONS LAB

An introductory-level course for programming and operating a CNC milling center in a lab environment. Corequisite: MFG 330

#### MFG 340 1 0 2 0 0 VOC/TECH BASIC LATHE OPERATION

Course covers setup and operation of the metal lathe, including lathe parts, materials and safety procedures.

## MFG 341 1 0 2 0 0 VOC/TECH VERTICAL MILL OPERATION

Vertical mill operation is explained and reinforced with practical experience using vertical milling machines.

#### MFG 350 11000 VOC/TECH CNC LATHE OPERATIONS THEORY

An introductory-level course explaining the theory behind the basic operation and programming of a CNC lathe.

Corequisite: MFG 351

## MFG 351 2 1 2 0 0 VOC/TECH CNC LATHE OPERATIONS LAB

An introductory-level course for programming and operating a CNC lathe in a lab environment. Corequisite: MFG 350

#### MFG 381 3 2 2 0 0 VOC/TECH EDM FUNDAMENTALS

Operation of both conventional and wire EDM machines. Construction of EDM electrodes.

#### MFG 402 4 4 0 0 0 VOC/TECH BASIC DIEMAKING THEORY

Introduction to diemaking principles covering die sets, die components, cutting and forming applications and material utilization. Experienced individuals may contact instructor to gain admittance to this course.

Prerequisite: MFG 270, 271, 350, 351, 330, 331, Corequisite: MFG 403

#### MFG 403 6 0 12 0 0 VOC/TECH BASIC DIEMAKING LAB

Introducing the student to basic diemaking procedures as they construct a blank die, piercing die and a forming die.

Required: MFG 270, 271, 350, 351, 330, 331, Corequisite: MFG 402

### MFG 411 3 1 4 0 0 VOC/TECH PROGRESSIVE DIE DESIGN

Hands-on drafting experience in the design, drawing and detailing of a progressive die using computeraided design (CAD).

Prerequisite: CAD 184, Corequisite: MFG 412

#### MFG 412 4 4 0 0 0 VOC/TECH ADVANCED DIEMAKING THEORY

Complex diemaking procedures, including CAMactuated dies and exposure to cost estimating and quoting.

Prerequisite: MFG 402

#### MFG 413 6 0 12 0 0 VOC/TECH ADVANCED DIEMAKING LAB

Constructing a more complex stamping die, including a progressive die that has been partially designed and detailed by the student.

Prerequisite: MFG 403, Corequisite: MFG 412

#### MFG 452 3 2 2 0 0 VOC/TECH MOLDMAKING

The student is presented with the basic fundamentals of plastic mold construction and molding processes. Experienced individuals may contact instructor to gain admittance to this course.

Prerequisite: MFG 402 & MFG 403

#### MFG 502 3 3 0 0 0 VOC/TECH INTRO STATISTICAL PROCESS CNTL

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.

## MFG 510 3 3 0 0 0 VOC/TECH PRACTICES-CONTINUOUS IMPROVE

Provide understanding of the theories, methods and concepts of continuous improvement. Includes detailed, in-depth study of the current theories and practices used in business and provides the student with the knowledge to implement these techniques. Prerequisite: MFG 507

#### MFG 512 3 3 0 0 0 VOC/TECH INTRO QUALITY CONTROL MGMT.

This course provides the student with an in-depth knowledge of the skills, tools and management techniques unique to supervising and managing a quality function within an organization.

Prerequisite: MFG 502, 510

#### MFG 521 11000 VOC/TECH MEASURING DEVICES—SPC

An introduction to quality-control measuring devices, their use and application of data in Statistical Process Control.

#### MFG 522 3 3 0 0 0 VOC/TECH APPL OF STATISTICAL METHODS

An in-depth study in applying the concepts of MFG 502. Additional areas of concentration include sampling plan theory, FMEA study, alpha and beta calculations, reliability, values and applying these concepts in case studies.

Prerequisite: MFG 502

### MFG 523 2 2 0 0 0 VOC/TECH CONTROLLING MFG BUSINESS COSTS

The purpose of this course is to provide an understanding of the principles and concepts of production and work costs, the cost impact of shop floor activities and the various contributions company employees have on costs and profitability. Emphasis is placed on the effect an individual has on costs on a day-to-day basis.

#### MFG 524 3 3 0 0 0 VOC/TECH PM & DIAGNOSING MECH/ELEC SYS

Provide understanding in the concepts and methods of preventive maintenance. Includes the development of a maintenance and documentation system. Provide fundamental troubleshooting methods and concepts.

#### MFG 818 5 0 0 0 20 VOC/TECH IMT INTERNSHIP

Supervised work experience with employer based upon an individual training plan that enables student to apply skills and knowledge.

Prerequisite: Successful completion of courses in semesters 1, 2 and 3 of the Integrated Manufacturing Technology program

#### MFG 932 4 0 0 0 16 VOC/TECH INTERNSHIP

Students enrolled in this course will work in a manufacturing facility as a machinist. Emphasis will be on the integration of academic skills with practical work experience.

Prerequisite: Complete semesters 1 and 2 and instructor permission

# MGT 101 3 3 0 0 0 GENERAL PRINCIPLES OF MANAGEMENT

Explore basic management principles, concepts and practices in the areas of planning, organizing, leading and controlling. Paradigm shifts include motivation, leadership, group dynamics, job design, organizational structure, decision-making, social responsibility and global competition.

#### MGT 115 3 3 0 0 0 OPEN ADMINISTRATIVE MANAGEMENT

Introduces concepts of office management aimed at increasing efficiency and productivity in operation of the office. Areas covered include planning and organizing, leadership and human relations and controlling office operations.

#### MGT 128 3 3 0 0 0 VOC/TECH ORGANIZATIONAL BEHAVIOR

This course introduces the basic concepts, methodologies and techniques used in the field of organizational development. Topics covered include: fundamental concepts, leadership, organizational environment, social environment, group process and operating activities.

#### MGT 130 3 3 0 0 0 OPEN PRINCIPLES OF SUPERVISION

A unique view of organizational structure, the managerial function and the role of the supervisor as it relates to the human relationship between supervisors, peers, subordinates and the practice of sound personnel techniques.

### MGT 145 3 3 0 0 0 OPEN HUMAN RELATIONS IN BUSINESS

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, verbal and nonverbal communication and defensiveness.

#### MGT 147 3 3 0 0 0 VOC/TECH LEADERSHIP DEVELOPMENT

The central focus of this course is the development of leadership ability. The course provides a basic understanding of leadership and group dynamics theory, assists participants in developing a personal philosophy of leadership and an awareness of one's own ability and style of leadership.

#### MGT 164 3 3 0 0 0 VOC/TECH TOTAL QUALITY MANAGEMENT

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.

#### MGT 170 3 3 0 0 0 VOC/TECH HUMAN RESOURCE MANAGEMENT

This course studies the role of human resource management as it applies to the challenges, problems, techniques, opportunities, ethical considerations and social dynamics in organizations. Emphasis on human resource activities of both managers and human resource specialists.

## MGT 194 2 2 0 0 0 VOC/TECH RELATIONSHIP STRATEGIES IN BUS

Includes the awareness of communication styles and how to manage successful interpersonal and organizational relationships.

# MGT 248 3 3 0 0 0 VOC/TECH SYSTEMS & INFORMATION MGMT.

An introduction of managing information for decision-making. Planning what information to obtain, sources and methods of collecting information; interpreting and analyzing; presenting and using information for decisions.

#### MGT 800 4 0 0 0 16 VOC/TECH BUSINESS INTERNSHIP I

One semester of successful on-the-job training with a cooperating employer. Emphasis must be specific to career goals. Work experience focus includes marketing, advertising, management, fashion, visual merchandising, selling, interior design or human resource management as determined by the program of study.

(P/F), Corequisite: MGT 802

#### MGT 802 21200 VOC/TECH BUS. INTERNSHIP SEMINAR I

Field experience problems will be discussed, new occupational information will be presented and business people will speak on the functions, institutions and products found in the field of sales promotion.

Corequisite: MGT 800

#### MGT 805 4 0 0 0 16 VOC/TECH BUSINESS INTERNSHIP II

Sales promotion training of the level prescribed in the individual training plan. Exposure will be given to merchandising techniques. The training will be scheduled in an approved cooperating training station. Supervision of the training plan will be made by an instructor/coordinator.

(P/F), Corequisite: MGT 807

#### MGT 807 11000 VOC/TECH BUS. INTERNSHIP SEMINAR II

Students are exposed to areas of sales promotion through guest speakers, visual aids and discussion of business.

Corequisite: MGT 805

### MKT 110 3 3 0 0 0 GENERAL PRINCIPLES OF MARKETING

Marketing effectively and efficiently results in better customer loyalty, higher share of customers, relief from margin erosion, and higher customer satisfaction. Explore strategies used to get, keep and grow customers. Theoretical concepts blend with real-world applications in the areas of planning, decision-making, consumer behavior, ethics, product, price, distribution, promotion, service and international marketing.

#### MKT 115 3 3 0 0 0 OPEN BUSINESS-TO-BUSINESS MARKETING

Presents functional methods of business-to-business marketing. Examines all forms of wholesaler service and manufacturer-type marketing activities

#### MKT 120 3 3 0 0 0 VOC/TECH E-MARKETING

Study of the Internet as a marketing tool. Investigation of the relevant issues and uses of Web-based marketing including influence on such traditional market mix topics as product, place, price and promotion. Focus will be on the use of technology rather than the technology itself.

MKT 140	33000	OPEN
SELLING		

Emphasizes the "consultative style" of personal selling. Covers the importance of establishing good relationships, finding prospect needs, providing a solution to these needs, and closing a high percentage of sales interviews.

#### MKT 141 3 3 0 0 0 VOC/TECH ADVANCED SELLING STRATEGIES

Explores strategies related to working effectively with high-level decision-makers. Focuses on the individual adding value to the transaction to become the supplier of choice. Examines sales automation in depth.

Prerequisite: MKT 140

#### MKT 145 3 3 0 0 0 OPEN SALES MANAGEMENT

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.

#### MKT 150 3 3 0 0 0 OPEN PRINCIPLES OF ADVERTISING

The area of promotional communication is studied to achieve an understanding of the marketplace, the various advertising media and the development of an effective promotional message.

#### MKT 160 3 3 0 0 0 VOC/TECH PRINCIPLES OF RETAILING

Course examines development of retailing, organization of retail institutions, the merchandise handling process, understanding the retail customer, and future directions in retailing.

### MKT 165 3 3 0 0 0 VOC/TECH RETAIL MANAGEMENT II

A problem-solving approach to the operating principles and methods in the retail field. Management decision-making is emphasized. Prerequisite: MKT 160

#### MKT 182 3 3 0 0 0 VOC/TECH CUSTOMER RELATIONSHIP MGMT

Customer Relationship Management provides an overview of a business process used by more than half of all retail organizations. This course outlines the steps in the process, the technology and marketing components included, and the fundamental benefits to a business with an effective CRM program. Prerequisite: MKT 160

#### MKT 184 3 3 0 0 0 VOC/TECH CUSTOMER SERVICE

Designed to make students aware of the value and reliance that a company places on its Customer Service Representatives. Emphasis is placed on developing skills that enable students to effectively work with external as well as internal customers. Self-management techniques are also included to enhance the retention of a positive attitude in the workplace.

# MKT 199 3 3 0 0 0 VOC/TECH SPORTS/ENTERTAINMENT MKTG.

Exploration of the essentials of effective sports/ entertainment marketing. Topics include application of the marketing principles in the sports/ entertainment area, licensing issues, sponsorships and endorsements, stadium and arena marketing, broadcasting and media considerations, public policy and the unique challenges for sports/entertainment, specific products (concerts, special events, concessions, football, basketball, baseball, motor sports, etc.).

#### MLT 115 3 2 2 0 0 OPEN CLINICAL LAB FUNDAMENTALS

A course designed to acquaint the student with the field of laboratory medicine. Basic lab math, testing methods and quality control are presented. This course also incorporates an introduction to blood collection and the study of common blood cells and blood cell disorders.

Prerequisite: Acceptance into the Medical Laboratory Technology program

#### MLT 120 3 2 2 0 0 OPEN URINALYSIS

This course includes the study of urine formation and the methodology of determining the physical, chemical and microscopic properties of urine in normal and abnormal states. Basic lab skills, safety and quality control in urinalysis are presented.

Prerequisite: Acceptance into the Medical Laboratory Technology program

#### MLT 180 1 0 0 0 4 OPEN CLINICAL LAB PRACTICUM I

Students report to a local hospital to join the phlebotomy team to practice patient approach and to draw blood specimens. Prerequisite: MLT 115

#### MLT 232 5 3 4 0 0 OPEN ADV. HEMATOLOGY & COAGULATION

A review of basic procedures followed by a study of normal and abnormal blood and bone marrow smears as they relate to anemias and leukemias. Hematology instrumentation, quality control, coagulation and body fluid analysis are studied. This course includes an indepth study of various anemias, leukemias and other hematological and coagulation disorders.

Prerequisite: Grade of "C" or higher in both MLT 115 and MLT 120  $\,$ 

#### MLT 242 8 6 4 0 0 OPEN CLINICAL CHEMISTRY

Study and analysis of electrolytes, proteins, lipids, enzymes, hormones, drugs and various other biochemical compounds found in the human body. Test results are correlated with patients' conditions. Laboratory math, statistics and quality control are presented.

Prerequisite: Grade of "C" or better in MLT 1151 and MLT 120. Successful completion of the following courses: BIO 164 or equivalent; CHM 122 or equivalent and CHM 132 or equivalent

#### MLT 251 6 4 4 0 0 OPEN CLINICAL MICROBIOLOGY

A study of clinically important microorganisms. Students learn and practice techniques used to isolate and identify pathogenic bacteria, parasites and fungi.

Prerequisite: Grade of "C" or higher in MLT 115 and MLT 120. Successful completion of the following courses: BIO 164 or equivalent; BIO 732 or equivalent; CHM 122 or equivalent and CHM 132 or equivalent

#### MLT 261 5 3 4 0 0 OPEN IMMUNOHEMATOLOGY

Principles of immunohematology with the practices of blood banking are presented. ABO grouping, Rh typing and transfusion testing procedures are performed. Blood group antigens and antibodies are studied.

Prerequisite: Grade of "C" or better in MLT 232; MLT 270 must be taken prior to or concurrently and Serology must be taken prior to or concurrently with MLT 261. Successful completion of the following courses: BIO 164 or equivalent; BIO 732 or equivalent; CHM 132 or equivalent

198 DES MOINES AREA COMMUNITY COLLEGE CATALOG 2011-2012

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#### MLT 270 2 1 2 0 0 IMMUNOLOGY & SEROLOGY

Immune reactions of the body will be studied. Reactions between antigen and antibodies will be used as a means to detect diseases such as hepatitis, infectious mononucleosis and rheumatoid arthritis.

Prerequisite: Grade of "C" or higher in MLT 232

#### MLT 282 12 0 0 0 48 OPEN CLINICAL LAB PRACTICUM II

Students rotate through the various departments (Hematology, Chemistry, Microbiology, Blood Bank and Urinalysis) of the hospital laboratory, applying knowledge and skills learned in the classroom.

Prerequisite: Completion of first 4 semesters of MLT program with a GPA of 2.0 or higher, Corequisite: MLT 290

#### MLT 290 2 2 0 0 0 OPEN CLINICAL SEMINAR AND REVIEW

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 semesters in the Med Lab Tech program with a GPA of 2.0 or higher, Corequisite: MLT 282

#### MLW 440 3 2 2 0 0 VOC/TECH BLUEPRINT READING AND LAYOUT

An introduction to blueprint reading and layout and the application of this knowledge with the use of specific tools.

#### MLW 441 3 2 2 0 0 VOC/TECH MATERIAL IDENTIFICATION/USAGE

An introduction to the materials used in making architectural millwork products.

#### MLW 442 3 2 2 0 0 VOC/TECH INTRODUCTION TO PORTABLE TOOLS

An introduction to the safe use and proper care and selection of power tools.

## MLW 443 4 2 4 0 0 VOC/TECH STATIONARY EQUIPMENT

The purpose of this course is to train the student in the identification, operation and maintenance of stationary equipment.

#### MLW 444 3 2 2 0 0 VOC/TECH ADVANCED EQUIPMENT TECHNIQUES

This course gives the student the opportunity to become proficient on the following equipment and associated software: CNC router operation and programming; Point-to-Point Machine Center operation and programming; Molder operation including template making, setup and maintenance; Beam saw programming, operation and maintenance; Edgebander operation programming and maintenance.

Prerequisite: MLW 440, 441, 442 and 443

#### MLW 445 3 2 2 0 0 VOC/TECH MILLIMETER CABINET TECH

This course is an introduction to the rationale of cabinet-making and millwork. Prerequisite: MLW 440, 441, 442, 443

### MLW 446 4 2 4 0 0 VOC/TECH MILLWORK TECHNIQUES

An introduction to the initial steps of applying various millwork techniques to projects. Prerequisite: MLW 440, 441, 442, 443

### MLW 447 3 2 2 0 0 VOC/TECH INTRODUCTION TO APPLICATION

This course will allow students to begin combining their knowledge of the previous courses in Architectural Millwork to produce mock-up projects.

Prerequisite: MLW 440, 441, 442, 443

#### MLW 448 51800 VOC/TECH ADV MILLWORK APPLICATION I

This course will combine the skills learned from the previous courses to begin producing completed projects.

Prerequisite: MLW 444, 445, 446, 447

#### MLW 449 51800 VOC/TECH ADV MILLWORK APPLICATION II

This course will combine the student's previous courses to produce a completed project from beginning to installation.

Prerequisite: MLW 448

#### MOR 215 3 3 0 0 0 VOC/TECH FUNERAL LAW I

A survey of the basic principles of business law as they relate to funeral service. Especially stressed are the bodies of law and the judicial system found in the United States including contracts, sales, bailment (including carriers), commercial paper, agency, employment and business organization.

Prerequisite: Admission to the Mortuary Science or Pre-Mortuary Science program

### MOR 300 21200 VOC/TECH INTRODUCTION: FUNERAL SERVICE

Students will trace the history of funeral service from ancient times with an emphasis on the development of funeral practices in the United States, including current practices in funeral service and contemporary issues affecting funeral service.

Prerequisite: Admission to the Mortuary Science program.

#### MOR 310 3 3 0 0 0 VOC/TECH PATHOLOGY FOR MORTUARY SCIENCE

Students will be introduced to the study of the cause, course and effects of diseases upon the human body, with emphasis 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

#### MOR 315 3 3 0 0 0 VOC/TECH FUNERAL LAW II

Deals with the statutory laws and practices pertaining to funeral services. The student will study the laws that govern the funeral director, the embalmer and their legal responsibilities to the consumer.

Prerequisite: Admission to the Mortuary Science program

### MOR 320 3 3 0 0 0 VOC/TECH THANATOLOGY

Designed to acquaint the student with an overview of psychology in funeral service as applied to death, grief and mourning. Students will be taught specific counseling procedures used when counseling the bereaved family. Pre-need and after-care services will be explored.

Prerequisite: Admission to the Mortuary Science program

#### MOR 325 3 2 2 0 0 VOC/TECH FUNERAL DIRECTING

Surveys the principles related to funeral directing: customs, religious and nonreligious ceremonies, human relations, relations with clergy and the professional behavior required of funeral directors. In addition, this course will give the student an understanding of the principles of the operations of a funeral home, including funeral services forms and vital statistics.

Prerequisite: Admission to the Mortuary Science program.

#### MOR 330 3 3 0 0 0 VOC/TECH FUNERAL MERCHANDISING

This course is designed to give the student an understanding of the various products available through funeral homes and competing industries. Topics of study will include merchandising, casket, urn and vault construction.

Prerequisite: Admission to the Mortuary Science program

#### MOR 335 3 3 0 0 0 VOC/TECH EMBALMING I

Basic techniques of embalming through disinfection, preservation and restoration of deceased human remains. Included are instruments, treatment planning and the practical application of modern embalming theory.

Prerequisite: Admission to the Mortuary Science program and BIO 733 or BIO 164

#### MOR 336 1 0 2 0 0 VOC/TECH EMBALMING I CLINICAL

This course is a study of basic techniques of embalming through disinfection, preservation and restoration of deceased human remains. Included are instruments, treatment planning and the practical application of modern embalming theory.

Prerequisite: BIO 733 and Admission to the Mortuary Science program, Corequisite: MOR 335

#### MOR 340 3 3 0 0 0 VOC/TECH EMBALMING II

This course is a continuation of MOR 335. Theories and principles of embalming, embalming chemicals, cavity treatments and disaster management will be studied with an emphasis on application to specific cases.

Prerequisite: Admission to the Mortuary Science program and MOR 335

#### MOR 341 1 0 2 0 0 VOC/TECH EMBALMING II CLINICAL

This course is an advanced study of embalming techniques. Included in the study will be the embalming of difficult cases.

Prerequisite: MOR 335 and admission to the Mortuary Science program, Corequisite: MOR 340

#### MOR 345 3 3 0 0 0 VOC/TECH RESTORATIVE ART

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 and/or pathological conditions. Prerequisite: MOR 335 and admission to the

Mortuary Science program

#### MOR 346 1 0 2 0 0 VOC/TECH RESTORATIVE ART LAB

This course is designed to provide the student with the theories applied in restorative art procedures. The student will study the anatomical structure of the cranial and facial areas of the human skull, facial proportions and markings, methods and techniques used to restore facial features destroyed by traumatic or pathological conditions, and color and cosmetology theory.

Prerequisite: MOR 335, Corequisite: MOR 345

## MOR 350 21200 VOC/TECH FUNERAL HOME OPERATIONS

This course is designed to give the student an understanding of the principles of funeral home operations. Topics of study will include funeral services 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 the small business 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 that are part of the day-to-day operations of a funeral home.

Prerequisite: Admission to the Mortuary Science program, Corequisite: MOR 325

#### MOR 360 2 2 0 0 0 THANATOCHEMISTRY

This course is a survey of the basic principles of disinfection 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 precautions related to the potentially harmful chemicals currently used in the field of funeral services.

Prerequisite: Admission to the Mortuary Science program or instructor permission, Corequisite: MOR 335

### MOR 365 2 2 0 0 0 VOC/TECH SURVEY OF INFECTIOUS DISEASES

This course provides a survey of infectious disease processes, nonspecific and specific defense mechanisms, and principles of infection control and epidemiology. Safe handling of infectious materials and personal protective equipment are emphasized. Prerequisite: Admission to the Mortuary Science program

## MOR 390 2 2 0 0 0 VOC/TECH PROFESSIONAL REVIEW

Students will study the professional standards and ethics to which funeral directors adhere. Students will also be exposed to test taking strategies for the National Board Exam and discover the licensure process for funeral directors.

Prerequisite: Completion of all Mortuary Science courses, required general education courses, business core courses and consent of program chair, Corequisite: MOR 941

## MOR 941 4 0 0 12 0 VOC/TECH PRACTICUM

Students will be assigned to a college-approved funeral home to learn procedures and policies 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 the program chairperson, Corequisite: MOR 390

#### MTR 120 3 2 2 0 0 VOC/TECH MEDICAL TRANSCRIPTION I

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: ADM 157 with a "C-" or better, Corequisite: HSC 120 and BCA 133

#### MTR 121 3 2 2 0 0 VOC/TECH MEDICAL TRANSCRIPTION II

This course is a continuation of Medical Transcription I. Prerequisite: MTR 120 with a grade of "C-" or better

#### VOC/TECH MTR 122 3 2 2 0 0 VOC/TECH MEDICAL TRANSCRIPTION III

A continuation of Medical Transcription II. Concentrates on transcription of case histories and physicals, discharge summaries and operative reports with a variety of dictating styles.

Prerequisite: MTR 121 with a "C-" or better

#### MUA 101 1 0 2 0 0 GENERAL APPLIED VOICE

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 4 credits.

#### MUA 120 1 0 2 0 0 GENERAL APPLIED PIANO I

Individual instruction in piano. Weekly half-hour lessons. Beginning, Intermediate and advanced students accepted. May be repeated for a maximum of 4 credits.

#### MUA 121 2 1 2 0 0 GENERAL APPLIED PIANO

This course is especially for the beginner in piano. Students will be introduced to the fundamentals of piano playing, including beginning note reading for the keyboard, technical development, and appropriate repertoire.

#### MUA 147 1 0 2 0 0 GENERAL APPLIED INSTRUMENTAL

Individual instruction in all instruments. Weekly half-hour lessons. May be repeated for a maximum of 4 credits.

#### MUS 100 3 3 0 0 0 CORE MUSIC APPRECIATION

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.

#### MUS 102 3 3 0 0 0 CORE MUSIC FUNDAMENTALS

This course introduces students to the elements of music through performance on recorder and piano. Includes instruction in teaching the elements of music to preschool and elementary school children.

#### MUS 106 4 3 2 0 0 GENERAL MATERIALS OF MUSIC I

All aspects of music theory will be introduced and explored with the experienced music student. Activities will include ear training, sight singing, keyboard training and written theory assignments.

#### MUS 107 4 3 2 0 0 GENERAL MATERIALS OF MUSIC II

As a sequel to Materials of Music I, this course will examine music theory in greater complexity and will emphasize the harmonic aspects of music. Activities will include ear training, sight singing, keyboard skills and written theory assignments.

Prerequisite: MUS 106

#### MUS 143 2 1 2 0 0 GENERAL CONCERT CHOIR

The concert choir is open to all students. Varied literature is chosen. May be repeated for a maximum of 8 credits.

#### MUS 150 1 0 2 0 0 GENERAL CHAMBER ENSEMBLE

This course is open to any DMACC student by audition with the conductor. The Chamber Ensemble (Choir) performs music that represents a variety of musical styles; the music is generally more difficult than the music Concert Choir performs, so prior choral experience is most helpful. Performances serve as the midsemester and final exams. There is no limit on the number of times a student may register for this course. However, only four semesters of credit for this course may be used as elective credit toward a DMACC degree.

Prerequisite: Audition with the conductor

#### MUS 202 3 3 0 0 0 CORE WORLD MUSIC

This course is a survey of musical styles from countries whose music is primarily based on concepts that are not part of the Western culture music tradition. The list of cultures whose music will be studied includes, but is not limited to African, Chinese, Japanese, Indian, cultures from the Near East, and indigenous cultures from the Americas.

#### NET 123 4 2 4 0 0 VOC/TECH COMPUTER HARDWARE BASICS

This 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 hardware. It is recommended that the student have a basic understanding of computers, their use and operation.

#### NET 124 3 3 0 0 0 VOC/TECH MICROPROCESSOR INTERFACING

A study of microprocessor/microcomputer interface methods. It includes parallel interfacing using the 8255 PPI and serial interfacing using UART and USARTs. Digital-to-Analog and Analog-to-Digital converters are also examined.

Prerequisite: ELT 611, 612, Corequisite: NET 125

#### NET 125 4 0 8 0 0 VOC/TECH MICROPROCESSOR INTERFACING LAB

An evaluation of microprocessor interface techniques. The experiments include parallel devices such as 8255 Programmable Peripheral Interface chip, UART and USART serial devices, D/A and A/D converters.

Prerequisite: ELT 611, 612, Corequisite: NET 124

#### NET 126 2 2 0 0 0 VOC/TECH NETWORKING TECH-MAINFRAME

To provide a technical level of understanding in the areas of mainframe networking connectivity, data communication concepts and protocol communication concepts.

#### NET 127 2 2 0 0 0 VOC/TECH SERVICE & SUPPORT

Provides technical level of competence installing network interface cards, replacing hard drives, installing communications software and hardware and troubleshooting 3.X and 4.X systems. Prerequisite: NET 488

#### NET 128 4 4 0 0 0 VOC/TECH NETWORK COMPATIBILITY PRODUCTS

Concepts of the software and hardware used to link various computers and operating systems. Prerequisite: NET 443, 444, Corequisite: NET 129

#### NET 129 2 0 4 0 0 VOC/TECH NETWORK COMPATIBILITY PROD LAB

Course covers installing and configuring compatibility software and hardware. Use of software to share data between dissimilar system types.

Prerequisite: NET 443, 444, Corequisite: NET 128

### NET 139 4 3 2 0 0 VOC/TECH MICROSOFT DESKTOP OPERATE SYS

This course covers the current Microsoft curriculum for the Microsoft Windows desktop operating system. For detailed information, contact the Advanced Technology Center or www.dmacc.edu (ITNA program).

### NET 144 3 2 2 0 0 VOC/TECH DIGITAL & COMPUTER ELECTRONICS

In the context of today's computer technology, this class studies digital electronic circuits concentrating on gates, counters, registers and memory. Also included is the study of data communications by bus structure, parallel and serial ports and microprocessors. Corequisite: NET 145

#### NET 145 3 0 6 0 0 VOC/TECH DIGITAL & COMPUTER ELECT. LAB

In the context of today's computer technology, this class continues the study of digital electronic circuits, concentrating on gates, counters, registers and memory through hands-on lab experiments. Also included are lab tasks involving data communications by bus structure, parallel and serial ports and microprocessors.

Corequisite: NET 144

#### NET 213 4 2 4 0 0 VOC/TECH CISCO NETWORKING

This course provides the student with a technical level of understanding in the areas of PC and mainframe networking connectivity, data communications and protocol communication.

#### NET 223 4 2 4 0 0 VOC/TECH CISCO ROUTERS

This course includes network standards, LANs, WANs, OSI models, routers, router programming, Ethernet and IP Protocol addressing and decisionmaking and problem-solving techniques. Prerequisite: NET 213

#### NET 233 4 2 4 0 0 VOC/TECH CISCO SWITCHES

CISCO training includes learning the basics of setting up, configuring and maintaining a switch, bridge and router. Additional areas cover layer 1, 2 & 3 network designs, IP addressing scheme, VLANS, IPX compatibility, access lists, TCS and TBC design. Prerequisite: NET 223

# NET 2434 2 4 0 0VOC/TECHCISCO WIDE AREA NETWORKS (WAN)

CISCO training involves WAN design, point-topoint protocol, ISDN, frame relay and network management. Part of this course is involved with extensive review of semester one through semester four material in preparation for the CCNA. Prerequisite: NET 233

#### NET 324 4 3 2 0 0 VOC/TECH WINDOWS NETWORK MANAGEMENT

This course is designed to meet the requirements of MCSE test #70-218. It covers the basic, entry-level Windows networking materials and skills. Prerequisite: NET 123

#### NET 333 3 3 0 0 0 VOC/TECH IMP WINDOWS NETWORK INFRAS

This course concentrates on the specifics of network infrastructure administration, including setting up, maintaining and administering the network. The content is geared toward preparation for the associated Microsoft certification test.

Prerequisite: NET 223, 623, 628

## NET 343 3 2 2 0 0 VOC/TECH WINDOWS DIRECTORY SERVICE

This course concentrates on the specifics of active directory administration. Course includes setting up, maintaining and administering the active directory services of current Windows server products. Prerequisite: NET 223, 623, 628

#### NET 365 3 3 0 0 0 VOC/TECH DESIGN MS ACTIVE DIR & NETWORK

This course covers the current curriculum for designing MS active directory services and network infrastructure.

Prerequisite: NET 333, 343, 664

#### NET 376 3 3 0 0 0 VOC/TECH DESIGNING SECURITY FOR MS NET

Provides knowledge and skills to design a secure network infrastructure, to design security policies and the operations framework. Topics include assembling the design team, modeling threats, analyzing security risks in order to meet business requirements for securing computers in a networked environment, designing an acceptable use policy, designing policies for managing networks, and designing an operations framework for managing security.

Prerequisite: NET 333, 343, 664

### NET 4023 2 2 0 0VOC/TECHLINUX NETWORK ADMINISTRATION

This is the first in a series of ITNA Linux courses. This course covers the basic installation and administration of the Linux operating system. For more information, contact the program chairperson of the ITNA Department.

Prerequisite: NET 623 or instructor permission

#### NET 412 3 2 2 0 0 VOC/TECH LINUX SYSTEM ADMINISTRATION

This is the second in a series of ITNA Linux courses. This course covers administration of the Linux operating system. For further information, contact the program chairperson of the ITNA Department. Prerequisite: NET 402 or instructor permission

### NET 422 3 2 2 0 0 VOC/TECH LINUX SYSTEM PROGRAMMING

This is the third in a series of ITNA Linux courses. This course covers system programming for the Linux operating system. The final project for the course will be creating your own Packet Sniffer/ Intrusion Detection System/Firewall. For more information, contact the program chairperson of the ITNA Department.

Prerequisite: NET 412 or instructor permission

#### NET 432 3 2 2 0 0 VOC/TECH LINUX SYSTEM SECURITY

This is the first in a series of ITNA Security courses. This course details how to protect your network from malicious users and how to choose and configure a Firewall for Microsoft Windows, Novell, Linux and Cisco. For further information, contact the program chairperson of the ITNA Department.

Prerequisite: NET 623 or instructor permission

## NET 434 3 2 2 0 0 VOC/TECH LINUX SYSTEMS & CERTIFICATION

This course provides the student with a thorough study into various Linux/Unix systems available, the advantages and disadvantages, installation techniques and management functions. A significant amount of time will be spent loading, operating and contrasting the various operating systems.

Prerequisite: NET 402, 412, 432

#### NET 435 3 2 2 0 0 VOC/TECH LINUX PROGRAMMING FOR ADMIN

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.

Prereguisite: NET 422

### NET 436 3 2 2 0 0 VOC/TECH LINUX NETWORK PROGRAMMING

The purpose of this class is to familiarize the student with the functions and program skills to successfully support Linux in a network environment. The course will include a major project of programming and installing a successful Linux network service.

Prerequisite: NET 435

#### NET 443 2 2 0 0 0 VOC/TECH UNIX OPERATING SYSTEM

Concepts of the UNIX operating system commands. Use of shells, shell scripts, facilities and management commands. Corequisite: NET 444

## NET 444 1 0 2 0 0 VOC/TECH UNIX OPERATING SYSTEM LAB

Course includes working with UNIX commands. Students will work with shells, write shell scripts, run facilities and work with management commands. Corequisite: NET 443

### NET 484 4 3 2 0 0 VOC/TECH NETPLUS CERTIFICATION

This course is a comprehensive study for learning, mastering and practicing the concepts required to pass the CompTIA Net+ Certification Exam. The student will have a significant amount of reading and studying as well as skill-building lab time. This course is intended for the student seeking certification.

#### NET 488 2 2 0 0 0 VOC/TECH NETWARE 4.X ADMINISTRATION

Course covers the knowledge and skills needed to perform Netware 4.x network administration or system management tasks effectively.

#### NET 512 3 2 2 0 0 VOC/TECH LINUX ENTERPRISE ADMIN I

Provides knowledge and skills to perform competently in the role of Network Administrator or System Manager for NetWare 5. Prerequisite: NET 213, 223

### NET 521 2 2 0 0 0 VOC/TECH NOVELL SYSTEM ADMINISTRATION

Work as a design team using a case company. Create a design document for Intranet Ware and create an implementation schedule.

Prerequisite: NET 512, 532

## NET 532 3 2 2 0 0 VOC/TECH LINUX ENTERPRISE ADMIN. II

Provides advanced administration skills to design, configure and administer a complex NetWare 5 network.

Prerequisite: NET 213, 223

#### NET 541 2 2 0 0 0 VOC/TECH NOVELL SYSTEM PROGRAMMING

The two main goals of the service and support course are NetWare installation and upgrade, and basic network troubleshooting. After completing this course, you will be able to install file servers and workstations, configure and install network boards and cables, and isolate and diagnose common network problems.

Prerequisite: NET 512, 532

#### H NET 612 3 3 0 0 0 VOC/TECH FUND OF NETWORK SECURITY

The course prepares students to recognize the threats and vulnerabilities present in existing information systems and to learn to design and develop the secure systems needed in the near future. It also prepares students for the role of decision-maker in the area of information security. Topics include legal and ethical issues, security technologies risk management, network and system security, cryptography and information security maintenance.

Prerequisite: BCA 113 or instructor approval

#### NET 623 4 4 0 0 0 VOC/TECH NETWORK APPLICATIONS

This course will provide the student with an understanding of the software systems and applications that provide network services across differing networks and operating system platforms. Prerequisite: NET 213, Corequisite: NET 628

#### NET 628 2 0 4 0 0 VOC/TECH NETWORK APPLICATIONS LAB

This course will provide the student with hands-on experience in installing and configuring the software systems and applications that provide network services across differing networks and operating system platforms.

Prerequisite: NET 213, Corequisite: NET 623

#### NET 653 4 3 2 0 0 VOC/TECH MICROSOFT EXCHANGE SERVER

This course covers the current Microsoft Curriculum in the Microsoft Exchange Server Series.

#### NET 664 5 2 6 0 0 VOC/TECH MS WINDOWS PROF/SERVER

This course includes the curriculum for the current Microsoft versions of professional and server products. The content is geared toward preparation for the associated Microsoft certification tests. Prerequisite: NET 223, 628, 623

#### NET 680 3 3 0 0 0 VOC/TECH TCP/IP FOR NETWORKING

Concepts of the TCP/IP protocol suite. Includes protocol formats, usage and network commands. Concepts of design, installation and management are introduced.

Prerequisite: NET 443, 444, Corequisite: NET 681

#### NET 681 1 0 2 0 0 VOC/TECH TCP/IP FOR NETWORKING LAB

Hands-on command manipulation of a TCP/IP network. Also includes installation and management. Prerequisite: NET 443, 444, Corequisite: NET 680

#### NET 711 3 3 0 0 0 VOC/TECH SQL DATABASE

This course covers the current curriculum for implementing a database in Microsoft SQL Server. For more information, contact the program chairperson of the ITNA program.

Prerequisite: NET 333, 664, 343

202 DES MOINES AREA COMMUNITY COLLEGE CATALOG 2011-2012

#### NET 715 3 3 0 0 0 VOC/TECH DATABASE SECURITY & AUDITING

This course is intended for students preparing for careers as developers, systems analysts, business analysts, database administrators or system development managers working with database applications. Students learn to implement database security and auditing in order to protect data.

Prerequisite: CIS 303

#### NET 730 3 2 2 0 0 VOC/TECH COMPUTER FORENSICS & INV.

An introductory course intended for system administrators, providing training in detecting and analyzing data stored or often hidden on computer systems. The course prepares students to use computer forensics tools to uncover violations of company policy, embezzlement, e-mail harassment, leaks of proprietary information, and criminal activity.

Prerequisite: NET 612

#### NET 932 3 0 0 0 12 VOC/TECH INTERNSHIP

A semi-structured experience in the student's chosen field of information technology working as an intern with a sponsoring organization. The student has the opportunity to network with professionals and employers in his or her field. The student will write a resume suitable for employment applications.

#### OPT 110 2 1 2 0 0 VOC/TECH OPHTHALMIC PRETESTING

This course covers the relationships between optometry, ophthalmology and opticianry and various paraprofessional careers in vision care. The course involves the study of and practical experience in patient pretesting, i.e., case history, visual acuity, color vision, pupil evaluation, depth perception, and the specialized testing procedures of keratometry and blood pressure measurement.

### OPT 112 3 2 2 0 0 VOC/TECH OPHTHALMIC SPECIALTY TESTING

This course provides the student-experience and knowledge in the areas of special vision care procedures: subjective refraction, tonometry (noncontact and Goldmann), visual field testing, slit lamp, basic concepts of orthoptics, and the treatment of eye diseases. This course also prepares the technician to assist the doctor in advanced office techniques in the area of ultrasound and in-office surgical procedures. Also covered are medications commonly prescribed for systemic conditions. Patient instruction and assistance are emphasized in laboratory sessions.

Prerequisite: OPT 110, 120, 123

#### OPT 120 3 2 2 0 0 VOC/TECH BASIC OPTICAL CONCEPTS/OPTICS

This course covers the properties of light and the function of a lens in vision correction. This course begins the study of the neutralization and verification of spectacle lens powers, to include spherical, cylindrical and prism lenses.

Corequisite: MAT 772

#### OPT 123 2 1 2 0 0 VOC/TECH OCULAR ANATOMY AND PHYSIOLOGY

This course is intended to familiarize the technician with the form and function of the human eye. The foundation of the lecture material is the anatomy of the eye, but we will discuss the physiology and function of the eye as much as possible. We will also discuss the actions and uses of diagnostic pharmaceutical agents, as their function is based on interference with normal ocular physiology. This course also covers optometric terminology. Corequisite: BIO 733

OPT 130 2 1 2 0 0 VOC/TECH OPHTHALMIC DISPENSING I

This course covers frame definition, parts and types of frames, measurement of frames and lenses, alignment of frames, inserting and removing lenses and an introduction to dispensing of eyewear and frame repairs.

#### OPT 132 2 1 2 0 0 VOC/TECH OPHTHALMIC DISPENSING II

This course assists the student in developing a mastery of the alignment, adjustment of eyewear and lensometry. It also covers the various lens materials, multifocal styles and lens tints. Prerequisite: OPT 130, 120

#### OPT 140 3 2 2 0 0 VOC/TECH CONTACT LENSES

This course gives the student in-depth exposure to the technical aspects of a clinical contact lens practice. Lecture and laboratory experiences emphasize lens verification, patient education and evaluation.

Prerequisite: OPT 120, 110, 123

### OPT 803 1 0 0 3 0 VOC/TECH PRECLINICAL

This course prepares the student for clinical affiliation by having them complete vision screenings on patients. Discussions are held analyzing the results of the screening as well as the student's performance. Also included in this course will be an introduction to office management techniques including appointment setting and triage, HIPAA, and insurance claim processing.

Prerequisite: OPT 110, 120, Corequisite: OPT 112

#### OPT 818 8 0 0 0 32 VOC/TECH CLINICAL EXTERNSHIP

Students participate 40 hours per week for 12 weeks of assigned clinical experience in clinical settings. The student is expected to achieve specific educational objectives determined for this experience.

Prerequisite: Completion of all program courses with a minimum grade of "C" in each

PEA 102	10200	OPEN
AEROBIC FI	TNESS I	

Introduces aerobic concept of physical fitness. Includes aerobic activities, aerobic exercising and aerobic dance. Course designed for men and women.

#### PEA 110 1 0 2 0 0 OPEN BADMINTON I

Introduction to basic skills (serve, clear, drop, drive and smash) and basic knowledge of game play.

PEA 117	10200	OPEN
BOWLING I		
Beginning skill:	s only.	

PEA 134	10200	OPEN
GOLF I		
Roginning skil	ls only	

Beginning skills only.

#### PEA 144 2 1 2 0 0 OPEN PHYSICAL FITNESS/CONDITIONING

Development of personal fitness using a variety of conditioning and exercise techniques, including weight training, aerobics and aquatic fitness. Instruction on acute and chronic responses to exercise, and the role of exercise in health promotion and weight management.

#### PEA 146 1 0 2 0 0 OPEN PHYSICAL FITNESS I

Various exercises and activities to improve physical fitness.

#### PEA 164 1 0 2 0 0 OPEN SWIMMING I

Recreational swimming at Heartland Health Center. Some swimming experience expected.

#### PEA 174 1 0 2 0 0 OPEN TENNIS I

Introduction to basic skills (forehand, backhand, service and volley) and basic knowledge of game play.

#### PEA 176 1 0 2 0 0 OPEN VOLLEYBALL I

Beginning skills only.

### PEA 184 3 1 4 0 0 OPEN WATER SAFETY INST/LIFEGUARD TR

Provides the student with the practical, cognitive, behavioral and decision-making skills needed for lifeguarding and the necessary skills to conduct/ instruct all levels of Red Cross swimming and water safety lesson programs. Upon satisfactory completion, student will receive Red Cross Certification in Lifeguarding and Water Safety Instructor.

#### PEA 187 1 0 2 0 0 OPEN WEIGHT TRAINING I

Introduction to basics of weight training. Emphasizes increasing physical capacity, i.e., increased muscular strength and power.

#### PEA 234 1 0 2 0 0 OPEN GOLF II

Expansion of basic golf skills. Prerequisite: PEA 134 or equivalent skill

OPEN

#### PEA 284 1 0 2 0 0 ADVANCED LIFESAVING

Purpose is to provide the student with the skills/ techniques to successfully rescue a person in need. Focus on water safety, personal and self rescue, swimming rescues and artificial resuscitation. Upon satisfactory completion, the student will receive Red Cross Certification.

Required: Students must pass a swim test

#### PEC 110 1 1 0 0 0 OPEN COACHING ETHICS, TECH & THEORY

Course covers techniques and theory of coaching, sports physiology, preparation for competition, and issues in coaching.

#### PEC 122 1 1 0 0 0 OPEN INTRO ANAT & PHYS FOR COACHING

This course is an introduction course to basic anatomy and physiology. It provides a working framework for the potential coach to learn how to design and implement effective training programs for athletes on the basis of sport anatomy and physiology. It includes basic semesters, energy system analysis, muscular fitness assessment and development of actual program design.

#### PEC 161 3 3 0 0 0 OPEN SPORTS OFFICIATING

Study of the rules and officials' mechanics for high school football, basketball and baseball. Provides guidelines for students to become licensed officials in lowa for these sports.

#### PEC 190 1 1 0 0 0 OPEN SPORTS PSYCHOLOGY FOR COACHES

This course is an introduction course to basic sports psychology. This course will aid athletes, coaches and active individuals by providing goalsetting, motivation, stress management and selfconfidence techniques.

#### PEC 191 1 1 0 0 0 OPEN CURRENT ISSUES IN COACHING

This course will examine current issues facing coaches. The class will look at case studies, news media and real-life scenarios in our state.

#### PEC 215 1 1 0 0 0 OPEN SPORT MECHANICS FOR COACHES

This course creates an understanding of the fundamentals of sport mechanics to help potential coaches better observe, analyze and correct sport technique for increased and safer performance. Students will learn the natural forces, concepts and theories that serve as the basis for biomechanics. Knowledge gained from the course will be applied to observe athletes performing skills and make corrections accordingly.

#### PEH 102 3 3 0 0 0 OPEN HEALTH

Physical, emotional and social factors as they relate to our state of personal health. To better understand and aid in the alleviation of communicable and chronic diseases, drug use and environmental problems.

#### PEH 110 2 2 0 0 0 VOC/TECH PERSONAL WELLNESS

This course will aid in the enhancement of knowledge, skills and attitudes necessary to promote positive, lifelong wellness decisions. Students will look at the physical, social, intellectual, emotional, occupational and spiritual components of wellness.

#### PEH 120 3 3 0 0 0 OPEN PRINCIPLES PERSONAL TRAINING I

Entry-level course designed to introduce the field of personal training. Basic exercise assessment and prescription concepts will be used to discuss and demonstrate safe and appropriate fitness programs with an emphasis on preparing students for taking a nationally recognized certification exam.

#### PEH 141 2 2 0 0 0 GENERAL FIRST AID

Discussion and application of the basic techniques in administering first aid will be covered in this course. Cardiopulmonary resuscitation will be covered and other emergency situations will be discussed. Red Cross certification will be awarded to those who qualify.

### PEH 162 3 3 0 0 0 OPEN INTRO TO PHYSICAL EDUCATION

History of physical education. Careers and professional leadership in physical education with emphasis on teaching. Examines the four areas of most vital concern to the physical educator: recreation and leisure, sports, curriculum, and research and evaluation.

## PEH 178 3 3 0 0 0 VOC/TECH SPORTS DIVERSITY

This course examines diversity in sports and in sports organizations: how individuals differ, how differences influence organizations, how to manage diversity in the workplace, how to understand legal issues, and managing diversity training.

# PEH 190 2 2 0 0 0 VOC/TECH SPORTS NUTRITION

Basic principles of human nutrition and nutritional needs for athletes and/or physically active populations. Issues discussed include ergogenic aids, carbohydrate loading/manipulation, eating disorders, protein supplements and hydration. Practical application will include dietary analysis and composition for people in various activities and conditions.

#### PEH 255 3 3 0 0 0 OPEN PRINCIPLES—SPORTS MANAGEMENT

The foundation and principles of sports management. Theory, ethics and practice of management are discussed in relation to the fitness and sport industries.

# PEH 262 3 3 0 0 0 OPEN WELLNESS PROG/PLANNING/ORGANIZ

The purpose of this course is to familiarize the student with wellness programs in the workplace. Emphasis will be on program design, health assessment, corporate management issues and promotion.

#### PEH 265 2 1 2 0 0 OPEN LEADERSHIP TECH FITNESS PROG

Development of exercise leadership skills for a variety of activities. Includes planning and promotion as well as teaching techniques for developing fitness in others, using a variety of exercise modalities. Aerobics, weight training and aquatic fitness are included. Prerequisite: PEA 144

#### PEH 920 2 0 0 0 8 OPEN FIELD EXPERIENCE

Supervised experience in fitness or sports management agency. The student will be able to apply their own knowledge and skills in a professional setting.

### PET 110 2 1 2 0 0 OPEN INTRO TO ATHLETIC TRAINING

Entry-level course designed to introduce the potential coach or athletic trainer to the field of athletic training. Basic care and prevention of athletic injuries will be dealt with in order to equip the coach or trainer with the knowledge to make intelligent decisions regarding common athletic injuries.

#### PEV 115 1 0 2 0 0 OPEN VARSITY BASEBALL

Provides experience and instruction in men's baseball. Course is designed for the varsity athlete in semesters of conditioning, practice, game preparation and weight training. Limit 1 credit per year with a maximum of 2 credits total. Credit for a sport course may not be applied toward graduation if credit is also received for any skill technique course in the same sport.

Prerequisite: Permission of the head coach

#### PEV 121 1 0 2 0 0 OPEN VARSITY BASKETBALL, MEN

Provides experience and instruction in men's basketball. Course is designed for the varsity athlete in semesters of conditioning, practice, game preparation and weight training. Limit 1 credit per year with a maximum of 2 credits total. Credit for a sport course may not be applied toward graduation if credit is also received for any skill technique course in the same sport.

Prerequisite: Permission of the head coach

### PEV 122 1 0 2 0 0 VARSITY BASKETBALL, WOMEN

Provides experience and instruction in women's basketball. Course is designed for the varsity athlete in semesters of conditioning, practice, game preparation and weight training. Limit 1 credit per year with a maximum of 2 credits total. Credit for a sport course may not be applied toward graduation if credit is also received for any skill technique course in the same sport.

OPEN

Prerequisite: Permission of the head coach

OPEN

#### PEV 130 1 0 2 0 0 VARSITY CROSS COUNTRY

Provides experience and instruction in cross country. Course is designed for the varsity athlete in semesters of conditioning, practice, game preparation and weight training. Limit 1 credit per year, with a maximum of 2 credits total. Credit for a sport course may not be applied toward graduation if credit is also received for any skill technique course in the same sport.

Prerequisite: Permission of the head coach

#### PEV 140 1 0 2 0 0 OPEN VARSITY GOLF

Provides experience and instruction in golf. Course is designed for the varsity athlete in semesters of conditioning, practice, game preparation and weight training. Limit of one credit per year, with a maximum of 2 credits total. Credit for a sport course may not be applied toward graduation if credit is also received for any skill technique course in the same sport.

Prerequisite: Permission of the head coach

#### PEV 170 1 0 2 0 0 OPEN VARSITY VOLLEYBALL

Provides experience and instruction in women's volleyball. Course is designed for the varsity athlete in semesters of conditioning, practice, game preparation and weight training. Limit 1 credit per year, with a maximum of 2 credits total. Credit for a sport course may not be applied toward graduation if credit is also received for any skill technique course in the same sport.

Prerequisite: Permission of the head coach

#### PEV 190 1 0 2 0 0 OPEN VARSITY SPIRIT SQUAD

For men and women desiring to be basketball cheerleaders for varsity basketball season.

#### PHB 113 3 2 2 0 0 VOC/TECH PRINCIPLES OF PHLEBOTOMY

An orientation course designed to give students a thorough background in blood collection, including demonstrations of and practice performing venipuncture and skin puncture techniques. This course is required for students who wish to obtain certification in Phlebotomy. Students must also enroll in the Phlebotomy Clinical course (PHB 280). Corequisite: PHB 280

#### PHB 280 2 0 0 3 5 VOC/TECH PHLEBOTOMY CLINICAL

Students report to a local hospital to practice patient approach and collect blood specimens from hospital patients. The 120-hour clinical includes both supervised experience and independent clinical learning experiences. Students MUST also take PHB 113.

#### PHI 101 3 3 0 0 0 CORE INTRODUCTION TO PHILOSOPHY

Exploration of basic questions in epistemology, metaphysics and ethics. Emphasis on western philosophy tradition.

#### PHI 105 3 3 0 0 0 INTRODUCTION TO ETHICS

Comparative study of different traditional moral theories. Application of moral theories to different contemporary moral problems.

CORE

#### PHI 110 3 3 0 0 0 INTRODUCTION TO LOGIC

Learn to recognize and construct good arguments. Study of deduction including categorical and truth functional arguments. Study of induction. Examination of informal fallacies.

## PHR 100 2 2 0 0 0 VOC/TECH PHARM TECHNICIAN ORIENTATION

This course is designed to provide the student with an overview of the pharmacy profession, pharmacy law, and the role and function of the pharmacist, the pharmacy technician and the pharmacy clerk. A large component of this course will focus on learning the importance of interpersonal communication skills and confronting communication barriers.

#### PHR 101 3 3 0 0 0 VOC/TECH PHARMACY OPERATIONS I

This course simulates daily activities in the pharmaceutical practice settings. Topics include order entry processes, medication distribution systems, inventory, prescription processing, billing, repackaging, cart fills, floor stock, robotics, controlled substance distribution, pharmaceutical computer systems, utilization of drug information resources and proper communication techniques.

# PHR 102 3 3 0 0 0 VOC/TECH PHARMACY OPERATIONS II

This course emphasizes the expanded responsibilities of pharmacy technicians. Topics include insurance processing, inventory control, investigational drugs, clinical pharmacy technician activities, chart reviews, quality assurance, herbal medication, robotics/automation, immunizations, managed care pharmacy, home care pharmacy, Long-Term care, home monitoring units, patient compliance, physical assessment monitoring, technician organization membership and medical/ surgical supplies.

Prerequisite: PHR 101 or permission of program chairperson

#### PHR 123 3 3 0 0 0 VOC/TECH PHARMACOLOGY I

This course provides the practical knowledge of pharmacology, including pharmaceutical nomenclature and classification, mechanisms of drug actions, interactions, indications and contraindications, side effects, and methods of administering therapeutic agents primarily in the nervous, endocrine, skeletal, muscular, cardiovascular, respiratory and gastrointestinal systems.

Corequisite: BIO 733

#### CORE PHR 124 3 3 0 0 0 VOC/TECH PHARMACOLOGY II

This course provides the practical knowledge of pharmacology, including mechanisms of drug actions, interactions, indications and contraindications, and medication side effects in the following therapeutic categories: dermatology, sensory (eye and ear), immunology, hematology, urinary/renal, infectious disease, oncology, nutrition, toxicology, recombinant technology and over-thecounter medications.

Prerequisite: PHR 123 or permission of program chairperson

#### PHR 135 3 3 0 0 0 VOC/TECH PHRM CALC & COMPOUNDING

Pharmaceutical calculations and compounding will include reading, interpreting and solving calculation problems encountered in the preparation and distribution of drugs. Specific compounding topics include medication and parenteral administration: the facilities, equipment, and supplies used in admixture preparation, techniques utilized in parenteral product compounding, parenteral medication incompatibilities and quality assurance.

#### PHR 140 1 1 0 0 0 VOC/TECH PHARMACY LAW

This course reviews the laws affecting pharmacy practice. Course highlights include the Food, Drug and Cosmetic Act and various federal and state controlled substance acts.

### PHR 801 2 0 0 0 8 VOC/TECH PHARM TECHNICIAN INTERNSHIP I

This course provides the application of basic pharmacy technician concepts in a community pharmacy setting with rotation options in a Long-Term care pharmacy or a home healthcare pharmacy. Internship requires 150 contact hours. Prerequisite: Approval of program chairperson

### PHR 802 3 1 0 0 8 VOC/TECH PHARM TECHNICIAN INTERNSHIP II

This course provides an advanced level internship rotation in a pharmacy setting, e.g., community hospitals, medical centers, intravenous home healthcare facilities, drug information centers or a customized rotation based on a student's previous experience. Internship includes 16 hours of seminar. Internship requires 150 contact hours.

Corequisite: Approval of program chairperson

### PHS 152 4 3 2 0 0 CORE ASTRONOMY

The student is introduced to a scientific overview of stars, planets, galaxies, other inhabitants of the universe, and the forces that determine their behavior. The history of discovery and the methods used to study distant objects are included.

#### PHS 166 4 3 2 0 0 CORE METEOROLOGY, WEATHER & CLIMATE

This course offers students an introduction to meteorology. Topics covered include the earthatmosphere energy balance, temperature, humidity, clouds, precipitation, air masses, fronts, weather forecasting, severe weather and global climate change. Lecture and laboratory included.

#### PHY 106 4 3 2 0 0 CORE SURVEY OF PHYSICS

The student is exposed to the scientific method with an emphasis on elementary problem-solving. Along with a review of basic mathematics, the topics of weights and measures, mechanics, heat, gas laws, electricity, magnetism, sound, light and modern physics are covered.

#### PHY 160 5 4 2 0 0 CORE GENERAL PHYSICS I

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: MAT 130 or HS equivalent

#### PHY 161 5 4 2 0 0 CORE GENERAL PHYSICS II

This course is the second semester of a twosemester sequence in non-calculus physics. Topics include electricity, magnetism, optics and modern physics.

Prerequisite: PHY 160 or instructor's permission

#### PHY 213 6 5 2 0 0 CORE CLASSICAL PHYSICS I

This course is calculus-based and intended for engineering and science majors. Topics covered include statics, dynamics, kinematics, fluid behavior, wave motion, vibrating systems, heat and thermodynamics.

Corequisite: MAT 211 or equivalent must be taken concurrently with or prior to this course

#### PHY 223 6 5 2 0 0 CORE CLASSICAL PHYSICS II

This course is a continuation of Classical Physics I. Topics covered include static electricity, electrical circuits, magnetism, time-dependent electric and magnetic fields, optics and modern physics.

Prerequisite: PHY 213 or equivalent, Corequisite: MAT 217 must be taken concurrently or prior to this course

#### PHY 710 3 2 2 0 0 VOC/TECH TECHNICAL PHYSICS

A physics course for students of technology. Topics include forces, work, energy, heat, electricity and magnetism with a strong emphasis on practical applications.

Prerequisite: MAT 772 or equivalent

#### PNN 151 4 2 4 0 0 FUNDAMENTALS OF NURSING

Introduces the concepts of health assessment, safety, critical thinking, pharmacology, teaching/learning and communication. Associated skills are performed in the laboratory setting.

### PNN 152 4 2 2 3 0 OPEN NURSING PRACTICE I

Introduces nursing care of clients with common health problems with a focus on health assessment, standardized plan of care, therapeutic interventions, safety and basic communication. Includes lab and practicum applications.

Prerequisite: PNN 151 and PNN 153

#### PNN 153 2 2 0 0 0 OPEN SUCCESS IN NURSING

Explores the art and science of nursing practice, including nursing history, roles, and legal/ethical practice issues for the professional practical nurse. Healthcare settings and health/illness/hospitalization will be discussed. Strategies for success in nursing will be applied.

#### PNN 351 11000 OPEN PRACTICAL NURSING ROLES

Examines roles and responsibilities of the licensed practical nurse, including client response to acute and chronic illness and individual readiness to practice nursing.

Prerequisite: PNN 151, 152, 153, PSY 121, BIO 734

#### PNN 605 53060 OPEN NURSING PRACTICE II

Theory and practicum in caring for clients with predictable health needs involving sexuality, reproduction, sensory/perception/cognition, health promotion, illness prevention, self concept, mobility, and bowel elimination alterations.

Prerequisite: PNN 151, PNN 152, PNN 153, PSY 121, BIO 734

#### PNN 606 53060 OPEN NURSING PRACTICE III

Theory and practicum in caring for clients with predictable health needs involving comfort, circulation, oxygenation, nutrition, endocrine and urinary alterations.

Prerequisite: PNN 151, 152, 153, PSY 121, BIO 734

#### POL 111 3 3 0 0 0 CORE AMERICAN NATIONAL GOVERNMENT

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.

#### POL 112 3 3 0 0 0 CORE AMER STATE & LOCAL GOVERNMENT

A study of the organization, operations and politics of state and local governments. Emphasis on an analysis of the legislative, executive and judicial roles and processes.

#### OPEN POL 121 3 3 0 0 0 CORE INTERNATIONAL RELATIONS

The international system is examined from the perspectives of the United States, Russia, China and other nations. Emphasis is placed upon ideology, national interest, the use of power, international law and organization.

#### POL 125 3 3 0 0 0 CORE COMPARATIVE GOV'T & POLITICS

Examination of the government and politics of such countries as Great Britain, Mexico, Germany and Russia. Each nation is viewed in semesters of its political culture, party system, executive, legislative, and

legal organization.

#### POL 127 3 3 0 0 0 GENERAL NEWS MEDIA-ELECTORAL POLITICS

Course will examine the role the news media play in electoral strategy and outcomes. Focus will be on relationships among the voting public, television and print media, and public officials. The most recent election will be assessed. The course is designed for prospective journalism and political science majors. Corequisite: JOU 163

### POL 129 3 3 0 0 0 GENERAL POLITICS OF TERRORISM

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 studentcentered and emphasize research and composition.

#### POL 171 3 3 0 0 0 CORE INTRO TO PUBLIC ADMINISTRATION

Study of the theory and practice of public administration examining alternate organization theories and practices, personnel administration, problems of communications within organizations, and styles of leadership. Course emphasizes the interrelationships of professional and political influences on decision-making.

#### PRL 103 3 3 0 0 0 OPEN INTRODUCTION TO LAW

A general introduction to the American legal system including case briefing, court structure, and civil, criminal and administrative procedure. An examination of ethical and professional practice standards applicable to the legal profession. Understanding of the roles of the judge, jury, attorney and legal assistant.

#### PRL 112 3 3 0 0 0 OPEN LEGAL RESEARCH & WRITING I

The nature of legal authority and tools and techniques of basic legal research and writing. Emphasis will be on Iowa law. Degree Students: If transcript has not been submitted, you must contact the registration office to register for this course. Prerequisite: ENG 105

#### PRL 113 3 3 0 0 0 OPEN LEGAL RESEARCH & WRITING II

Advanced application of principles of legal research. Preparation of interoffice memorandums and demand letters. Out-of-state and federal law. Prerequisite: PRI 103. 112

#### PRL 114 3 3 0 0 0 OPEN ADV LEGAL RESEARCH & WRITING

Research and analysis of complex and multiple factual and legal issues. Preparation of legal documents using analysis and application of legal research. Use of specialized research sources.

Prerequisite: PRL 113

#### PRL 118 1 1 0 0 0 OPEN COMPUTERIZED LEGAL RESEARCH

Introduction to computer-assisted legal research. Training in legal research search strategies using both the Lexis and Westlaw systems.

Prerequisites: PRL 103, 112 and 113

#### PRL 125 3 3 0 0 0 OPEN EVIDENCE: THEORY & PRACTICE

A study of the substantive and procedural laws of evidence. Introduction to the rules of evidence. Methods of discovering, preserving and presenting evidence in civil and criminal trials.

Prerequisite: PRL 131 or instructor permission

#### PRL 131 3 3 0 0 0 OPEN TORTS & LITIGATION I

A study of the basic law relating to personal and property damage. Topics include intentional tort, negligence, nuisance, strict liability and automobile law. Principles of trial practice, including drafting basic pleadings and organization of materials for trial. Prerequisite: PRL 103, 112 or instructor permission

#### PRL 132 3 3 0 0 0 OPEN TORTS & LITIGATION II

A continuation of Torts & Litigation I. Areas of concentration will be premise liability, family torts, defamation, governmental immunity, malpractice and wrongful death. Advanced trial practice includes drafting of pleadings and discovery documents. Prerequisite: PRL 131

#### PRL 137 3 3 0 0 0 OPEN DEBTOR/CREDITOR LAW

Procedures in non-bankruptcy debt collection. Fundamentals of bankruptcy law and bankruptcy procedure. Examination of alternatives to formal bankruptcy proceedings.

Prerequisite: PRL 103, 112 or instructor permission

#### PRL 141 3 3 0 0 0 OPEN BUSINESS & CORPORATE LAW I

A study of the fundamentals of the law of contracts, the uniform commercial code and the rights of creditors in transactions.

#### PRL 142 3 3 0 0 0 OPEN BUSINESS & CORPORATE LAW II

Continuation of Business & Corporate Law I. Survey of rights of debtors and creditors in collections and bankruptcy. Formation of proprietorships, partnerships and corporations, and a survey of the law applicable to each. Preparation of documents necessary to the organization and operation of each. Prerequisite: PRL 141

#### PRL 151 3 3 0 0 0 OPEN REAL ESTATE LAW

A study of the law of real property and a survey of the more common types of real estate transactions. Emphasis is on the preparation of the instruments necessary to complete various real estate transactions. Prerequisite: PRL 103, 112 or instructor permission

#### PRL 161 3 3 0 0 0 OPEN FAMILY LAW

The legal aspects of the family relationship. The rights and duties of the parties in marriage, annulment, divorce, child custody and adoption. The course will emphasize the use of domestic law forms. Prerequisite: PRL 103, 112 or instructor permission

#### PRL 167 3 3 0 0 0 OPEN PROBATE PROCEDURE

A study of wills including validity requirements, modification and revocation. Formation of trusts and the characteristics and requirements of each type. Laws of testate and intestate succession. Forms and procedures for probating an estate.

Prerequisite: PRL 103, 112 or instructor permission

#### PRL 169 3 3 0 0 0 OPEN WILLS/ESTATE PLANNING/TAXATION

Basic principles of estate planning in order to minimize estate and gift tax consequences. Preparation of federal estate, gift tax returns and lowa inheritance tax returns. Drafting of wills designed to carry out estate plans. Prerequisite: PRL 167

#### PRL 171 3 3 0 0 0 ADMINISTRATIVE PRACTICE

A study of administrative law and procedures for administrative hearings in various governmental agencies. Drafting and researching administrative rules and regulations will be covered.

OPEN

Prerequisite: PRL 103, 112 or instructor permission

#### PRL 182 3 3 0 0 0 OPEN MEDIATION

Classroom study of mediating legal disputes. Students will study the purposes of mediation using "objective" criteria, impediments to resolution, moving beyond impasse and reaching an agreement.

Prerequisite: PRL 103, 112 and/or instructor permission

#### PRL 280 4 1 0 0 15 OPEN LEGAL INTERNSHIP & ETHICS

Application of the theoretical knowledge gained in the classroom by interning in a private law office, governmental agency or private business that utilizes attorneys. Students will participate in seminars concerning their internship experiences and legal ethics. Total internship requirement is 225 hours.

(P/F) Prerequisite: Minimum grades of "C" in all PRL courses and complete a minimum of eight PRL courses

## PSY 102 3 3 0 0 0 GENERAL HUMAN AND WORK RELATIONS

Emphasizes an awareness of the factors inherent in human relationships and psychological adjustment patterns of individuals and groups. Effort is made to develop the techniques of interpersonal relations and coping.

#### PSY 111 3 3 0 0 0 CORE INTRODUCTION TO PSYCHOLOGY

A survey of psychology including theoretical and experimental findings and applications from areas such as neurobiology, learning, memory, personality, social, abnormal and therapy.

#### PSY 121 3 3 0 0 0 CORE DEVELOPMENTAL PSYCHOLOGY

The study of factors that affect human development from conception to death, with emphasis on topics such as physical, cognitive and social changes, methods of study and current issues.

#### PSY 140 3 3 0 0 0 GENERAL EXPLORING MENTAL HEALTH

Explores the basic causes, manifestations and treatment of common psychological disorders. The course introduces mental illness along a continuum from functional to dysfunctional.

#### PSY 172 3 3 0 0 0 GENERAL STRESS & STRESS MANAGEMENT

This course provides basic instruction in understanding stress reactions, their causes and effects and the theory and application of stress management techniques. Includes theories of stress and stress reduction, physiological/psychological reactions to stress, measurement of stress reactions, and application of stress reduction.

#### PSY 241 3 3 0 0 0 CORE ABNORMAL PSYCHOLOGY

An introduction to the study of abnormal behavior, with emphasis on anxiety, depression, schizophrenia and personality disorders. The course includes understanding the personal dynamics of mental disorders and biopsychosocial factors involved in assessment, etiology and treatment.

Recommend PSY 111 be taken prior to this course

CORE

#### PSY 251 3 3 0 0 0 SOCIAL PSYCHOLOGY

This course surveys selected topics in social psychology, including social perception, social influence, attraction, altruism, aggression, persuasion, attitude formation, group processes and applications of research to everyday situations.

#### PSY 261 3 3 0 0 0 CORE HUMAN SEXUALITY

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.

#### PSY 281 3 3 0 0 0 GENERAL EDUCATIONAL PSYCHOLOGY

The principles of psychology applied to classroom teaching, with emphasis on such topics as development, learning, motivation, evaluation, adjustment and educational techniques and innovations.

#### PSY 291 3 3 0 0 0 GENERAL PRIN. OF BEHAVIOR MODIFICATION

The principles of learning theory with a major emphasis on operant conditioning will be studied. Emphasis will be on the practical application of these principles to the areas of mental health, mental retardation and education.

#### RCP 100 3 3 0 0 0 OPEN INTRO TO RESPIRATORY CARE

This initial course in the Respiratory Therapy program emphasizes the assessment and evaluation of patients. Also included will be a history of healthcare, medical specialties, communication skills and medical terminology. Students must demonstrate skill in the assessment of patient vital signs. Prerequisite: BIO 733 or BIO 164

# RCP 2404 3 2 0 0OPENRESPIRATORY THERAPEUTICS

This course introduces the student to basic therapeutic techniques utilized in respiratory care. Major topics include medical gas therapy, humidity and aerosol, cylinder systems and physical principles of gases and liquids. Students will be required to demonstrate competence in the techniques to receive a passing grade in the course.

Prerequisite: RCP 100 must be taken concurrently or prior to this course

#### RCP 250 4 3 2 0 0 OPEN CARDIO/PULMONARY THERAPEUTICS

Students will learn basic patient care techniques of hyperinflation therapy, secretion clearance, airway care, patient assessment, pulmonary rehabilitation, subacute respiratory care and assessment of effectiveness of therapies. Students will be required to demonstrate competence in procedures to succeed in this course.

Corequisite: RCP 100 must be taken concurrently with or prior to this course, Corequisite: RCP 240

### RCP 3605 5 0 0 0OPENCARDIO/PULMONARY RENAL PATHOPH

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. Interpretation of the results of arterial blood gas pH data will be taught.

Prerequisite: RCP 250 and BIO 734 must be taken concurrently with or prior to this course

### RCP 400 3 3 0 0 0 OPEN RESP THERAPY PHARMACOLOGY

This course provides a study of the actions and interactions of drugs with and within the body. Theories of drug action, pharmacodynamics and methods for drug administration will be taught. Drugs affecting the cardiovascular, pulmonary and renal systems will be emphasized.

Prerequisite: RCP 250 and BIO 734 must be taken concurrently with or prior to this course

### RCP 410 3 3 0 0 0 OPEN CARDIO/PULMONARY DIAGNOSTICS

Principles and techniques of testing of cardiovascular and pulmonary function will be learned with an emphasis on the evaluation and interpretation of the results of the tests. Integration of test results with clinical picture with emphasis on therapeutics, and principles of polysomnography will be learned. Prerequisite: BIO 734 or 164, RCP 360, 400

### RCP 5005 4 2 0 0OPENADVANCED RESPIRATORY THERAPY

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 the advanced life support will be learned. Students will become proficient in the analysis of arterial blood gases and basic techniques of electrocardiography. Students will learn the use of adjuncts for the treatment of cardiopulmonary arrest.

Prerequisite: BIO 734 or BIO 164, RCP 360

#### RCP 601 4 3 2 0 0 VOC/TECH NEONATAL/PED RESP THERAPY

Course will begin with embryonic development of the respiratory and cardiovascular systems and progress to teaching normal function, as well as teaching the common neonatal and pediatric diseases, including therapeutic techniques and monitoring of the patients.

Prerequisite: BIO 734 or 164, RCP 360

### RCP 700 4 2 0 8 0 OPEN RESP THERAPY PRACTICUM I

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 will be introduced as well. Prerequisite: RCP250, Corequisite: RCP 360, 400

#### RCP 705 5 2 0 11 0 OPEN RESP THERAPY PRACTICUM II

This practicum will continue the supervised experience in provision of basic patient care techniques to therapies from Practicum I. Arterial puncture, arterial line sampling and analysis of blood samples will be introduced. Suctioning of airways will be emphasized.

Prerequisite: RCP 700

#### RCP 710 7 2 0 16 0 OPEN RESP THERAPY PRACTICUM III

The practicum continues supervised experience in basic therapeutic techniques with emphasis on increased speed and efficiency. Neonatal intensive care will be introduced. Students will continue development of skills in sampling and analyzing arterial blood. ECG and other cardiac diagnostic tests will be observed.

Prerequisite: RCP 601, 705

#### RCP 715 7 2 0 16 0 OPEN RESP THERAPY PRACTICUM IV

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: RCP 500, 710, 410 must be taken

concurrently with or prior to this course

#### RCP 720 5 2 0 11 0 OPEN RESP 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: RCP 410, 715

#### RCP 800 3 3 0 0 0 OPEN RESP THERAPY MGMT & ETHICS

Begins with study of the organization and management of a respiratory therapy department. Consideration of issues of jurisprudence and medicolegal aspects of healthcare. Tactful interactions and ethical practices will be emphasized. Will also serve to review much of what has been assimilated in the program. Prerequisite: RCP 710

### RDG 038 3 3 0 0 0 COLL PREP COLLEGE PREPARATORY READING I

The first in a series of two courses designed to help students succeed with college-level reading assignments. Emphasis will be placed on vocabulary development and basic comprehension skills, particularly the skill of recognizing the main idea and supporting details. College preparatory courses cannot be used to fulfill degree requirements.

Prerequisite: Compass reading score of 35 or higher or instructor permission based on alternative test

#### RDG 039 3 3 0 0 0 COLL PREP COLLEGE PREPARATORY READING II

The second in a series of courses designed to help students succeed with college-level reading assignments. Emphasis is on strengthening vocabulary and comprehension skills including annotating, summarizing, making inferences and reading critically. College preparatory courses cannot be used to fulfill degree requirements.

Prerequisite: Grade of "C" or higher in RDG 038 or Compass score of 61 or higher on the Reading section or instructor approval based on an alternative test

#### RDG 163 3 3 0 0 0 GENERAL SPEED READING

An advanced reading course designed to improve reading speed and comprehension. Emphasis on adapting to varying content and levels of difficulty and reading purposes.

Prerequisite: Grade of "C" or higher in RDG 039, ACT reading score of 19 or higher, Compass score of 81 or higher on the Reading section or instructor permission based on alternative test

#### REL 101 3 3 0 0 0 CORE SURVEY OF WORLD RELIGIONS

Study of major living religions, their commonalities and contrasts. How these religions enrich human lives.

#### RRO 101 2 2 0 0 0 VOC/TECH RAILCAR SAFETY

A fundamental course in the safe and proper operation around railroad operations on industrial property. Topics include work area hazards, railcar equipment components, safety equipment, proper and safe loading and unloading of railcars and federal (FRA) regulations.

#### SDV 108 1 1 0 0 0 THE COLLEGE EXPERIENCE

This course is designed to introduce students to college resources, services and expectations and to assist them in gaining maximum benefit from their college experience.

OPEN

#### SDV 115 2 2 0 0 0 OPEN STUDY STRATEGIES

Provides students with study/reading strategies for independent learning and academic success. An examination of college policies and procedures is also included.

#### SDV 130 1 1 0 0 0 GENERAL CAREER EXPLORATION

Provides help in choosing a career goal. Emphasis will be placed on how to access labor market information, interests, abilities and values, explore options and make decisions that will lead to career satisfaction and success.

#### SDV 157 1 1 0 0 0 VOC/TECH BUILDING A PROFESSIONAL PORTFOLIO

This course provides the writing and research skills necessary to compile a professional portfolio highlighting abilities, experiences and accomplishments. The portfolio will include a resume, reference letters, certificates, sample demonstrations of work performance, documentation that shows knowledge of subject area and other applicable items.

#### SDV 164 2 1 2 0 0 GENERAL ELECTRONIC PORTFOLIO DEV

Students will receive instruction in creating an electronic portfolio of work. Emphasis will be on selecting artifacts, reflecting on choices, formatting and displaying a web-based portfolio for career or college transfer.

#### SDV 165 1 1 0 0 0 GENERAL TRANSFER PLANNING

Provides students with the information, resources and tools necessary to plan a successful transition from a community college to a four-year college or university. Special emphasis will be placed on developing individual transfer plans.

#### SDV 171 1 1 0 0 0 GENERAL LIBRARY INSTRUCTION

This course will provide students with practical knowledge of information literacy skills, specifically the process of conducting information research for academic assignments and lifelong learning. Students will learn and be able to articulate and perform the research process.

### SDV 172 1 1 0 0 0 GENERAL INTERNET RESEARCH TECHNIQUES

Students will learn how information resources are organized on the internet, and how to reference, search and evaluate information on particular topics. Prerequisite: Basic computer literacy

#### SDV 197 1 0 0 3 0 GENERAL SAC EXPERIENCE

Students will have experiential opportunities for leadership skill development through participation in the Student Activities Council as an at-large member. Open only to SAC members. This course can be repeated each semester the student is a member of SAC, to a maximum of 6 semesters.

(P/F), Corequisite: Must be an appointed member of a DMACC campus Student Activities Council

# SDV 212 1 1 0 0 0 VOC/TECH COOP CAREER SEMINAR

Examination of topics relevant to the internship experience, sharing workplace problems encountered and the solutions found to those problems. This course may be repeated for a maximum of 4 credits.

Corequisite: SDV 222 or 223 or 224 or 225 or 226 or 227

#### SDV 222 1 0 0 0 4 VOC/TECH COOP CAREER EXPERIENCE I

Supervised work experience with employers that enables students to apply their skills and knowledge. Work experiences will relate to the students' academic programs of study.

(P/F), Corequisite: SDV 212

### SDV 223 2 0 0 0 8 VOC/TECH COOP CAREER EXPERIENCE II

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: SDV 212

SDV 224 3 0 0 0 12 VOC/TECH COOP CAREER EXPERIENCE III See SDV 223.

(P/F), Corequisite: SDV 212

# SDV 225 4 0 0 0 16 VOC/TECH COOP CAREER EXPERIENCE IV See SDV 223.

(P/F), Corequisite: SDV 212

# SDV 226 5 0 0 0 20 VOC/TECH COOP CAREER EXPERIENCE V See SDV 223.

(P/F), Corequisite: SDV 212

### SDV 227 6 0 0 0 24 VOC/TECH COOP CAREER EXPERIENCE VI

See SDV 223. (P/F), Corequisite: SDV 212

### SDV 288 3 3 0 0 0 GENERAL LEADERSHIP DEVELOPMENT STUDIES

This course provides emerging and existing leaders the opportunity to explore the concept of leadership and to develop and improve their leadership skills. Students will gain a basic understanding of the concept of leadership theory while developing a personal philosophy of leadership, an awareness of the moral and ethical responsibilities of leadership and an awareness of their own ability and style of leadership.

CORF

CORE

#### SOC 110 3 3 0 0 0 INTRODUCTION TO SOCIOLOGY

The study of human interaction, groups and society. Topics included are culture, socialization, organizations, deviance, inequality, institutions, health, population, ecology, social change and research methods.

#### SOC 115 3 3 0 0 0 SOCIAL PROBLEMS

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.

CORE

#### SOC 120 3 3 0 0 0 MARRIAGE & FAMILY

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.

#### SOC 165 3 3 0 0 0 GENERAL GROUP DYNAMICS

The study of group behavior, including leadership, interaction, team-building, decision-making, cooperation, cohesion, power, problem-solving, and conflict between and within groups.

#### SOC 200 3 3 0 0 0 CORE 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 on group relations in the United States.

SOC 110 is recommended

#### SOC 225 4 4 0 0 0 OPEN SOCIAL GERONTOLOGY/APPL

The influence of social factors on the aging process and experience, including family, gender, ethnicity, retirement, living environments and health/elder care services. Students will complete an older adult service learning project.

#### SOC 226 2 2 0 0 0 OPEN 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 fastgrowing segment of our population.

#### SOC 230 3 3 0 0 0 GENERAL 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: SOC 110 or instructor permission

#### SOC 240 3 3 0 0 0 GENERAL 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: SOC 110 or instructor permission

# SOC 282 3 3 0 0 0 GENERAL ENVIRONMENTAL SOCIOLOGY

This course examines the relationships between society and the natural environment. It focuses on human understanding of nature, the use and abuse of natural resources, and what can be done to improve the relationship.

It is recommended that students take SOC 110 prior to this course.

### SPC 1013 3 0 0 0COREFUND OF ORAL COMMUNICATION

Explores the fundamentals of oral-communication through the study and practice of interpersonal and small group communication and the composition and delivery of short speeches.

# SPC 120 3 3 0 0 0 GENERAL INTERCULTURAL COMMUNICATION

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.

### SPC 126 3 3 0 0 0 CORE INTERPERSONAL & SMALL GRP COMM

An introduction to interpersonal and group communication theories and their application in relationship development, conflict resolution, group problem-solving, and group presentations.

#### SPC 170 3 3 0 0 0 GENERAL PROFESSIONAL COMMUNICATION

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: SPC 101 or SPC 126 or permission of instructor

#### SRV 110 3 3 0 0 0 VOC/TECH SURVEY DRAFTING

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: CET 178

#### SRV 120 5 4 2 0 0 VOC/TECH US PUBLIC LANDS SURVEY SYSTEM

This course will develop a working knowledge of the United States Public Land Survey System and its application in Iowa surveying. Topics will include: the general plan; methods of survey; the system of rectangular surveys; monumentation; restoration of lost or obliterated corners; resurveys; special surveys and special instructions; field notes and plats. Prerequisite: CET 119, CET 169

# SRV 210 1 1 0 0 0 VOC/TECH SAFETY IN THE WORK ENVIRONMENT

This course will address the various safety hazards and causes of illness and injury in the work environment. Topics will include acceptable safety conduct and positive safety attitudes and practices, basic first-aid techniques; proper traffic control procedures; avoiding the effects of temperature extremes; recognizing and avoiding hazardous materials; potential hazards from poisonous plants and animals, and ergonomic principles to prevent musculoskeletal disorders.

#### SRV 215 2 2 0 0 0 VOC/TECH INTRO TO LAND INFORMATION SYS

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 LIS software will be included.

#### SRV 220 3 1 4 0 0 VOC/TECH BOUNDARY SURVEYING

This course will develop a working knowledge of land boundary surveying including liability, professional stature, original surveys, apportionment procedures and description writing. Field work in both urban and rural settings will be performed.

Prerequisite: SRV 120, CET 119 and CET 169

#### SRV 225 2 2 0 0 0 VOC/TECH SURVEYING ETHICS

Introduction to ethical and business issues involved in the surveying profession. Case studies and problems included.

## SRV 230 3 3 0 0 0 VOC/TECH LAND SUBDIVISION

Covers different phases of the land development process: study financing of the project, site analysis, design of preliminary plat and a final plat. Prerequisite: CET 119 and CET 169

### SRV 235 5 4 2 0 0 VOC/TECH INTRODUCTION TO GEODESY

This course deals with concepts of astronomy and geodesy that are relevant to the practice of surveying. They include theory, field techniques, coordinate systems, gravity, and leveling; control surveys and networks; GPS surveying, an introduction to the figure of the Earth and its geometric and physical characteristics; solar and Polaris observation and computations involved in the determination of true north.

Prerequisite: SRV 120, CET 119 and CET 169

### SRV 240 4 4 0 0 0 VOC/TECH BOUNDARY LAW

This is an in-depth course dealing with evidence and procedures used in the determination and location of property boundaries and recognized landlines. Laws and administrative rules relating to land surveying in the State of lowa will be addressed. The role of the surveyor in issuing opinions regarding boundary locations and in resolving boundary disputes will be examined.

Prerequisite: CET 119 and CET 169

### SRV 305 5 0 0 0 20 VOC/TECH FIELD COOP

Practical experience through on-the-job training in an approved surveying setting. Tasks will be consistent with students' career objectives, skills and knowledge.

Prerequisite/Corequisite: Successful completion of 32 credit hours of SRV program courses and/or department approval. Same content as CET 305. Credit will not be granted for both SRV 305 and ET 305.

#### SUR 130 2 2 0 0 0 VOC/TECH INTRO TO SURGICAL TECHNOLOGY

Introduces the field of surgical technology. History of the profession, roles and responsibilities will be covered. Hospital administration, standards of conduct, working as a team, ethical issues, safety, laws, scope of practice and the physical environment will be reviewed. This course includes one operating room shadowing experience.

#### SUR 140 5 3 4 0 0 VOC/TECH FUNDAMENTALS OF SURGICAL TECH

This course teaches the skills needed to work as a surgical technologist. It includes instruction on sterilization as well as sterile technique, surgical case management and instrumentation. This course also discusses diagnostic procedures, including specimen care.

#### SUR 150 2 2 0 0 0 VOC/TECH MED TERMINOLOGY FOR SURG TECH

This course is designed to help students gain the knowledge needed to communicate clearly with other healthcare team members. Instruction starts with a foundation of word parts, prefixes, suffixes and word roots, and then builds words by combining the parts. The course also covers semesters not built from word parts and includes specialized vocabulary for surgical technologists. Exercises are included to help recognize and define new medical semesters.

#### SUR 200 5 3 4 0 0 VOC/TECH SURG PROCEDURES/TECHNIQUES I

This course teaches the student about the aspects of common surgical procedures. Minor and major cases in a variety of surgery areas will be discussed, including general, obstetric and gynecological, ophthalmic, otorhinolaryngologic, plastic and reconstructive, urologic and orthopedics.

#### SUR 202 3 3 0 0 0 VOC/TECH SURG PROCEDURES/TECHNIQUES II

This class will compare and discuss surgical procedures and emergency cases. Specialty area include oral and maxillofacial, cardiothoracic, peripheral vascular and neurosurgery. This course will prepare the student to discuss the relevant anatomy and physiology, preoperative preparations, instrumentation and equipment used in the specialty areas of oral and maxillofacial, cardiothoracic, peripheral vascular and neurosurgery.

Prerequisite: SUR 200 with a grade of "C" or better

## SUR 4202 2 0 0 0VOC/TECHPHARMACOLOGY FOR THE SURG TECH

In this course the student will review basic math skills. The student will learn a framework of pharmacological principles to apply in surgical situations. Commonly used medications by category, with frequent descriptions of actual surgical applications, will be identified. The student will also learn basic anesthesia concepts to function more effectively as a surgical team member.

#### SUR 805 5 0 0 15 0 VOC/TECH CLINICAL PRACTICUM I

This course will develop the skills needed to work as a surgical technologist. This includes instruction with a preceptor on preoperative, intraoperative and postoperative surgical case management at the clinical facility. The student will scrub on a variety of surgical cases.

Prerequisite: SUR 130 and SUR 140 with a grade of "C" or better, BIO 733  $\,$ 

### SUR 810 5 0 0 15 0 VOC/TECH CLINICAL PRACTICUM II

This course will further enhance the skills needed to work independently as a surgical technologist. This includes instruction with a preceptor on preoperative, intraoperative and postoperative surgical case management at the clinical facility. The student should feel comfortable assisting in the circulating role and independently scrubbing for a variety of surgical cases.

Prerequisites: SUR 200 and SUR 805 with a grade of "C" or better

#### TEL 111 3 3 0 0 0 VOC/TECH BASIC ELECTRICITY/ELECTRONIC I

For beginners to solve basic electronic problems involving voltage, resistance and power. The relationship between electricity and magnetism, operation of resistors, meters, switches, relays, capacitors, inductors and batteries will be explained.

# TEL 112 2 2 0 0 0 VOC/TECH BASIC ELECTRICITY/ELECTRON. II

For those who have an understanding of volts, ohms, amps and series parallel circuits. Topics include the difference between alternating current (AC) and direct current (DC), the AC generator, analyze of simple AC currents, transformer action, series and parallel resonant circuits. May also be taken as a study course.

# TEL 1162 2 0 0 0VOC/TECHELECTRONIC CIRCUITS

Basic and operational amplifiers, power supplies, oscillators, pulse circuits and modulation. Must have prior knowledge in electricity/electronics. Prerequisite: TEL 112

# TEL 118 3 3 0 0 0 VOC/TECH SEMICONDUCTOR DEVICES

N-type, P-type, PN junctions, diodes, zener diode, transistors, bipolar characteristics, field effects, thyristors, integrated circuits and opto-electronics. Should have knowledge in AC/DC electronics.

# TEL 210 3 3 0 0 0 VOC/TECH TELECOMMUNICATIONS I

Provides an overview of telecommunications and covers basic telecommunications circuits, equipment and diagnostic procedures for lines, basic key systems, and an understanding of the telecommunications industry.

Corequisite: TEL 213

#### TEL 213 3 0 6 0 0 VOC/TECH INTRODUCTION TO TELEPHONY LAB

Provides hands-on experience in installation and fault isolation of telephone lines and basic key systems, basic cable counts, cable splicing and cable termination procedures.

Corequisite: TEL 210

## TEL 220 4 4 0 0 0 VOC/TECH TELECOMMUNICATIONS II

Covers basic telecommunications equipment used by businesses and its connection to a switched public or private network. Covered subjects include electronic key systems, private branch exchange systems (PBX), trunks and associated equipment. Analog and digital communications and associated equipment are also covered. Experienced individuals may contact the instructor to gain admittance to this course.

Corequisite: TEL 223

### TEL 222 4 0 8 0 0 VOC/TECH TELECOM OUTSIDE PLANT

Provides hands-on training in the telecommunications outside plant field. Topics covered include basic installation and repair troubleshooting, fiber and copper cable repair and troubleshooting, outside plant cable splicing and design, ladder safety, working aloft and pole climbing.

Prerequisite: TEL 210, Corequisite: TEL 220

#### TEL 223 3 0 6 0 0 VOC/TECH TELECOM TRANSPORT LAB

Provides hands-on training on a private branch exchange system, user data modification for a digital central office switch, digital key systems, and associated equipment. Experience includes wiring, soldering, call routing, fault isolation and modular splicing.

Prerequisite: TEL 210, TEL 213, Corequisite: TEL 220

#### TEL 230 4 4 0 0 0 VOC/TECH ADVANCED TOPICS IN TELECOM

Covers advanced digital switching principles and practices, system configuration, and diagnostic procedures common to digital central office switching systems and private branch exchanges. Advanced topics using high-speed broadband links and fiber optics are introduced. Experienced individuals may contact the instructor to gain admittance to this course.

Prerequisite: TEL 220, 223, Corequisite: TEL 233

## TEL 232 3 3 0 0 0 VOC/TECH DATA COMMUNICATIONS

An introduction to data communications and data networks. Includes digital communications, analog communications and interfaces. Networks including both LAN and WAN operation and common test techniques.

Prerequisite: TEL 210, 213

#### TEL 233 3 0 6 0 0 VOC/TECH ADVANCED TOPICS IN TELECOM LAB

Provides hands-on learning experience with broadband fiber circuits, digital multiplex systems and high-speed transport devices. System configuration and diagnostics is also presented. Prerequisite: TEL 220, 223, Corequisite: TEL 230

### TEL 2403 3 0 0 0VOC/TECHTELECOMMUNICATIONS MANAGEMENT

Telecom management course covers new and emerging technology and implementation in the business environment. Discussion covering technology management and leveraging of telecom assets.

Prerequisite: TEL 230, 233, Corequisite: TEL 243

#### TEL 243 3 0 6 0 0 VOC/TECH INTERNETWORKING LAB

Provides hands-on lab experience configuring and troubleshooting networks. Internetworking is the primary focus using various software tools and test equipment to connect and analyze differing networks. Voice over IP, ATM, xDSL, ISDN and other technologies are used and implemented in the lab setting.

Prerequisite: TEL 230, 233, Corequisite: TEL 240

#### VIN 101 4 3 2 0 0 VOC/TECH INTRO TO STARTING A VINEYARD

Introduction to selecting and preparing successful vineyard sites, economics of vineyards, and cultural practices for nonbearing vineyards.

#### VIN 102 4 3 2 0 0 VOC/TECH INTRO TO BEARING VINEYARDS

Introduction to management of bearing vineyards: cultural practices, fertility and economics.

#### VIN 103 4 3 2 0 0 VOC/TECH INTRO TO VINEYARD PEST MGMT

Introduction to pests that affect vineyards, pest management and proper use of control methods. This course will also involve preparation for students to take the test for commercial pesticide applicator's license.

## VIN 104 3 2 2 0 0 VOC/TECH VIT. FOR WINE PRODUCTION

This course is an introduction to the grape and wine industry in short-season regions and worldwide. It investigates grape origins and growth habit, the vineyard factors that can impact wine quality, the process of fruit development, terroir, and grower-winery relations. Prior to taking this course, students should have a basic understanding of grape production.

#### VIN 121 2 2 0 0 0 VOC/TECH PRE-PLANT DECISIONS

This course is an introduction to selecting and preparing successful vineyard sites, cultivar selection and trellis installation.

# VIN 122 2 2 0 0 0 VOC/TECH PLANTING AND EARLY CARE

This course is an introduction to vineyard training systems, economics of vineyards and cultural practices for nonbearing vineyards. Prior to taking this course, students should have a basic understanding of vineyard site selection, grape cultivars and trellis installation.

#### VIN 123 2 2 0 0 0 VOC/TECH PRUNING AND CANOPY MANAGEMENT

This course is an introduction to pruning and the canopy management of bearing vineyards. Prior to taking this course, students should have a basic understanding of vineyard establishment leading up to the years of vineyard fruit production.

#### VIN 124 2 2 0 0 0 VOC/TECH CROP MANAGEMENT

This course is an introduction to vineyard crop management, fertilization, harvest issues and the sale of grapes. Prior to taking this course, students should have a basic understanding of vineyard establishment leading up to the years of vineyard fruit production and an understanding of the pruning and canopy management of bearing vineyards.

#### VIN 125 2 2 0 0 0 VOC/TECH PEST IDENTIFICATION

This course is an introduction to the identification of vineyard pests, the factors that affect successful infections and methods of vineyard scouting. This course will help prepare students to take the test for a commercial pesticide applicator's license. Prior to taking this course, students should have a basic understanding of vineyard establishment and the management of mature vineyards.

#### VIN 126 2 2 0 0 0 VOC/TECH PEST MANAGEMENT

This course is an introduction to the different methods of controlling vineyard pests, the different products available for pest control, developing a pest control program, proper pesticide application, safety concerns, and the rules and regulations involved with pesticide application. This course will help prepare students to take the test for a commercial pesticide applicator's license.

Prior to taking this course, students should have a basic understanding of vineyard establishment, management of mature vineyards and the life cycles of vineyard pests.

#### VIN 149 4 3 2 0 0 VOC/TECH GRAPE AND WINE SCIENCE

This course introduces the grape and wine industry worldwide and in the Midwest. It investigates grape origin, vine growth habit, wine production, and winery quality control.

#### I VIN 150 3 3 0 0 0 VOC/TECH INTRODUCTION TO WINE

This course presents introductory information on wine appreciation, focusing on sensory analysis, production, classification and culture of wine.

## VIN 151 4 3 2 0 0 VOC/TECH CELLAR TECH. AND OPERATIONS

This course presents winery technology and provides practical instruction on grape processing equipment. Prerequisite: VIN 150 or industry experience

#### VIN 152 4 3 2 0 0 VOC/TECH INTRO TO WINE SCIENCE

This course examines the basic scientific principles of wine production and provides instruction of wine laboratory analysis equipment.

Prerequisite: VIN 150 or industry experience

#### VIN 153 1 1 0 0 0 VOC/TECH INTRO. TO WINE REGIONS

This course presents introductory information on wine regions.

Prerequisite or, Corequisite: VIN 150

#### VIN 175 2 1 2 0 0 VOC/TECH WINE SERVICE OPERATIONS

Students will investigate the role of a wine program in a restaurant context and implement wine service principles for formal dining experiences. Prerequisite: VIN 150 or instructor permission

Prerequisite: VIN 150 or instructor permission

### VIN 185 2 2 0 0 0 VOC/TECH INTRODUCTORY SOMMELIER PREP.

This course relates information required to assist students who are pursuing the Introductory Sommelier accreditation.

Prerequisite: VIN 150 or instructor permission

#### VIN 189 2 1 2 0 0 VOC/TECH WINE MICROBIOLOGY

This course examines beneficial and spoilage unicellular organisms specifically related to wine production. Prerequisite: BIO 187

#### VIN 190 4 3 2 0 0 VOC/TECH WINE SCIENCE

This course focuses on principles of enology and wine laboratory analysis, focusing on the most common evaluation methods utilized in a successful winery quality control program.

Prerequisite: CHM 122 and VIN 149

#### VIN 201 4 3 2 0 0 VOC/TECH VITICULTURAL SCIENCE

Advanced concepts in the science of viticulture. Prerequisite: VIN 149 or instructor permission

## VIN 202 4 3 2 0 0 VOC/TECH VINE HEALTH

Advanced concepts in the identification, life cycles, management and control of vineyard pests.

Prerequisite: VIN 201 or instructor permission

# VIN 203 4 3 2 0 0 VOC/TECH VINEYARD ESTABLISHMENT

Advanced concepts in vineyard establishment. Prerequisite: VIN 201 or instructor permission

#### VIN 204 4 3 2 0 0 VOC/TECH ENGINEERING IN AGRI

A study of engineering principles that relate to agricultural industries.

Prerequisite: Instructor permission

#### VIN 248 1 0 2 0 0 VOC/TECH HORT/BOTANY LAB

Laboratory exercises designed to introduce the principles of botany.

Corequisite: AGH 221 or instructor permission

#### VIN 249 4 3 2 0 0 VOC/TECH PLANT PHYSIOLOGY

A study of how plants function and interact with the environment.

Prerequisite: AGH 221 or instructor permission

#### VIN 250 3 3 0 0 0 VOC/TECH WINE REGIONS OF THE WORLD

This course will investigate the grape varieties and wine styles produced throughout the world. Prerequisite: VIN 150 or instructor permission.

### VIN 275 4 4 0 0 0 VOC/TECH SENSORY SCIENCE

This course presents applied information on wine sensory analysis to help students recognize personal sensory biases and evaluate wine types and styles critically and scientifically.

Prerequisite: MAT 157 and VIN 150 or instructor permission

### VIN 290 4 3 2 0 0 VOC/TECH COMMERCIAL WINE PRODUCTION

This course presents applied enology and industry topics related to the production of commercial-grade wines.

### VIN 295 2 2 0 0 0 VOC/TECH CERTIFIED SOMMELIER PREP.

This course relates information designed to assist students who are pursuing the Certified Sommelier accreditation.

Prerequisite: VIN 150 or instructor permission

#### VIN 920 3 0 0 0 14 VOC/TECH FIELD EXPERIENCE

This course provides viticulture work experience. The student will maintain employment at a vineyard working in the production of grapes and gain experience/proficiency conducting vineyard operations.

Prerequisite: VIN 150 or instructor permission

#### VIN 932 3 0 0 0 14 VOC/TECH INTERNSHIP IN ENOLOGY

This course provides enological work experience. The student will maintain employment at a commercial winery, working in the production of wine and gain experience as a cellar worker, laboratory technician or logistic coordinator.

Prerequisite: VIN 150 or instructor permission

#### WAT 210 4 3 2 0 0 VOC/TECH WASTEWATER TREATMENT: INDUS

Students will learn about industrial wastewaters and the need for industrial plant operators. They will be informed on sources of industrial wastewaters and their impacts on the environment. They will also be given instruction on sampling, monitoring of treatment processes, receiving waters, working safely and maintenance of industrial wastewater treatment plants.

## WAT 300 3 2 2 0 0 VOC/TECH WATER ANALYSIS

In this course students are introduced to basic water laboratory procedures. Students will learn about chemical names and formulas, laboratory equipment, laboratory safety and regulatory sampling. They will also perform laboratory tests and procedures for alkalinity, chlorine residual, chlorine demand, coliform, hardness, jar test, pH, temperature and turbidity.

#### WAT 304 4 3 2 0 0 VOC/TECH WATER TREATMENT I

This course explores the fundamentals of water treatment and basic operational procedures. Students learn regulatory monitoring concerns, sediment control, how to operate and maintain sedimentation, coagulation, flocculation, fluoridation and disinfection. Students are also taught iron and manganese removal and filtration processes.

# WAT 305 4 3 2 0 0 VOC/TECH WATER DISTRIBUTION SYSTEMS

This course will provide students with theory and a practical understanding of the operation and maintenance of water distribution systems. This course will cover the role of a water distribution system operator, storage facilities, distribution system facilities, and the operation and maintenance of these facilities. Students will also learn about water quality, disinfection, safety and administrative responsibilities.

## WAT 306 4 3 2 0 0 VOC/TECH WASTEWATER COLLECTION SYSTEMS

In this course students will learn the operator's duties for the operation and maintenance of wastewater collection systems. Course information will include inspection, cleaning, testing, repair and safety procedures of collection systems. Students will also be taught about lift stations, equipment maintenance, sewer renewal, administrative duties and systems organization.

#### WAT 307 4 3 2 0 0 VOC/TECH WASTEWATER TREATMENT I

This course explores the fundamentals of wastewater treatment and basic operational procedures. Students learn the duties of a treatment plant operator, why we treat wastes and the operations of wastewater treatment facilities. Students are also taught preliminary treatment, sedimentation and flotation, trickling filters, rotating biological contactors, activated sludge, waste treatment ponds, disinfection and chlorination.

## WAT 308 3 2 2 0 0 VOC/TECH WASTEWATER ANALYSIS

During this course students will perform wastewater laboratory procedures and chemistry. They will study vocabulary, equipment, techniques, hazards, hygiene and accident prevention. They will also learn correct sampling and testing techniques.

#### WAT 311 4 3 2 0 0 VOC/TECH WASTEWATER TREATMENT II

Students in this course will be trained to safely operate and maintain conventional activated sludge plants. They will learn about sludge digestion, handling of solids and the reclamation and reuse of effluent discharge. Information on computer applications, correct laboratory procedures and chemistry for operators will also be taught. Students will be able to analyze and present data, keep records and write reports and learn administrative duties in treatment plants.

Prerequisite: WAT 307

#### WAT 312 4 3 2 0 0 VOC/TECH WATER TREATMENT II

In this course students will be trained in the practical aspects of operating and maintaining water treatment plants, including safe practices and procedures. Information on drinking water regulations, iron and manganese control, fluoridation, softening, trihalomethanes, demineralization, handling and disposal of process wastes, maintenance, instrumentation and advanced laboratory procedures will be covered. Administrative procedures will also be explained, including budgeting, setting rates, recordkeeping, personnel administration, public relations and emergency planning.

Prerequisite: WAT 304

#### WAT 932 3 0 0 0 12 VOC/TECH INTERNSHIP

Students will gain practical experience through onthe-job training at an instructor-approved water or wastewater facility.

Prerequisite: Instructor permission

#### WDV 101 3 2 2 0 0 VOC/TECH INTRO HTML AND CSS

Introduces current standards of HTML, XHTML and CSS. Students will code HTML and CSS web pages, test them in browser and publish them to a web server. Page layouts will use various CSS techniques. Tables and forms will be used as well. A current version of Dreamweaver will be used to build more complex pages.

### WDV 131 3 2 2 0 0 VOC/TECH INTRO PHOTOSHOP AND FIREWORKS

This course introduces students to the use of digital imagery for websites and other electronic media. Students learn to use Adobe Photoshop and Fireworks to create, modify, and enhance images and create exciting graphics for digital media use.

#### WDV 151 3 2 2 0 0 VOC/TECH INTRO WEB DESIGN

This course introduces design principles and concepts as they relate to web design. Students will complete basic design projects, focusing on the main principles of design, color theory and basic typography.

#### WDV 221 3 2 2 0 0 VOC/TECH INTRO JAVASCRIPT

Introduces the student to the concepts of the Javascript programming language and its related logic structures within an Internet browser. Will discuss the concepts of Dynamic HTML, which is the interaction of Javascript, Cascading Style Sheets (CSS), HTML and the Document Object Model. Students will create dynamic forms, change content, and perform client-side, user-driven activities within a web page application.

Prerequisite: WDV 101 or CIS 204 or instructor permission

#### WDV 245 3 2 2 0 0 VOC/TECH CONTENT MANAGEMENT SYSTEMS I

This hands-on course teaches how to plan, design and produce complete, commercially oriented website applications using professional Open Source database-driven web content management software. Using an industry-standard web development server, students will learn to install, modify and maintain CMS software such as WordPress and Joomla. Site themes or "skins" will be created and modified using Dreamweaver.

Prerequisite: WDV 101 or CIS 204 or instructor permission

### WDV 261 3 2 2 0 0 VOC/TECH INTRO FLASH

Provides an introduction to a current version of Adobe Flash software. Students will explore the Flash program and will become familiar with the layout and interface. Students will learn how to draw, import, lay out, modify and animate content within Flash.

#### WDV 321 3 3 0 0 0 ADVANCED JAVASCRIPT

Use Javascript to implement client-side form data validation, browser capability and motion as well as other dynamic content changes. Create dynamic cross-browser compatible user-driven presentation and content with Javascript and CSS.

Prerequisite: WDV 221 or instructor permission

## WDV 331 3 2 2 0 0 VOC/TECH DREAMWEAVER APPLICATIONS

Introduces the advanced features of a current version of Dreamweaver. This will include site management tools, creation and use of templates for layout control, implementation of Sprys as well as other features. A website application will be built using Dreamweaver's built-in database connectivity to provide server-side content delivery.

Prerequisite: WDV 221 or instructor permission

### WDV 341 3 3 0 0 0 VOC/TECH INTRO PHP

This course will introduce PHP as a server-side scripting language. It will introduce the MySQL database and the SQL language for use with PHP. Students will embed PHP and SQL code into html pages and publish them to a PHP-enabled server. Students will create a web application that will allow for user log-in pages, as well as add, delete and update database content to web pages.

Prerequisite: WDV 101 or CIS 204 or instructor permission

# WDV 351 3 3 0 0 0 VOC/TECH WEBSITE APPLICATION COMPONENTS

Students will learn how to implement a variety of third-party components into a website application. This includes, but is not limited to, videos, audios, RSS feeds, forums, blogs, bulletin boards, widgets, E-commerce components, XML, CGI scripts and form-handling components.

Prerequisite: WDV 221 or instructor permission

## WDV 441 3 3 0 0 0 VOC/TECH ADVANCED PHP

Expands the use of PHP, MySQL and SQL to create a functional Content Management System (CMS). Will include advanced functionality such as shopping carts, search, payment processing, reporting, AJAX, etc. Prerequisite: WDV 341 or instructor permission

#### WDV 445 3 3 0 0 0 VOC/TECH CONTENT MANAGEMENT SYSTEMS II

Hands-on course uses industry standard Open Source content management system (CMS) software to build and deploy commercially oriented websites on an Internet server. Software could include Joomla, Drupal, Wordpress or other currently available software.

Prerequisite: WDV 245 or instructor permission

#### VOC/TECH WDV 490 3 3 0 0 0 VOC/TECH WEBSITE APPLICATIONS SEMINAR

Students will build, update or modify new or existing commercially-oriented website applications. Projects will include project planning, time estimating, group projects, version control and commercial web host interfaces.

Prerequisite: Instructor permission

#### WDV 495 3 3 0 0 0 VOC/TECH EMERGING TECHNOLOGIES SEMINAR

Explore the constant changes that occur rapidly in this field. Examine and discuss how current and future technologies may affect current website applications and future development. Recommended for those with a strong, diverse background, interest and/or experience with website applications. Prerequisite: Instructor permission

#### WDV 521 3 3 0 0 0 VOC/TECH INTRO AJAX

Student will plan and develop advanced clientside applications. AJAX and related frameworks will be introduced and used to create rich Internet applications. Applications will communicate with server applications using Ajax technologies including Javascript, XML and SOAP.

Prerequisite: WDV 321 or instructor permission

# WDV 541 3 3 0 0 0 VOC/TECH PHP SEMINAR

Explore the continuing changes and updates with PHP. Examine and discuss how current and future PHP technologies may affect current website applications and future development. Recommended for those with a strong, diverse background, interest and/or experience with PHP and website applications.

Prerequisite: WDV 441 or instructor permission

### WDV 932 3 0 0 0 12 VOC/TECH WEB DEVELOPMENT INTERNSHIP

Work-related opportunities provide significant experience for web developers. Students who are working or have an opportunity to work in a position that primarily uses web development knowledge and skills may use this course. Students are expected to find their own opportunity.

Prerequisite: Instructor permission

#### WEL 111 3 3 0 0 0 VOC/TECH WELDING BLUEPRINT READING

The basic skills needed to read shop drawings (including welding symbols) will be learned. Prerequisite: MAT 772

# WEL 120 2 0 4 0 0 VOC/TECH OXY FUEL WELDING/CUTTING

Skills will be developed in oxy-acetylene welding, cutting and repair. Safety is emphasized.

#### WEL 150 2 0 4 0 0 VOC/TECH ARC WELDING I (SMAW)

Skills will be developed in welding beads and buildup surfacing in the flat position. Safety is emphasized.

# **COURSE DESCRIPTIONS**

#### WEL 165 3 0 6 0 0 VOC/TECH ARC WELDING II (SMAW)

Skills will be developed in welding multiple pass tee fillet welds in the horizontal position. Safety is emphasized.

Prerequisite: WEL 150

#### WEL 166 2 0 4 0 0 VOC/TECH ARC WELDING III (SMAW)

Skills will be developed in welding corner fillet joints, weld arounds, and sheet metal weldments in the flat positions. Safety is emphasized. Prerequisite WEL 165

#### WEL 167 3 0 6 0 0 VOC/TECH ARC WELDING IV (SMAW)

Skills will be developed in welding beads, buildup surfacing, and fillet weldments in the horizontal position. Safety is emphasized.

Prerequisite: WEL 166

### WEL 168 3 0 6 0 0 VOC/TECH ARC WELDING V (SMAW)

Skills will be developed in welding fillet joints in the vertical downhill and vertical uphill position. Safety is emphasized.

Prerequisite: WEL 167

### WEL 169 2 0 4 0 0 VOC/TECH ARC WELDING VI (SMAW)

Skills will be developed in welding fillet joints in the overhead position. Air carbon arc gouging and plasma arc cutting will also be practiced. Safety is emphasized.

Prerequisite: WEL 168

#### WEL 176 2 0 4 0 0 VOC/TECH ADV ARC WELDING I (SMAW)

Skills will be developed in welding and testing vee groove joints in the flat and horizontal positions. Safety is emphasized.

Prerequisite: WEL 169

#### WEL 177 3 0 6 0 0 VOC/TECH ADV ARC WELDING II (SMAW)

Skills will be developed in welding and testing in the vertical and overhead positions. Safety is emphasized. Prerequisite: WEL 176

### WEL 181 2 0 4 0 0 VOC/TECH GAS METAL ARC WELDING

Practical application in the use of the gas metallic arc welding process, including submerged arc and flux-cored arc. Safety is emphasized.

## WEL 190 2 0 4 0 0 VOC/TECH GAS TUNGSTEN ARC WELDING

A course to develop skills in the gas tungsten arc welding process using mild steel, stainless steel and aluminum. Safety is emphasized.

Prerequisite: WEL 120

#### WEL 303 3 0 6 0 0 VOC/TECH PIPE WELDING/SMAW

Welding practice and testing on open grove plate weldments in the 1G, 2G, 3G and 4G positions, and, as time permits, on pipe weldments in the 2G, 5G and 6G positions. Safety is emphasized.

Prerequisite: WEL 177

## WTT 103 3 3 0 0 0 VOC/TECH INTRODUCTION TO WIND ENERGY

To provide the student with knowledge of common terminology and general information related to the wind industry. The student will become familiar with the various types of turbines, the technology, sectors, jobs and organizations as well as an outlook on the future of the wind industry.

#### WTT 114 5 4 2 0 0 VOC/TECH FIELD TRAINING & PROJECT OPER

Course includes information corresponding to industry practices and standards of safe operations of a wind power generating facility, including the techniques of proper ascent and descent of wind turbine generators, day-to-day operations and the infrastructure that is in place as part of a typical power plant. Course also includes tools, equipment and teamwork, as it applies to operations and maintenance of the facility.

Prerequisite: WTT 103

## WTT 133 3 2 2 0 0 VOC/TECH WIND TURBINE MECHANICAL SYS

Course includes the nomenclature and semesters common to metals and metallurgy. Instruction will also include gears and gear failure analysis techniques, gear structures, inspection of gears and analysis of lubricants. Course includes discussion of the application of lubricants and proper procedures for acquiring lubricant samples and the effects of friction, gear damage and wear.

Prerequisite: WTT 103

#### WTT 216 3 2 2 0 0 VOC/TECH POWER GENERATION/TRANSMISSION

This course will serve as an introduction to the generation of electrical power with a wind turbine generator, moving that power through a local transmission system to a substation where a customer will purchase the generated power. This course will cover all aspects of working with components of a high-voltage transmission system.

Prerequisite: ELT 303, ELT 134

### WTT 223 3 2 2 0 0 VOC/TECH AIRFOILS AND COMPOSITE REPAIR

This course will enable the student to more efficiently inspect, repair and move/transport wind turbine blades. Students will understand common industry semesters used in the manufacture and repair of wind turbine blades.

#### Prerequisite: WTT 103

#### WTT 225 4 2 4 0 0 VOC/TECH DATA ACQUISITION & ASSESSMENT

This course will give students information on how wind resource data is collected and analyzed for use in the development of wind-powered generation of electricity. Students will also learn how to access power production of individual wind turbines.

Prerequisite: WTT 103, ELT 303, ELT 134, ELT 141, ELT 119, WTT 216, WTT 245

### WTT 245 4 2 4 0 0 VOC/TECH ELECTRICAL PRACTICAL APP

This course will provide students with practical wiring exercises involving installation, wiring and troubleshooting of electrical devices and equipment used in, but not specific to, wind turbine control systems. Students will study electrical diagrams, design of electrical systems, and electrical safety. Prerequisite: ELT 303, ELT 134, WTT 133

# FACULTY AND STAFF 2011-2012

- ABBOTT, MATTHEW A., 2007, Biology. B.A., Grinnell College; Ph.D., Iowa State University
- 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, Academic Advisor. B.S., M.Ed., Iowa State University
- ALBERHASKY, MATTHEW J., 2008, English. B.A., M.A., Iowa State University
- ALBERTSON, MARCIA, 1974, P.C. Applications. B.A., University of Northern Iowa
- AMDAHL, MAYNARD, 1978, Tool & Die. Diploma, Dunwoody Industrial Institute; Certificate, U.S. Department of Labor Journeyman Tool & Diemaker
- AMLING, STACY L., 2006, Spanish. B.A., University of Northern Iowa; M.A., M.A., Michigan State University
- ANDERSON, GARRETT L., 2007, Electronics/Information Technology. A.A.S., Des Moines Area Community 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
- ARNE, COURTNEY L., 2007, Credentials/Graduation Specialist. B.S., Eugene Bible College
- ATAL, HADI., 2002, Academic Advisor. B.A., Grinnell College
- AUKES, SHIELA R., 2006, Counselor. B.A., St. Cloud State University; M.S.W., University of St. Thomas; LISW
- AUSTIN, JEREMY C., 2007, Academic Advisor. B.A., M.S., Pittsburgh State University
- BADGER, BARBARA J., 2006, Financial Aid Advisor. B.A., University of Northern Iowa
- BAILEY, GREG A., 2000, Industrial Electromechanical Technology Assoc., National Institute of Technology
- BAKARI, ROSENNA, 2008, Psychology. B.S., Cornell University; M.S., State University of New York; Ph.D., University of Northern Colorado
- BAKER-BRODERSEN, BETH M., 2005, English/Academic Achievement Center. B.A., Northwest Missouri State University; M.A., Iowa State University
- BARRETT, LARRY, 1988, Respiratory Therapy. A.A.S., Des Moines Area Community College; B.S., M.Ed., Iowa State University
- BARTH, VICKIE R., 2007, Director, Nursing Education. Diploma, Allen School of Nursing; B.S.N., University of Dubuque; M.S.N., University of Iowa; Ed.D., University of Northern 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 III, LEONARD, 2005, Education Outreach Advisor. B.L.S., Iowa State University
- BELTRAME, DAVE, 2004, Graphic Technologies. Diploma, Des Moines Area Community College; RIT; PIA/GATF
- BENDY, STEVE J., 2000, Graphic Design. B.F.A., B.S.Ed., University of Nebraska
- BENNETT, KELLI A., 2004, Program Coordinator, Iowa DOT. A.A., Des Moines Area Community College
- 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, Coordinator, Network Systems. 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., 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
- BLAIR, MICHAEL L., 2005, Graphic Design. A.A.S., Des Moines Area Community College
- BOETEL, KARLA V., 2006, Culinary Arts. A.A.S., Des Moines Area Community College; B.P.S., The Culinary Institute of America; C.E.C.
- BOLDT, JACLYN L., 2008, Student Employment Specialist. B.A., Waldorf College, Buena Vista University
- BOOTH, CONNIE, 1982, Nursing. B.S.N., Creighton University; M.S.N., University of Nebraska Medical Center
- BOUDJARANE, KHALED, 2005, Physics. B.SC., M.SC., University of Quebec, Trois-Rivieres; Ph.D., Laval University, Quebec, Canada
- BRAND, SONJA K., 1995, Academic Achievement Center. B.S., Northwest Missouri State University
- BREND, JOSEPH, 1998, Building Trades.
- BROWN, LORI M., 2005, Dental Hygiene. B.S., University of Iowa; M.S., Drake University; RDH
- BROWN, REBECCA F., 2002, Business Administration. B.S., Meredith College; M.B.A., Bellevue University
- 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, Director, Electronic Crime Institute. B.S., M.S., Iowa State University
- BURNS, JERALD L., 2004, Automotive Technology. A.A.S., Des Moines Area Community College
- BUSH, KRISTINE L., 2008, Nursing. B.S.N., Central Missouri State University; M.S.N., Drake University

- CAIN, RAYNA M., 2010, Student Services/Athletic Assistant/ Coach. B.S., M.S., Wayne State College
- CALKIN, JEFREY B., 1988, Automotive Technology
- CAMPBELL, KAREN J., 1999, Medical Laboratory Technology. B.A., M.A.T., Drake University
- CAREY, PATRICIA A., 2009, Nurse Aide. A.D.N., Des Moines Area Community College
- CAREY, PHILIP J., 2004, Hospitality Careers. A.S., Des Moines Area Community College; B.S., Upper Iowa University; C.E.C; C.C.E.
- CARLSON, LISA L., 2007, Coordinator, District Student Support Systems. B.A., University of Northern Iowa; M.S.E., Drake University
- CARPENTER, CHRISTINA M., 2004, Counselor. A.A., State Fair Community College; B.S., M.S., Central Missouri State University; Kansas State University
- CARPENTER, HOWARD R., 2008, Director, Program Development. B.S.B.A., M.A., Central Missouri State University
- CARRICO, TRAVIS L., 2007, Mortuary Science. A.A.S., Cincinnati College of Mortuary Science; B.A., M.B.L., William Penn University
- CARROLL, JOHN W., 2003, Title I Corrections. B.A., Loras College; M.A., University of Northern Iowa
- CERFOGLI, FRANK M., 2007, Veterinary Technology. B.A., University of Northern Iowa; D.V.M., Iowa State University
- 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
- CHAMPLIN, KATHERINE A., 2010, Early Childhood Education. B.A., St. Ambrose University; M.A.E., University of Northern Iowa
- CHERRY, MICHAEL R., 2000, Safety/Fire Science. A.A., Des Moines Area Community College; B.A., Simpson College
- CHOPARD, LOIS, 1987, Academic Advisor. B.A., University of Northern Iowa
- CHRISTENSEN, KATHY R., 2008, Instructional Assistant. B.A., Buena Vista University
- CIPALE, DEBORAH J., 2005, Coordinator, Nursing Resource Lab. R.N., Iowa Methodist School of Nursing; B.S.N., Grand View College; M.S.N., Nebraska Methodist College
- COCHRAN, MARIA E., 2007, English. B.A., Moscow State Pedagogical University; M.A., Drake University; Ph.D., Iowa State University
- CONIS, PETER J., 2000, Sociology/Criminal Justice. A.A., Des Moines Area Community College; B.S., M.S., Ph.D., Iowa State University
- CONNOLLY, TARA K., 2011, Executive Director, DMACC Foundation. B.A., Villanova University; M.N.M., Regis University
- CONWAY, ANNA L., 2007, Speech. Sp.D., International University, Moscow; M.A., Ed.D., University of Northern Iowa

216 DES MOINES AREA COMMUNITY COLLEGE CATALOG 2011-2012

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- CORY, CYNTHIA, 1980, Nursing. B.S.N., University of Iowa; M.S.N., Clarkson College
- DAMERON, APRIL J., 2001, Academic Advisor. B.A., Simpson College

DANNER, BRECK B., 2007, Coordinator, Alumni Affairs. B.A., University of Northern Iowa; M.Ed., Iowa State University

- DARLING, JONATHAN D., 2008, H.V.A.C. A.A.S., Des Moines Area Community College
- DAVENPORT, RITA L., 2002, Counselor. B.A., Central College; M.S.E., University of Wisconsin, Platteville
- 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
- DAY, ANN M., 2000, Nursing. B.S.N., M.S.N., University of Iowa
- DEAL, TERRI L., 2001, Dental Assistant. A.A., Des Moines Area Community College
- DENSON, ROBERT J., 2003, President/CEO. B.S., M.S., Iowa State University; J.D., University of Florida
- DICKINSON, MARC A., 2008, English. B.A., M.A., University of Northern Iowa; M.F.A., Colorado State University
- DICKSON, NANCY K., 1995, Director, Scheduling & Course Implementation. 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

DILLEY, CRAIG A., 2008, Biology/Chemistry. B.A., University of Nevada, Las Vegas; B.S., M.S., Ph.D., Iowa State University

DORAN, JOHN M., 1980, Mathematics. B.A., University of Northern Iowa; M.A., San Diego State University

DORON, BONNIE B., 1994, English. A.A., Colby-Sawyer College; B.A., M.A., East Texas State University; Ph.D., Texas Woman's University

DOSE, JAMES E., 2007, Academic Achievement Center. A.A., Clinton Community College; B.A., University of Northern Iowa; M.S.M., Iowa State University

DOUD, TIM J., 1999, Agri-Business. 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
- DREESMAN, LISA A., 2008, Librarian/Media Specialist. B.A., M.L.S., University of Northern Iowa

DUDGEON, JOANNE K., 2010, History/Geography. A.A., Des Moines Area Community College; B.S., M.A., Iowa State University

DUERSON, BRAD K., 2006, Business Administration/ Economics. B.S., Brigham Young University, Hawaii; M.B.A., Utah State University

DURLAM, JODI A., 2008, Surgical Technology. A.D.N., Des Moines Area Community College; C.S.T.

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

- ECKERMAN, CURTIS M., 2005, Biology. B.S., Texas A&M University; M.S., University of Texas at El Paso
- ELLISON, MELANIE A., 2006, Academic Advisor. B.A., Simpson College; M.A., Iowa State University

EMMERSON, JANET E., 2000, Director, Academic Programming. B.F.A., University of Wisconsin, Milwaukee; M.Ed., Ph.D., Iowa State University

ENENBACH, VALERIE, 2002, Academic Advisor. B.A., Briar Cliff University; M.S.S., US Sports Academy

- ENRIGHT, DONALD L., 2011, Coordinator, Veterans Services. A.A., Des Moines Area Community College; B.S., Iowa State University
- ENTZ, MARY J., 1992, Provost, Newton Polytechnic Campus. B.A., M.A., University of Iowa

ERICKSON, MICHELLE S., 2006, Medical Lab Technology. Medical Technology, Mercy School of Medical Technology; B.S., Evangel College

ERICKSON, RON, 1993, Network Systems Analyst 2. A.A.S., Iowa State University

ERKKILA, RACHEL R., 2007, Registrar. A.A., Bethany Lutheran College; B.A., Augsburg College; M.S., Metropolitan State University

FAIDLEY, DWAYNE D., 2006, Agri Business. B.S., Iowa State University; M.S., Michigan State University

FARA, KIMBERLY J., 1991, Academic Achievement Center/ Mathematics. B.S., University of Iowa; M.S.E., Drake University; University of Northern Iowa; Ph.D., Iowa State University

FIELDER, YVONNE M., 2008, Speech. B.A., Coe College; M.A., Bradley University; University of Iowa

FITZGERALD, DANIEL P., 2007, Academic Advisor. B.A., University of Minnesota

FITZGERALD, NICOLE A., 2009, Biology. B.A., University of Northern Iowa; B.S., D.C., National University of Health Sciences

- FOLTZ, TAMIE J., 2006, Philosophy/Sociology. A.S., Des Moines Area Community College; B.S., M.S., Iowa State University
- FOSTER, SANDRA A., 2008, Campus Health Specialist/Nurse. B.S., University of Iowa
- FOUNTAIN, SHANNA L., 2010, Academic Advisor. B.S., University of West Georgia; M.S., Drake University

FRIEDLEIN, KAREN L., 2003, Biology. B.S., The George Washington University; M.S.M., Hampton University; D.P.M., University of Osteopathic Medicine and Health Science

- FRIESS, CIEL A., 1993, Coordinator, Community Relations Projects. A.S., Des Moines Area Community College; B.A., Grand View College; M.S.E., Drake University
- FUNKE, REBECA S., 2004, Director, Library Resources. B.A., M.A., University of Iowa
- FURNAL, KIRSTEN S., 2007, Child Development Specialist. A.S., Des Moines Area Community College
- FURNEY, LISA S., 2004, Educational Interpreter. A.A.S., Iowa Western Community College; B.A., Central College; C.T., C.I., Registry of Interpreters for the Deaf
- GABRIEL, RANDY J., 2005, Director, Program Development. B.A., University of Northern Iowa; M.A., 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; M.S.N., University of Wyoming
- GATZKE, MICHAEL L., 1997, Architectural Technologies. B. Arch., Iowa State University; Assoc. AIA; CSI; 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
- GONZALEZ, JULIE E., 2008, Biology. B.S., Upper Iowa University; M.S., 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, GED/HS Completion. B.S., Iowa State University; M.Ed., University of Houston

- GRANSETH, GEORGE J., 2000, Architectural Millwork. B.A., University of Iowa
- 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
- GROVE, CHRISTA L., 2004, Academic Advisor. B.S., Minnesota State University, Mankato Faculty and Staff
- GUERRA, ANTHONY A., 2009, Pharmacy Technician. Pharm.D., University of Maryland; A.S., Des Moines Area Community College
- GULLION, JEFF H., 1998, Computer Science/ Information Technology. B.S., B.A., M.B.A., 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
- HALISCHAK, JAMES M., 2006, American Sign Language. B.A., M.Ed., Kent State University
- HALVERSON, KATE E., 2009, Psychology. B.S., B.S., M.S., Iowa State University
- HAMMOND, DIANE M., 2003, Nursing. L.P.N., A.S.N., North Iowa Area Community College; B.S.N., Grand View College; M.S.N., Drake University
- HANLIN, MARY E., 2001, Biology. B.S., M.S., University of Wyoming
- HANSEN, BARBI N., 1994, STRIVE. B.S., Iowa State University; M.A., University of Iowa; Drake University
- HANSON, DENNIS L., 1996, Diesel. B.S., Iowa State University
- 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; Ph.D., Iowa State University
- HARPER, ALICIA H., 2004, Academic Advisor. B.S., M.Ed., Iowa State University
- HARRIS, DARON R., 2006, Admissions Representative. A.A., Des Moines Area Community College; B.A., University of Northern Iowa; M.Ed., Iowa State University
- HARRIS, LORENE G., 2007, Nursing. A.S., Des Moines Area Community College; B.S.N., Grand View College; M.S.N., University of Iowa
- 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, Academic Advisor/Assistant Director, Athletics. B.S., Briar Cliff University

- HAUSER, DAVID W., 1992, Philosophy. B.A., M.S., Iowa State University; M.A., University of Arizona; Ph.D., Duquesne University
- HAUSER, JUDITH A., 1996, English. B.F.A., Drake University; M.A., Florida State University; M.A., Iowa State University
- HAWKINS, DELORES W., 1999, Director of Financial Aid. B.S., M.S., Iowa State University
- HEDRICK, DALE A., 2009, Building Trades.
- HEILSKOV, HEIDI, 1999, Academic Advisor. B.S., M.Ed., Iowa State University
- HELGESON, A. SCOTT, 1994, Biology. B.A., M.A., University of Nebraska
- HENSEN, KARI A., 2004, Associate Dean, Arts & Sciences. B.S., M.S., Ph.D., Iowa State University
- HERING, KRYSTAL L., 2008, English. B.A., Eastern Illinois University; M.A., Iowa State University
- HERNANDEZ, CHERI A., 2005, Accounting. A.A.S.S., B.U.S., University of New Mexico; M.B.A., Anderson School of Management, University of New Mexico
- HERRMANN, JANE M., 1990, Executive Director, Continuing Education. B.S., Iowa Wesleyan College
- HEUER, KAREN K., 1976, Marketing. B.S., Iowa State University
- HIBBS, MARILYN R., 2011, Dental Hygiene. B.S., University of Iowa; M.A., University of Northern Iowa
- HIGGINS, DENISE A., 2007, Nursing. A.D.N., Iowa Central Community College; B.S., University of Iowa; M.S.N., Clarkson College
- HILDRETH, SHELBY, 1999, Academic Advisor. A.A., Des Moines Area Community College; B.A., Upper Iowa University
- HILGERS, DANIEL, 1983, Business Administration. B.S., Moorhead State College; M.S., Emporia State University
- HOFFMAN, MICHAEL J., 2004, Director, Program Development. B.A., Cornell College; M.A., Viterbo University
- HOFFMAN, ROBERT, 2006, Criminal Justice. B.S., lowa State University
- HOFFMAN, DEAN R, 1998, Manufacturing Technologies. B.S., University of Nebraska, Omaha
- HOFFMAN-TOUBES, ROSE M., 1988, English/Journalism. B.S.E., M.A., Drake University
- HOLLINRAKE, WILLIAM J., 1999, Computer Programming/ Information Technology. B.B.A., Iowa State University, M.S.E., Drake University
- HOLMES, PATRICIA H., 1972, Accounting. B.A., Simpson College; M.A., Iowa State University; Des Moines Area Community College; Drake University; Iowa State University; University of Iowa; New York University; CPA
- HOLMES, RUSSELL E., 1981–1986, 2004, Business Administration. A.A., North Iowa Area Community College; B.A., University of Northern Iowa; M.S., Iowa State University; J.D., Drake University

- HOLSTAD, MARCIA J.H., 2004, Optometric/Ophthalmic Technician. A.A., North Iowa Area Community College; B.S., Iowa State University; M.P.A., Drake University; O.D., University of Missouri-St. Louis
- HOWARD, KRIS S., 2003, Nursing. A.D.N., Des Moines Area Community College; B.S.N., Grand View College; M.S.N., Clarkson College
- HOWSARE, ANNE M., 2003, Associate Provost, Urban Campus. B.A., M.A., University of Iowa
- HUANG, DARIA M., 2004, Mathemathics. B.S., Mount Mercy College; M.A., University of Iowa
- HUANG, KO-HSING, 2003, Coordinator, International Student Services. B.A., Bejing Normal University; M.A., Illinois State University; Ph.D., Johns Hopkins University
- HUBBARD, MICHAEL P., Sr., 2007, English. B.A., M.A., Northern Arizona University; Ed.D., Denver University
- HUFFMAN, GARY A., 2010, Chemistry. B.S., Michigan State University; Ph.D., University of Wisconsin-Madison
- HULL, HAZEL L., 2007, Sociology. M.A., University of California, Santa Barbara
- HUNT, TYRONE N., 2000, Academic Achievement Center. B.S., Lincoln University; M.S.E., Drake University
- HUSAK, SHERI, 1976, Academic Advisor. A.S., Des Moines Area Community College; Iowa State University
- HUTCHISON, ALAN J., 1988, English. A.A., Iowa Central Community College; B.A., University of Northern Iowa; M.A., D.A., Drake University
- IMERMAN, VICKI L., 2003, Nursing. A.D.N., Des Moines Area Community College; B.S.N., University of Iowa; M.S.N., Clarkson College
- INKS, MARLA J., 2003, Counselor. B.M.E., Drake University; M.A., University of Iowa
- ISEMINGER, ANDREA L., 2009, Financial Aid Advisor. B.A., Coe College; M.Ed., Iowa State University
- JACKSON, KIM, 1998, Coordinator, TRIO Program. B.A., University of Iowa
- JEDELE, RANDALL E., 1993, English. B.A., Western Kentucky University; M.A., Eastern Kentucky University; Ph.D., Iowa State University
- JESPERSEN, DAN R., 2004, Automotive Technology. A.A., Grand View College
- JESSEN, NADINE K., 2008, Chemistry/Physics. B.S., M.S., Buena Vista University
- JOHANSEN, LORI L., 2001, Educational Interpreter. A.A.S., Iowa Western Community College
- JOHNS, STEVEN L., 2008, Librarian. B.S., Iowa State University; M.L.I.S., University of Texas
- JOHNSON, WILLIAM V., 2005, Drama. B.A., M.F.A., University of Iowa
- KARIM, REZA, 2006, Business Administration/Technology. B.A., M.S.S., University of Rajshahi, Bangladesh; M.S., Southern Illinois University

218 DES MOINES AREA COMMUNITY COLLEGE CATALOG 2011-2012

- KEAHNA, JENNIFER L., 2006, Credentials/Graduation Specialist. B.S., M. Ed., Iowa State University
- KEESE, CYNTHIA R., 1992, Assessment Center Coordinator. B.S., Mount Mercy College
- KELLOGG, DENNIS L., 2004, Anthropology. B.G.S., M.A., Southeast Missouri State University; Iowa State University
- KELLY, BRUCE, 1988, Political Science/History. B.A., Kearney State College; M.A., Iowa State University
- KELLY, JEFF J., 2002, Director, Evening/Weekend. B.S., Iowa State University; M.A., Minnesota State University
- KLEIN, SUSAN J., 2010, Health Occupations. A.S., Des Moines Area Community College
- KNORR, LOU ANN V., 1985, Business Technology. B.A., Concordia College; M.A., Moorhead State University; Bemidji State University
- KNOWLES, KEITH A., 1987, Academic Advisor. B.A., Adrian College
- KOPATICH, COREY W., 2008, Academic Advisor. B.A., Drake University
- KOSTELNICK, CLARE A., 2006, Health Occupations. B.S.N., Illinois Wesleyan University
- KOCH, MARY ANN, 2000, Academic Achievement Center. B.A., Briar Cliff College; M.A., Webster University
- KOKEMULER, NEIL K., 2004, Marketing. B.B.A., University of Dubuque; M.B.A., Iowa State University
- KOOPMAN, JAMES E., 2005, Academic Advisor. A.S., Des Moines Area Community College; B.A., University of Dubuque; M.A., Loras College
- KRAFCISIN, STEVEN J., 2005, Coordinator, Student Activities and On-Campus Housing, B.S., University of Iowa
- KRICK, FREDERICK M., 1988, Lab Coordinator. A.A., Des Moines Area Community College; B.A., M.A., Drake University
- LAURITSEN, CHARLES W., 2006, History. B.S., M.A., Drake University
- LAVILLE, JANET, 1991, English. B.S., Northwest Missouri State University; M.A., Iowa State University
- LAWLER, DARLENE K., 2008, English. B.A., University of Northern Iowa; M.A., Drake University
- LEE, TOM L., 2005, Provost, Boone Campus. B.A., Monmouth College; M.A., Drake University
- LEETCH, JOHN, 1990, CADD Technology. A.S.M.E.T., Scott Community College; Palmer Junior College; Kirkwood Community College; University of Iowa; Iowa State University
- LEISY, PATRICIA S., 2002, Program Coordinator, H & PS/ Nursing. A.A.S., Suny Upstate Medical Center; B.S., University of Central Florida; M.A., University of Texas, San Antonio
- LEMBERG, KRISTYN M., 2010, Child Development Specialist. A.A., Iowa Central Community College; B.S., Iowa State University

- LENIHAN-CLARK, VICKIE L., 1986, Nursing. Diploma, Mercy School of Nursing; B.S.N., Grand View College; M.S.N., Drake University
- LENTSCH, MICHAEL J., 2002, Director, Enrollment Management. B.A., University of Northern Iowa; M.S., Drake University
- LEVY, DAVID J., 2005, Business Administration. M.B.A., University of Iowa
- LINDUSKA, KIM J., 1981, Executive Vice President, Academic Affairs/Provost, Ankeny Campus. B.A., Augustana College; M.S., Ph.D., Iowa State University
- LINKVIS, BRYCE A., 2009, Math/Special Needs. B.S., University of Iowa; M.A., Northern Arizona University
- LOECK, NANCY L., 2005, Psychology. A.A., Waldorf Junior College; B.A., Buena Vista College; M.S. Iowa State University
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## Α

Academic Achievement Centers
Academic Advising
Academic Calendar13
Academic Information27-31
Academic Integrity27
Academic Recognition27
Access to Campus Facilities9
Accounting & Bookkeeping52
Accounting Certificate I122
Accounting Certificate II122
Accounting Information Systems
Accounting Paraprofessional54
Accounting Payroll122-123
Accounting Specialist
Accreditation10
Adding a Course18
Administrative Assistant
Admission of Guest Students15
Admission of High School Students15
Admission of Home-Schooled Students15
Admission of International Students15-16
Admission of Pre-High School Students15
Admissions14-17
Adult Basic Education ABE/HSE/ESL
Adult Services123
Adult Services Track57
Aging Services Management56-57
Agribusiness
Agribusiness-Agronomy123-124
Agribusiness-Animal Science124
Agribusiness-Farm Management124

Agribusiness-Sales and Service124
Agribusiness- Sustainable Agriculture124-125
Airbrush Art125
Alternative Loans
Alumni Association
Ankeny Campus9, 11
Applying for Admission14
Applying for DMACC and Outside Scholarships and Grants23
Architectural Millwork
Architectural Technologies
ASEP-General Motors51
Assessment Testing
ASSET-Ford52
Associate in Arts Degree (AA) 46-48
Associate in General Studies (AGS)50-51
Associate in Science Degree (AS)48-50
Attendance and Enrollment27
Auditing Courses27
Auto Collision Technology59-60
Automotive Maintenance & Light Repair Technology at the Urban Campus
Auto Mechanics Technology

### В

Billing Policy 19
Biomass Operations Technology125
Biotechnology61-62
Board of Directors10
Bookstores19, 37
Boone Campus9, 11
Building Maintenance125-126
Building Trades62-63
Business63

Business Administration	64
Business Information Systems	64-65
Business Resources	41

## С

Campus Maps and Directories 11-12
Campus Recreation Programs
Campus Security
Campus Tours17
Campuses9
CAP-Chrysler
Career and Transfer Resource Center (CTRC)
Carroll Campus9, 11
Caterpillar Technology
Centers9-10
Certificates of Specialization122-145
Chemical Dependency Counseling126
Child Care
Choirs, DMACC40
Choose a Career Path
Civil Engineering Technology 66-67
CNC Operator126
College Bookstores
College Preparatory Education
Commercial Horticulture
Computer Applications126
Computer Languages127
Computer-Aided Design Technology68
Computing GPA
Conference and Event Planning Services41
Continuing Education and Specialized Programs41-42
Corel Painter127
Corrections Emphasis70

Counseling Services
Course Descriptions147-215
Course Substitutions32
Credit for Educational Experience in the Armed Forces17
Criminal Justice
Culinary Arts72-73

### D

Data Entry I127
Database Specialist127
Degrees and Diplomas
Degrees Awarded
Dental Assistant73-74
Dental Hygiene74-75
Deposits
Diemaking Diploma115
Diesel Technology75
Dietary Manager127-128
Digital Forensic Investigation128
Digital Illustration128
Digital Publishing128
Disabilities, Service for14
Distance Learning
DMACC Business Resources (DBR) 41
DMACC Career Academy/ Hunziker Center10
DMACC at Perry VanKirk Career Academy10
DMACC Catalog8
DMACC Centers10
DMACC Onecard/Student ID 19
Drama, DMACC40
Dropping a Course18

### Ε

Early Childhood Education
Early Childhood Education-Associate
Early Childhood-Certificate128-129
Education77
Educational Programs43
Education Tax Credits20
Educational Expense/ Student Accounts19-21
Electrical Construction Trades77-78
Electronic Crime Emphasis71
Electronics, Robotics & Automation78-79
Electronics Systems Servicing Technology79
Emergency Medical Technician-Basic129
Employment23
Engineering80
English as a Second Language
Enology129
Entrepreneurship80, 129
Environmental Science
ESL Test in Compass14
Evening/Weekend Services

### F

Faculty and Staff216	-222
Fashion	130
Fashion/Design	31-82
Fees	21
Filing Request for Special Consideration	22
Financial Aid2	2-27
Financial Aid Academic Progress Standards	25

Financial Aid Recipients26
Financial Aid Updates on the Web22
Fire Science Technology82-83
Fire Specialist130
Fitness Management Emphasis
Fitness and Sports Management 83-84
Fluid Power Technology
Food Services
Free Application for Federal Student Aid (FAFSA)22

## G

Game Room40
General Education34
Gerontology Specialist
Grade Appeals27
Grade Reports
Grading System
Graduation Honors34-35
Graduation Requirements
Graphic Design
Graphic Sales and Customer Service
Graphic Technologies
Greenhouse Production 130-131
Guidelines for Required Assessment14

## Н

Lissith Frankssis
Health Emphasis84
Health Information Technology
Heating, Air Conditioning, Refrigeration
Technology (HVAC)87-88
History of DMACC8
Homeland Security Emphasis
Hospitality Business

Hotel and Restaurant Management
How DMACC Awards are Paid23
How to Apply for Financial Aid at DMACC22
How to Read Course Descriptions147
Human Resource Management
Human Services90
Hunziker Center, DMACC Career Academy10

## 

ID Card 19	Lo
Indebtedness Policy 19	Lo
InDesign131	
Industrial Electro- Mechanical Technology	N
Informatics131	М
Information Center	М
Information Processing Support132	М
Information Technology/ Network Administration91–92	Μ
Interactive Media for Graphic Design132	М
Intercollegiate Athletics40	М
Interior Design Consultant132	М
International Student Applicants15-16	М
Interpretation & Translation93-95	М
Interpretation & Translation-Business132-133	M M
Interpretation & Translation-Education133-134	M M
Interpretation & Translation-Healthcare134-135	M
Interpretation & Translation-Human Services135-136	М
Interpretation & Translation-Judiciary1236-137	М
Intramural Recreation37	

### L

Landscape Design137
Law95
Law Enforcement Emphasis
Leave of Absence
Legal Assistant
Liberal Arts and Sciences46
Libraries
Loans24
Long-Term Care Administrator
Long-Term Care Administrator

### Μ

Machinist Technology Diploma115
Maintenance (Diesel)138-139
Management
Management Information Systems (MIS)97-98
Manufacturing Technology
Marketing
Medical Assistant100-101
Medical Insurance and Coding139
Medical Laboratory Technology.101-102
Medical Office Specialist102
Medical Transcriptionist140
Medicine 103
Microcomputers140
Mission and Goals8
Mortuary Science- Advanced Standing103-104
Motorcycle/Moped Safety Courses 42

### Ν

Network Administration
(Information Technology)91-92
Network Security Manager140-41
Never-Attending Process
Newton Campus9, 12
Noncredit Course Registration,
Adds and Drops18
Nondiscrimination Policy8
Nursing-Advanced Standing104-105
Nursing Programs104-106

## 0

Office Assistant	106-107
Office Specialist	141
Onecard, DMACC-Student ID	19
Optometric/ Ophthalmic Technician	.107–108
Other Credit Options and Special Offerings	28-30
Other Fees	19

### Ρ

Paralegal95-96
Paramedic Specialist 108-109, 141
Payment by Check19
Payment Policy19
Perry VanKirk Center Academy10
Personal Identification Number (PIN)22
Pharmacy Technician109-110
Phlebotomy 141-142
Photography110-111
Practical Nursing
Printing Technologies142
Profile of DMACC8

Program Requirements and Graduation32-35
Programs Available1-2, 46-145
Programs of Study33-34

## Q

Quit-Attending	Process
----------------	---------

### R

Readmission17
Refunds20
Refund Schedule20
Registration18
Registration Plus+
Registration Procedures18
Rehabilitation Counseling
Repeat Coursework
Repeating Classes-Financial Aid
Required Assessment14
Requirements for Continued Financial Aid Eligibility25
Residency16-17
Respiratory Therapy111-112
Retailing112, 142
Return of Financial Aid
RV Safety and Education Program42, 145

## S

Sales142
Sales and Management112-113
Satisfactory Academic Progress30-31
Scholarships23
Security
Services for Students with Disabilities
Specialized Programs41

Sports Management Emphasis
Student Activities40
Student Activities Council40
Student Centers40
Student Employment Assistance
Student Handbook
Student Health
Student Housing
Student Organizations40
Student Publications
Student Records-Confidentiality31
Student Right to Know8
Student Services
Student Tuition Rate for Credit Offerings21
Study Abroad23
Success Center9
Supervision142-143
Surgical Technology113-114

### Т

Table of Contents
Telecommunications Technology 114
Testing Center
Ticket Sales40-41
Tobacco-Free DMACC
Tool and Diemaking114-115
Traffic Fines21
Transcript Fees21
Transcript Requests
Transfer Credit
Transfer Information
Transferring Credit to DMACC17
Transferring from DMACC to Another Institution
Transportation Institute Commercial Vehicle42, 145

Tuition and Fee Charges	19, 21
Turf Maintenance	143
Tutoring	39
Types of Aid (Grants & Scholarships)	22

### U

Urban Campus9, 12
-------------------

# V

Veterans Educational Benefits24
Veterinary Medicine115
Veterinary Technology116
Visual Communications 116-117
Viticulture143
Vocational-Rehabilitation

## W

Wastewater Treatment Technology143
Water and Wastewater Treatment Technology 117–118
Water Environmental Technology118-119
Water Treatment Technology 144
Web Developer119, 144
Web Development (AAS)120
Welcome to DMACC7
Welding120-121, 144-145
West Campus9, 12
Wind Turbine Technologies
Wine Service145
Woodworking (Architectural Millwork)58

226 DES MOINES AREA COMMUNITY COLLEGE CATALOG 2011-2012

# NOTES




# Every gift really does matter!

When you make a gift to the DMACC Foundation you join thousands of alumni, parents, friends, students, faculty, staff and businesses who support DMACC each year. All those gifts—most under \$50—**add up in a big way!** 

So even if you can part with only a few dollars, you can still do your part to support DMACC. Donors to DMACC Foundation take pride in knowing that their gifts have helped create a very special environment for learning that reflects the unique character of our community and our students.

# How to Give

Visit **www.dmacc.edu/foundation** today to make a gift online, or mail your gift to:

DMACC Foundation 2006 South Ankeny Blvd., Bldg. 22 Ankeny, IA 50023-3993



### Special Gift By Former Employee's Family

Elaine Ilvess, sister of the late Shirley Gumtau, presented DMACC President and CEO Rob Denson with a check for \$320,000 as part of a special endowed gift from the Ray and Shirley Gumtau estate. The gift, given during a ceremony to dedicate the Ray and Shirley Gumtau Room at the Ankeny Campus Health Sciences Building, is the second largest endowed gift to DMACC in the history of the college. Ray worked as a foreman in the college's Electrical/Mechanical Department. The first Ray and Shirley Gumtau Scholarship winners will be announced at the start of the 2011–2012 academic year.



### **CEO Golf Tourney Raises Record Amount For Scholarships**

Executives from throughout central lowa showed their golfing talents again this year in support of student scholarships for DMACC students. The 2010 DMACC CEO Golf Invitational, held at the Talons of Tuscany in Ankeny, raised \$154,000 toward student academic scholarships. In its first three years, this tournament has raised \$329,000 for scholarships awarded to 350 DMACC students.



### Truly Outstanding

Four DMACC graduates were honored with the college's highest alumni awards when they were recognized by the DMACC Alumni Association as the 2010 Outstanding Alumni. The awards recognize alumni who provide services to their community, the country and fellow citizen, have had high professional achievement since graduation and who continue to be involved with DMACC. This year's winners were honored at the Outstanding Alumni banquet. The winners (pictured left to right) included Hong Willer, owner and executive chef for Café Shi in Ames (Song Wong, second from left, accepted for Willer); Christine Keenan, Ames attorney; Erica Rasmussen, investigator with Wellmark Blue Cross and Blue Shield; and Marty Kenworthy, Des Moines attorney. With the winners is DMACC President and CEO Rob Denson, left.

## **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: 515-964-6200 Or call any campus toll-free: 1-877-TO-DMACC

# **Information About DMACC Campuses**

Ankeny	www.dmacc.edu/ankeny/
Boone	www.dmacc.edu/boone/
Carroll	www.dmacc.edu/carroll/
Des Moines/Urban	www.dmacc.edu/urban/
Newton	www.dmacc.edu/newton/
West	www.dmacc.edu/west/
Other Locations	www.dmacc.edu/otherlocations.asp



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