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Des Moines Area Community College

2003-2004

College Catalog

DMACC
DES MOINES AREA
COMMUNITY COLLEGE

Q&A Frequently Asked Questions

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

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

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

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

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

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

How much will my classes cost?
Tuition/Fees

What do I have to do to be admitted?
Admissions

Are financial aid programs available?
Financial Aid/Foundation

Is there campus housing available?
Student Services/Student Housing

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

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

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

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

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

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

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

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

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

Student Handbook

For more information about services, procedures, and policies at Des Moines Area Community College, pick up a copy for 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

Program	Award	Campus
Arts and Sciences and Pre-Professional Emphasis		
Arts & Sciences	AA/AS	All
Pre-professional Emphasis - Programs available at selected campuses		
Accounting		
Architecture		
Business Administration		
Chiropractic		
Computer Science		
Dentistry		
Education		
Engineering		
Law		
Medicine		
Nursing		
Optometry		
Pharmacy		
Physician's Assistant		
Social Work		
Veterinary Medicine		
Associate in General Studies	AGS	All
Vocational and Para-Professional Programs		
ASEP - General Motors	AAS	A
ASSET - Ford	AAS	A
Accounting Certificate I	Certificate	B,N*U
Accounting Certificate II	Certificate	B,N*U
Accounting & Bookkeeping	Diploma	B,U
Accounting Information Systems	AS	A*,B,U
Accounting ParaProfessional	AS	A,B,C,N*,U
Accounting Specialist	AAS	B,U
Administrative Assistant	AAS	A,B,C,U
Agri-Business	AAS	A
Agri-Business - Agronomy	Certificate	A
Agri-Business - Animal Science	Certificate	A
Agri-Business - Farm Management	Certificate	A
Agri-Business - Sales/Service	Certificate	A
Airbrush Art	Certificate	A
Architectural Millwork	Diploma	A
Architectural Technologies	AAS, Dipl	A
Auto Collision Technology	AAS, Dipl	A
Auto Mechanics Technology	AAS	A
Auto Chassis & Power Train	Diploma	A
Auto Engines & Tune-up	Diploma	A
Biotechnology	AS	A
Building Maintenance	Certificate	A
Building Trades	Diploma	A
Business Administration	AS	A,B C,N,U,W*
Business Information Systems	AAS	A,B*,C*,N,U,W
CAAP - Chrysler	AAS	A
Caterpillar Technology	AAS	A
Chemical Dependency Counseling	Certificate	A
Civil Engineering Technology	AAS	B
Commercial Art	AAS	A
Commercial Horticulture	AAS	A
Greenhouse Production	Certificate	A
Turf Maintenance	Certificate	A
Computer Aided Design Technology	AAS, Dipl	A
Computer Applications	Certificate	A,B,U,W
Computer Languages	Certificate	A,U*
Computer Programming	AAS	A,U*W*
Criminal Justice	AS or AA	A,N*,U*
Culinary Arts	AAS, Dipl	A
Data Entry I	Certificate	A,B,C,U
Database Specialist	Certificate	A,W
Dental Assistant	Diploma	A
Dental Hygiene	AAS	A
Diemaking (See Tool & Die Making)	Diploma	A
Diesel Technology	AAS, Dipl	A
Dietary Manager	Certificate	A
Early Childhood Education	AS, Diploma	A,U*
Emergency Med Tech Basic	Certificate	A
Electronic Systems Servicing Technology	AAS	A
Entrepreneurship	Certificate	A,N*,U*
Exercise Science	AS	B
Fashion	Certificate	A
Fashion/Design	AAS, Dipl,	A
Fire Science Technology	AS	A,U*
Fire Specialist	Certificate	A ,U*
Graphic Arts	AAS, Dipl, Cert	A
Greenhouse Production	Certificate	A
Health Care Administration	AS	A
Health Services Management	Certificate	A
Heating, AC, Refrigeration Technology	AAS, Diploma	A
High Tech - Automation/Robotics	AAS	A
Hospitality Business	Diploma	A
Hotel & Restaurant Management	AAS	A
Human Services	AS	A,N,U
Industrial Electro-Mechanical Technology	AAS	A,B*,C*,N
Information Processing Support	Certificate	A,B,C,U
Information Technology Network Administrator	AAS	A,B*,C*,N*.U*,W
Integrated Manufacturing Technology (John Deere)	AAS	A
Interior Design Consultant	Certificate	A
Landscape Design	Certificate	A
Land Surveying	AAS	B
Legal Assistant	AS, Certificate	U
Long Term Care Administrator	Certificate	A
Management	AAS, Certificate	A,N,B*,U*
Manufacturing Technology	AAS	A,N
Marketing	AAS	A
Machinist Technology	Diploma (see Tool & Die Making)	A
Medical Administrative Assistant	AAS, Diploma (see Secretarial Careers)	A
Medical Assistant	Diploma	A
Medical Laboratory Technology	AAS	A
Medical Transcriptionist	Certificate	A,B,C,U
Microcomputers	Certificate	A,N*,U*,W
Nurse Aide	Certificate	A,B,C
Nursing - Advanced Standing	AAS	A,B
Nursing - Associate Degree	AAS (Carroll Terms 1,2,3)	A,B
Nursing - Practical	Diploma	A,B,C
Office Assistant	Diploma	A,B,C,N*,U
Office Specialist	Certificate	A,B,C,N*,U
Phlebotomy	Certificate	A
Production Art	Certificate	A
Residential Care Facility Adm.	Certificate	A
Respiratory Therapy	AAS	A
Retailing	Diploma, Cert	A
Sales	Certificate	A
Sales & Management	Diploma	A
Secretarial Careers:		
Administrative Assistant	AAS	A,B,C,U
Medical Administrative Assistant	AAS, Diploma	A
Office Assistant	Diploma	A,B,C,N*,U
Office Specialist	Certificate	A,B,C,N*,U
Supervision	Certificate	A,B,N,U
Security & Safety Specialist	Certificate	A
Technical Management	Certificate	A
Telecommunications Technology	AAS, Certificate	W
Tool & Die Making	AAS	A
Turf Maintenance	Certificate	A
Veterinary Careers:		
Small Animal Care	Certificate	A
Veterinary Assistant	Diploma	A
Veterinary Technician	AAS	A
Welding	Diploma	A
Welding - Blueprint Reading	Certificate	A
Welding - Gas Metal Arc	Certificate	A
Welding - Gas Tungsten Arc	Certificate	A
Welding - Oxy-acetylene	Certificate	A
Welding - Pipewelding	Certificate	A
Welding - Shielded Metal Arc	Certificate	A
Welding - Structural Welding	Certificate	A

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

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The Des Moines Area Community College Catalog is a general catalog of information regarding fees, curricula and related policies and procedures. 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 without notice, at any time, by appropriate action, any academic or other requirement, course offerings, content, program, procedures, rules, regulations and fees.

Welcome to Des Moines Area Community College

Des Moines Area Community College understands the importance of preparing every student for career and personal success. The DMACC faculty and staff believe in your goals and your future. A DMACC education is the best place to start.

Community colleges have become integral to Iowa's business and industry community. We meet that mission best when we provide affordable and meaningful opportunities for all students, regardless of where they are in life. Your DMACC education can begin before you graduate from high school and it can extend for a lifetime.

DMACC is committed to embracing change and anticipating emerging trends and issues in the employment marketplace and in the society we serve. Our pledge to you, the student, is to create abundant opportunities through a strong and relevant liberal arts curriculum, the very best career and technical education programs and through comprehensive and accessible student services to foster success.

We value your input and contribution. Learning is a two-way process. If at any time you would like to discuss your experience at DMACC. Please feel free to contact us.

With warm regards,

The DMACC Board of Trustees
Faculty, Staff and Administration

History

Des Moines Area Community College is a publicly supported two-year institution serving the Des Moines metropolitan area and surrounding counties. The College District includes all or major portions of Audubon, Boone, Carroll, Dallas, Guthrie, Jasper, Madison, Marion, Polk, Story and Warren counties and minor parts of 11 adjacent counties. It encompasses 6,560 square miles or about 11 percent of the land area of the state. Approximately 20 percent of the state's population resides within the district.

Des Moines Area Community College was officially created March 18, 1966 and was designated as Merged Area XI. A nine-member Board of Directors was elected and formally installed that same year.

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

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

Paul Lowery was the first superintendent/president of the College. Dr. Joseph A. Borgen served 20 years as the president from 1981 until his retirement in 2001. David England was the president of Des Moines Area Community College from 2001-2003. Kim Linduska currently serves as Acting President.

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 non-discriminatory, 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 which best meet their needs and interests.
- provide counseling and other support services which improve a student's chances for success in their educational endeavors.
- provide learning experiences and co-curricular activities which promote personal, social, academic and vocational development of students.
- prepare students for transfer, typically as juniors, to four-year colleges and universities.
- provide placement services for all students seeking full-time or part-time employment.
- provide opportunities for adults to complete their high school education.
- provide off-campus adult and continuing education programs as needs and interests are expressed.

Nondiscrimination Policy

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

Student Right to Know

Institutions are required to provide students with information regarding campus security, alcohol and drug use, crime prevention, reporting of crimes, sexual assaults, Equal Employment Opportunity and Affirmative Action, college policy regarding HIV/AIDS, graduation rates and transfer data and drug free schools and campus information. This data can be obtained at the Information Center on the Ankeny Campus and the Executive Deans at all other campuses.

Profile of DMACC

DMACC Campus Listing

Refer to campus map section for details

Ankeny Campus

2006 South Ankeny Boulevard
Ankeny, IA 50021-3993
515-964-6200 or, toll-free in Iowa
800-362-2127, FAX: 515-964-6391

Boone Campus

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

Carroll Campus

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

Newton Polytechnic

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

Urban Campus

1100 7th Street
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, FAX: 515-633-2409
or toll free in Iowa 800-362-2127

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. Constructed in 1968, the campus is comprised of two buildings: the academic building which includes a 250 seat auditorium and the physical education building.

Carroll Campus is located on a nine- acre site at 906 North Grant Road in the city of Carroll. The Carroll Campus was started in 1979.

Urban Campus is located north of I-235 at 7th and Laurel in Des Moines. The campus opened two new buildings in 2003.

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

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

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

Access to Campus Facilities

The DMACC campuses are generally open to students and the public from 7:30 a.m. to 9:00 p.m., Monday through Thursday and from 7:30 a.m. to 4:30 p.m. on Friday and 7:30 a.m. to 12:30 p.m. on Saturday (Saturday hours may vary on some campuses). The campuses are closed during other times and holidays.

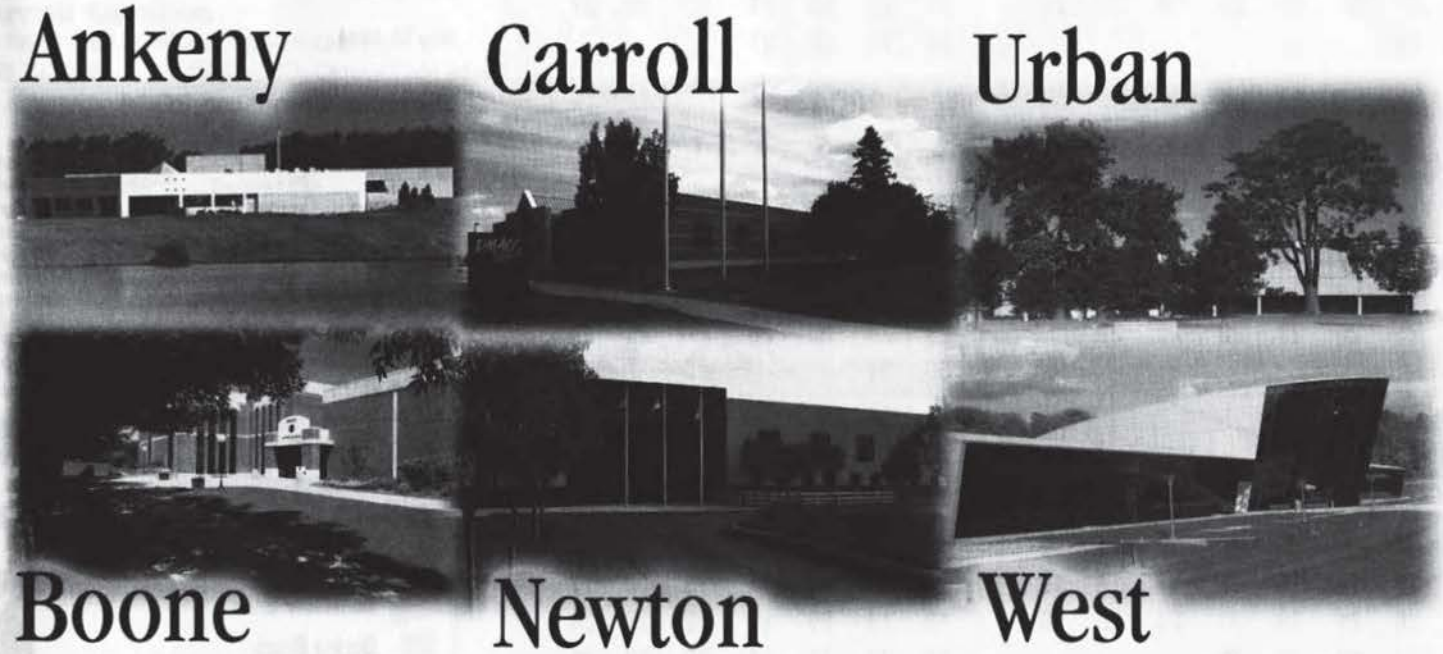
Visit our website: www.dmacc.edu

Accreditation

Des Moines Area Community College is accredited by the North Central Association of Colleges and Schools, 30 N LaSalle St., Suite 2400, Chicago, IL 60602-2504. The College is also approved by the Iowa State Department of Education and the Iowa Board of Regents. College transfer curricula meet the requirements of four-year colleges and universities. Both career option and college transfer curricula carry the approval of the United States Department of Education and are approved for veterans benefits.The College also holds membership in the American Association of Community Colleges.

Board of Directors

	District
• Harold Belken Des Moines	8
• Ben Norman Ankeny	6
• Steve Goodhue Ames	1
• Naomi Neu Carroll	3
• Joe Pugel, Chairperson Newton	5
• Wayne Rouse, M.D. Boone	2
• Madelyn Tursi Des Moines	7
• Lloyd Hill Urbandale	9
• Kevin Halterman Indianola	4



2003-2004 Calendar

August 2003

S	M	T	W	T	F	S
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31						

September 2003

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October 2003

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November 2003

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December 2003

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January 2004

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February 2004

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March 2004

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April 2004

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May 2004

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30	31					

June 2004

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27	28	29	30			

July 2004

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11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

Fall Semester 2003

Aug. 25, 2003 ..... Fall Semester Begins (first day of classes)

Sept. 1, 2003 ..... Labor Day, No Classes, Offices Closed

Oct. 1, 2003 ..... Application Deadline for Fall Graduates

Oct. 17, 2003 ..... MIDTERM

Nov. 3, 2003 ..... *Last Day to Withdraw From Regular Term Classes

Nov. 27-29, 2003 ..... Thanksgiving Holiday-No Classes, Offices Closed

Dec. 12, 2003 ..... Last Day of Fall Semester

Dec. 24, 2002-Jan. 2, 2004 ..... Christmas & New Year's Holidays-Offices Closed

Spring Semester 2004

January 12, 2004 ..... Spring Semester Begins (first day of classes)

January 19, 2004 ..... Martin Luther King Holiday - Offices Closed

February 1, 2004 ..... Application deadline Spring/Summer Graduates

March 5, 2004 ..... All Staff In-Service - No Classes, Offices Closed

March 8, 2004 ..... MIDTERM

March 15-20, 2004 ..... Spring Break - No Classes, Offices Open

March 30, 2004 ..... *Last Day to Withdraw From Regular Term Classes

May 6, 2004 ..... Last Day of Spring Semester

May 6, 2004 ..... 7:00 p.m. Ankeny/Urban/Newton/West Graduation

May 7, 2004 ..... 10:00 a.m. Boone Graduation

May 10, 2004 ..... Carroll Graduation

Summer Semester 2004

June 1, 2004 ..... Summer Semester Begins (first day of classes)

July 5, 2004 ..... Holiday - No Classes, Offices Closed

August 11, 2004 ..... 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 th Registration Office for specific dates.

KEY

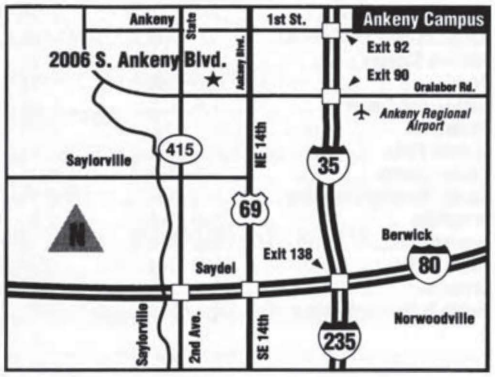
- Semester Begins
- Midterm
- Last day to withdraw from classes
- Holiday-College Closed
- Semester Ends
- Spring Break

Campus Maps

Ankeny Campus

2006 S. Ankeny Blvd., Ankeny Iowa 50021-3993
(515) 964-6200 or 1-800-362-2127, Campus Code #1 and the Ext#

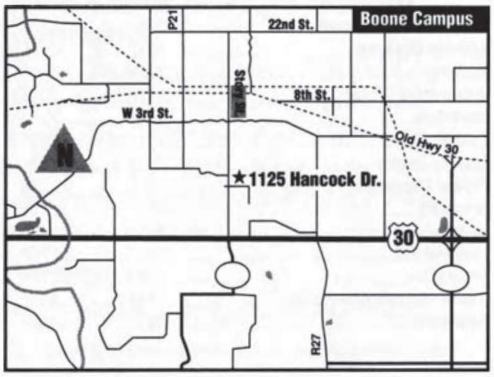
	Bldg. No.	Rm. No.	Ext No.
Academic Achievement	6	20	6558
Accidents-Auto (On Campus)	12	01	6500
Address Changes	1	16	6565
Advising	1	16	6246
Alumni Association	5	27	6376
Assessment Center	6	24	6595
Athletics/Recreation	5	26	6333
Bookstore	5	34	6302
Campus Clubs	5	26	6359/6376
Campus Events	1	06	6241
Campus Nurse	5	9	6352
Career Planning/Counseling	1	06	6246
Career Resource Center	1	06	6474
Drops/Add	1	16	6800
Emergencies	1	06	6246/6500
Foundation Office	22		7105
Information Center	1	06	6200
Financial Aid	1	16	6282/6283
Graduation	1	16	6647/6507
Health Insurance/Services	5	9	6352
International Students	1	16	6471
Job Placement	1	16	6215
Library	6	03	6317
Lost & Found	5	27	6359
Program Changes	1	16	6449/6496
Scholarships	1	16	6278
Security	12	01	6500
Services for Students w/ Disabilities	6	30d	6850
Student Accounts	1	18	6432/6433
Transcripts	1	16	6396/6341
Transfer Evaluation	1	16	6647/6507
Tutoring Services	6	30	7004
Veterans Services	1	16	6284



Boone Campus

1125 Hancock DR., Boone, Iowa 50036-5399
(515) 432-7203 or 1-800-362-2127, Campus Code #3 and the Ext #

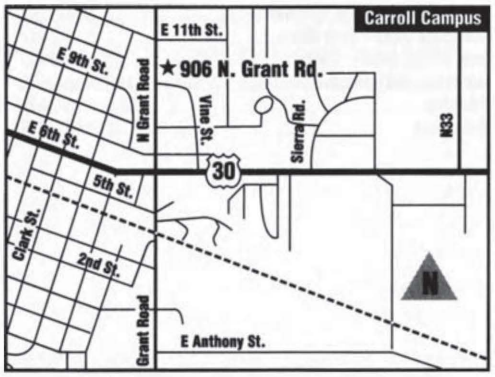
	Rm. No.	Ext No.
Academic Achievement	102	5096
Address Changes	120	5026
Advising	120A/129B	5025
Assessment Center	102	5096
Athletics/Recreation	133/120A	5050
Bookstore	101	5035
Campus Clubs	120	5030
Campus Events	120	7203
Career Planning/Counseling	120A/120B	5025
Drop/Adds	120	5026/7203
Emergencies	120	7203
Financial Aid	120	5022
Graduation	120	5026
Information	120	7203
International Students	120A/120B	5026
Job Placement	120A	5025
Library	135	5040
Program Changes	120A/120B	5025
Security	105C	5052
Services for Students w/ Disabilities	120A/120B	5096
Student Accounts	120C/120D	5022
Transcripts	120	5026
Tutoring Services	102	5096
Veterans Services	Refer all inquiries to: 964-6284 or 800-362-2127 Ext.#6284 Ankeny Campus	



Carroll Campus

906 North Grant Rd., Carroll, Iowa 5140-2525
(712) 792-1755 or 1-800-362-2127, Campus Code #4 and the Ext #

	Rm. No.	Ext No.
Academic Achievement	157	8333/8307
Accidents-Auto (On Campus)	Business Office	Operator
Address Changes	141	8331/8332
Advising	141	8331/8332
Assessment Center	141	8331/8332
Bookstore	Bookstore	8310
Campus Clubs	141	8331/8332
Campus Events	141	8331/8332
Career Planning/Counseling	141	8331/8332
Drop/Adds	141	8331/8332
Emergencies	Business Office	Operator
Financial Aid	141	8305
Graduation	141	8331/8332
Health Insurance	141	8331/8332
International Students	141	8331/8332
Job Placement	141	8331/8332
Library	158	8316/8317
Lost & Found	Business Office	Operator
Program Changes	141	8331/8332
Security	Maintenance	8312
Services for Students w/Disabilities	141	8331/8332
Student Accounts	Business Office.	8305
Transcripts	141	8331/8332
Transfer Evaluation	141	8331/8332
Tutoring Services	157	8333
Veterans Services	Refer all inquiries to: 964-6284 or 800-362-2127 Ext.#6284, Ankeny Campus	

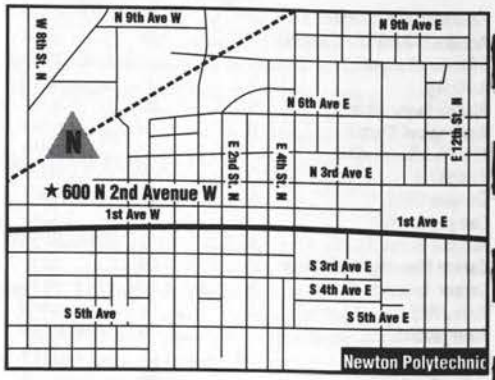


Campus Maps

Newton Polytechnic Campus

600 N. 2nd Ave. W, Newton, Iowa 50208-3049
(641)-791-3622 or 1-800-362-2127, Campus Code #5, & the Ext #

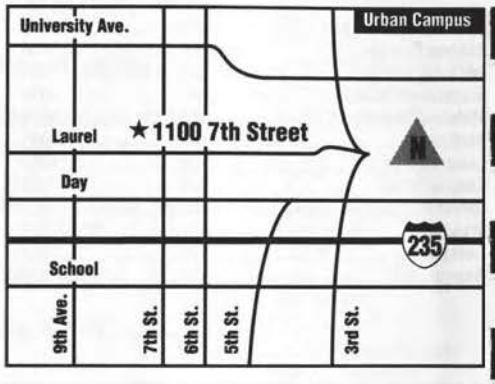
	Rm. No.	Ext No.
Academic Achievement	130	1730
Accidents-Auto (on Campus)	Info Desk	3622/1720
Address Changes	Info Desk	3622
Advising	Info Desk	1722/1723
Assessment Center	130	1730
Bookstore	112	1770
Campus Clubs	Info Desk	1722/1723
Campus Events	Info Desk	3622
Career Planning/Counseling	Info Desk	1722/1723
Drop/Adds	Info Desk	1726/1724
Emergencies	Info Desk	3622
Financial Aid	Info Desk	1725
Graduation	Info Desk	1722/1723
Health Insurance/Services	Info Desk	3622/1725
International Students	Info Desk	1722/1723
Job Placement	Info Desk	1722/1723
Lost & Found	Info Desk	3622
Program Changes	Info Desk	1722/1723
Security	Info Desk	1795
Services for Students w/ Disabilities	Info Desk	1722/1723
Student Accounts	Info Desk	1725
Transcripts	Info Desk	3622
Transfer Evaluation	Info Desk	1722/1723
Tutoring Services	Info Desk	1730
Veterans Services	Refer all inquiries to: 964-6284 or 800-362-2127 Ext.# 6284 Ankeny Campus	



Urban Campus

1100 - 7th St., Des Moines IA 50314-2597
(515) 244-4226 or 1-800-362-2127, Code #2 and the Ext #

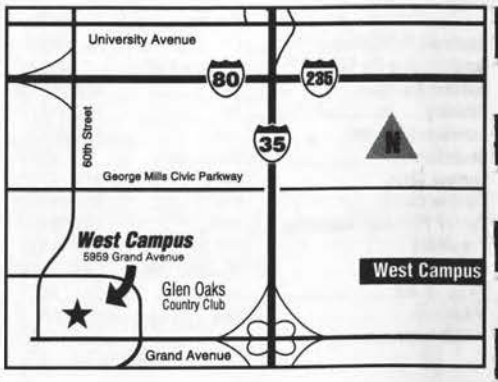
	Rm. No.	Ext No.
Academic Achievement	204	7204
Address Changes	101	4226
Advising	101E	4226
Assessment Center	207A	7218
Bookstore	134A	7212
Campus Clubs	101G	7234
Campus Events	101	4226
Career Planning/Counseling	101E	7236
Drop/Add	101	4226
Emergencies	101	4226
Financial Aid	101A	7202
Graduation	101	4226
Health Insurance/Services	101A	4226
Information	101	4226
International Students	101E	4226
Job Placement	101D	7236
Library	122C	7210
Lost & Found	101	4226
Program Changes	101	4226
Security	101	7200
Services for Students w/ Disabilities	101D	7505
Student Accounts	101A	7202
Transcripts	101	4226
Transfer Evaluation	101	4226
Tutoring Services	101	4226
Veterans Services	Refer all inquiries to: 964-6284 or 800-362-2127 Ext.#6284 Ankeny Campus	



West Campus

5959 Grand Avenue, West Des Moines, IA 50266-5302
(515) 633-2407 or 1-800-362-2127, Code #6 and the Ext #

Phone No.	
Dean's Office - Anthony Paustian	633-2439
Associate Dean - Barb Giese	633-2442
Jane Pirtle, Dean's Office	633-2406
Academic Achievement	633-2472
Advising	633-2405
Bookstore	633-2423
Campus Tours	633-2408
Financial Aid	633-2411
Registration/Records	633-2408
Resource Center (Library)	633-2426
Student Accounts	633-2411
Veterans Services	Refer all inquiries to 515-964-6284 or 800-362-2127, ext. 6284, Ankeny Campus.)



Admissions

Des Moines Area Community College is dedicated to assisting individuals to reach their educational and vocational goals. Admission to the college is open to all who apply and can benefit from courses and programs offered by the college. The college does reserve the right to guide the course placement of students on the basis of counseling, examination, pre-enrollment 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 may depend upon 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. Applicants accepted into a program already at enrollment capacity will be placed on stand-by 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 requirements.

Applying for Admission

1. Complete an admission application and submit it to:

   DMACC Admissions Office
   2006 South Ankeny Boulevard
   Ankeny, Iowa 50021-3993
   or fax the form to 515-964-6391.

   Students may request a form by calling the admission office at 1-800-362-2127, ext. 6495, or 515-964-6595, use the Application for Admission located on the back pages of this catalog or visit the DMACC web site at www.dmacc.edu. There is no fee for applying for admission to DMACC.
2. Complete any required assessment. Assessment guidelines can be found under the heading Guidelines for Required Assessment.
3. Complete any program or course prerequisites for the specific program for which application has been made.
4. Submit a copy of your high school transcript or GED scores if either is needed for entry to a specific program.

For admission requirements to any specific program, refer to the Program Entry Requirements in the informational material that accompanies each individual academic program.

After applicants have met all admission requirements, they will be notified. DMACC accepts students on a first-come, first-served basis. If a program is filled at the time all admission requirements are met, the applicants will be placed on stand-by and so notified.

Guidelines for Required Assessment

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

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

1. Complete COMPASS testing at any DMACC campus. The COMPASS test in math, reading and writing is given to students who do not qualify under options 2 or 3. There is no charge for this service.
2. Submit ACT Scores. ACT scores of 19 or above in reading, math and English can be used to meet DMACC's assessment requirement. ACT scores must be mailed to the Admissions Processing office. If the ACT scores are more than three (3) years old, it is recommended that students complete Option 1 - COMPASS testing.
3. Provide Evidence of Successful College Experience. An official college transcript, from each prior college attended, must be mailed to the Admissions Processing Office. The following criteria are used to grant assessment waivers:

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

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

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

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

Assessment is not required if students are planning to enroll part-time, but is strongly encouraged 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 in any course that has writing expectations or requirements.
3. A reading assessment before enrolling in a third course.

COMPASS testing is provided on all DMACC campuses. Call one of the numbers listed 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
641-791-1730 or 1-800-362-2127, ext 1730

Urban
515-248-7218 or 1-800-362-2127, ext 7218

West
515-633-2426 or 1-800-362-2127, ext 2426

Students needing the COMPASS test with an accommodation because of disability must provide documentation of the disability prior to the test and make the necessary accommodation arrangements with the testing center in advance of the testing date.

Admission of High School Students

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

Admission steps:

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

This procedure does not apply to high school age students enrolling under the Postsecondary Enrollment Options Act, Tech-Prep or other special contractual agreements.

Persons with disabilities are encouraged to attend and participate in all classes, activities and events sponsored by or held at Des Moines Area Community College. If you are a person with a disability who requires reasonable accommodation, please contact the Coordinator of Special Needs at (515)964-6850 voice, or (515)964-6809 tty.

Admissions

Admission of Pre-High School Students

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

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

Admission of Home-Schooled Students

Home-schooled students may apply for admission by following the guidelines above that are appropriate for the student's age. Junior and senior level home schooled students will also be required to take the COMPASS test or submit ACT scores for placement purposes.

Admission of Guest Students

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

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

Note: Guest students are not eligible for financial aid.

Admission of International Students

Admissions Application

International students are persons in the U.S. who are on non-immigrant visas including students who have an F1 student visa. Specific requirements must be met before being considered for admission to Des Moines Area Community College. No admission decision will be made until an application is complete.

Deadlines for applications for admission as a student and for I-20 Forms

All applications must be received NO LATER THAN 120 days prior to the first day of the semester.

Term	Deadline
Fall Semester 2003	May 1, 2003
Spring Semester 2004	September 15, 2003
Summer Semester 2004	January 25, 2004

The deadline is the date by which we must have all required documents in hand.

If your paperwork reaches us after the deadline, we process your application for the next term. Example: If you apply to attend school in the fall semester and your papers arrive after May 1st, we will process your application for the spring semester.

Transfer Applicants

A transfer applicant is any student (with a valid I-20) who has or will have completed one or more semesters at another United States college/university before attending Des Moines Area Community College.

Deadlines for applications for admission as a transfer student:

All applications must be received NO LATER THAN 45 days prior to the first day of the semester.

Term	Deadline
Fall Semester 2003	July 15, 2003
Spring Semester 2004	November 25, 2003
Summer Semester 2004	April 15, 2004

A completed application includes:

1. A completed and signed DMACC admission application.
2. A completed International Student Information Sheet.
3. Payment of a $100 (US) non-refundable student processing fee. Send the fee, payable to Des Moines Area Community College, in the form of a bank draft or an international postal money order. **This must be paid before an I-20 can be issued.**
4. Submission of a completed and notarized Statement of Financial Support to show evidence of ability to meet educational and living expenses of at least $13,000 (US) per year.
5. Official evidence of English proficiency is required by DMACC by submission of one of the following:
   a. Official results of the Test of English as a Foreign Language (TOEFL) which is offered worldwide. A score of 173 on the computerized test or 500 on the paper test is required for admission. The DMACC TOEFL code is #6177.
   b. Michigan test score (administered at American institutions and at the Academic Achievement Center at DMACC.) A score of 80 is required for admission.
   c. An official transcript from an accredited U.S. college or university showing successful completion (grade "C" or higher) of freshman level English. ***(If your English language proficiency score is below the required level, an I-20 MAY be issued for admission to our English as a Second Language program).***
6. Submission of official transcripts from all secondary and post-secondary schools attended, translated into English. Those students wishing to use credits from a college or university outside the United States must have the transcript reviewed at the subject analysis or at the catalog level by a commercial service for an additional fee. Contact the International Student Office for further information.
7. A deposit of $2500 (U.S.) to cover direct educational costs (tuition, fees, books, supplies, etc.) for the first semester.
8. All International Students with a DMACC issued I-20 are required to have valid proof of medical insurance. Students having purchased their own medical insurance must provide proof of insurance within the first 15 days of class to qualify for a waiver of the insurance fee. Insurance will be provided and a fee will be assessed to the individual student.

The college issues an I-20 Certificate of Eligibility form to students who qualify for admission. Students present this form to a United States Consular Office in the country where they are applying for a student (F1) visa. The U.S. Consular Office makes the final decision of admission to the United States for study.

Students MUST report to DMACC on or before the date stated in the I-20 form. Late arriving students will not be allowed to register for classes.

After arriving at DMACC, students must take the college English, reading and mathematics assessment test. Final placement in courses is recommended based on assessment test performance.

Admissions

Tuition for International Students is assessed at the non-resident rate.

It is the responsibility of the students to maintain their visa status while enrolled at DMACC. Details for maintaining visa status can be obtained at the International Student Office in Building 1, Ankeny Campus or by calling 515-964-6471. **Failure to do so can result in deportation.**

Residency

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

To apply for reclassification from nonresident to resident status, students must complete a "Request for Determination of Residency Status" form and submit it with two additional documents evidencing Iowa domicile. Examples of acceptable documents include:

- Written and notarized documentation from an employer that you are employed in Iowa.
- Iowa state income tax return.
- Iowa driver's license.
- Iowa vehicle registration card.
- Proof of Iowa Homestead credit on property taxes.
- Other indicators of Iowa residency, such as rent receipts, utility bills, bank statements, etc.

All documents submitted must verify residency at least 90 days prior to the start of the academic term.

Reclassification of residency status is not retroactive.

Non-citizens must submit proof of legal immigration status from a Permanent Resident Card or an I-94 card showing approved resident status by the Immigration and Naturalization Service.

International students cannot establish residency while studying in this country on a temporary visa.

Residency questions and documents should be routed to the International Student Office on the Ankeny campus. The phone number is 515-964-6471.

Readmission

In general, students who are in good standing and do not enroll for one or more consecutive semesters do not need to apply for readmission to the college. The only step necessary prior to registration is to contact the admission office to verify the accuracy of the address and phone number contained in college records.

Students accepted to a limited enrollment or selective admission program and who do not start when planned or withdraw for one or more semesters must contact the admission office for approval to re-enroll as "restart" student.

Students who have been suspended due to failure to meet the college's scholastic standards must meet the requirements for readmission as found in the Scholastic Standards section of the catalog before re-enroiling.

Students who have been suspended for disciplinary reasons may not re-enroll before meeting all requirements imposed at the time of suspension.

Transferring Credit to DMACC

Evaluation of Previous Training and Education

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

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

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

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

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

Credit for Educational Experience in the Armed Forces

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

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

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

College Tours

Prospective students are invited to visit any or all of the DMACC campuses during Discover DMACC Day. Students may register by calling 1-800-362-2127, ext. 7100 or on the web at www.dmacc.edu/discover.htm. Individual tours may be arranged by calling 1-800-362-2127 and selecting the campus of your choice or by calling the individual campus at:

Ankeny Campus.....515-965-7100
Boone Campus 515-432-5025
Carroll Campus 712-792-8332
Newton Campus 641-791-3622
Urban Campus 515-248-7236
West Campus 515-633-2408

Registration

Students may register for courses during the times and dates listed in the schedule of classes published prior to the beginning of each semester. Registration is not complete until students have paid their tuition and fees or when payment has been officially authorized by the Financial Aid Office or Business Office. Students with past-due obligations to the College will not be permitted to register for classes until the obligations are resolved.

Registration Procedures

New, Full-time Students

Registration for all new full-time students (12 credits or more fall and spring semester or 8 or more credits summer term) is scheduled by the Student Development Office. New students who have been accepted for admission will be notified when to report for registration. Counselors and advisors will be available to assist with registration.

To help students make a successful transition to college, DMACC offers an Orientation to College course, CDEV100. 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. CDEV100 is **required** for students who fit these guidelines:

- **Enrolled in an arts and sciences, preprofessional or general education program and**
- **Enrolled full-time and**
- **Have no previous college experience**

New, Part-time Students

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

Continuing Career Education Students

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

Continuing Arts and Sciences Students

These students are assigned registration dates according to the number of DMACC credits already earned plus accepted transfer credits. These times and dates are published in the schedule of classes or on the internet.

Adding or Dropping a Course

Students may add a credit course through the first five days of the semester. Course adds can be in person, by phone, mail, fax, or via the internet. Students are not permitted to attend a course unless officially registered for the course.

Students may drop a credit course through the 50th class day of the fall and spring semesters and the 30th class day of the summer term. The last day to drop a course offered during terms other than fall, spring and summer semesters depends on the length of the term; the applicable date is published in the schedule of classes and is also available by contacting the registration office. Courses dropped during the first week of the semester will not show on the students' transcript. Courses dropped after the first week and through the deadline will be shown on the transcript and will be assigned a grade of "W".

Deadlines for dropping courses are different than refund deadlines. Information about refund deadlines can be found in the Education Expense/Student Accounts section of this catalog, in the schedule of classes published before each semester and by contacting the registration office.

Students who withdraw from a course will not be permitted to continue attending the course. Students who have a financial "hold" on their records due to unpaid obligations will not be permitted to drop courses.

Students may be administratively dropped from courses for non-attendance. 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. Petitions must be submitted no later than midterm of the semester immediately following the semester of enrollment. The Petition for Policy Waiver Committee reviews the petitions and notifies students of the final dispositions of petitions in writing.

Non-Credit Course Registration, Adds and Drops

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

Educational Expense/Student Accounts

Tuition and Fee Charges

The DMACC Board of Directors establishes tuition and fee charges. The tuition and service/technology fees are charged on a per credit basis. Additional supplemental fees are described below under "other fees". Non-resident tuition, not including fees, is twice the amount of resident student tuition. See the following chart on the following page of tuition and fees.

Service Fee

The service fee (including a general technology fee) mentioned above is used to support many college activities and services for all students. All students pay service fees on a per credit basis. These fees are mandatory.

Other Fees

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

Indebtedness Policy

Students who have tuition and fees owed to the College may not register while the indebtedness remains. During this period the student's transcripts will not be released and graduation awards will not be conferred.

Deposits

International students are required to pay a $2,500 deposit prior to admission to the college. This is coordinated through the International Student Office.

Scholarships received in advance are deposited to the individual student's account pending enrollment activity. Students are advised to notify Student Accounts when they have deposited money available for use. Additional deposit money will be released to student accounts for purchase of books at the college bookstore at the student's request.

Students may deposit money in advance of the next semester enrollment. Call the International Student Office at the Ankeny campus for information.

Campus Bookstore Purchases

Bookstores are located at each DMACC campus. Students should purchase books at the campus they will be attending. Financial aid credits may be used at the bookstore after the authorized aid has been released to accounts.

Payment Policy

Payment for Credit Class Enrollment must be made by the published due date. If fees are paid through approved government agencies or private agencies or employers, it is the student's responsibility to notify the Student Accounts Office prior to the payment due date.

An installment plan is available upon request. An additional fee is assessed for each installment plan arrangement. See the Business Office at the campus you attend for more information.

Important: Failure to make complete payment or establish a Payment Plan by the published due date will result in the cancellation of credit class enrollment unless special arrangement has been made with the Student Accounts Office or the Financial Aid Office. The Financial Aid Office reserves the right to "hold" students' enrollment pending verification of aid requested.

Payment for Non-Credit Continuing Education classes is required before the start of the class.

Educational Expense/Student Accounts

Student Tuition Rate for Credit Offerings

Full or part-time enrollment (per credit) Resident	$ 83.40
Full or part-time enrollment (per credit) Non-Resident	$ 166.80
Audit (per credit)	$ 83.40
Career Supplemental non-credit courses (per contact hour)	$ 5.00
Continuing and General Adult Ed - Local schools (per contact hour)	$ 2.00

English as a Second Language

Level 4- 6 (per course)	$ 75.00
High School-Diploma (per course)	$ 75.00
Correspondence fee	$ 85.00

Non-resident tuition is 200% of resident rate

Fees

Music fee (piano/instrumental per course)	Market Rate
Correspondence course fee	$ 15.00
Convenience fee - not refundable (TV classes - per course)	$ 30.00
Convenience fee (Internet classes - per credit hour)	$ 20.00
Lab fees for Advanced Technology Center and computer application courses (per course)	Market Rate
Deferred payment fee	$ 25.00
International student processing fee	$ 100.00
GED - Testing/Diploma fee	$ 50.00
Instruction fee	$ 50.00
NLN Testing - per test	$ 100.00
Returned Check Fee	$ 20.00

Transcript Fees

Regular request (sent within two business days)	$ NA
Same-day service request	$ 5.00
FAX requests	$ 5.00

Traffic Fines

Parking in handicapped stall	$ 100.00
Illegal Parking	$ 10.00
Back-in parking (only head-in parking allowed)	$ 1.00
Improper permit display	$ 10.00
No permit displayed	$ 10.00
Parking in unauthorized area	$ 25.00
Moving violation	$ 50.00

Refunds

Important considerations before dropping classes:

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

Student refunds are computed by using:

1. The date the Student Registration Office receives a formal drop form from the student **or**
2. The date the Student Registration Office receives a phone call or fax from the student requesting a class drop **or**
3. The date the student initiates a drop via the Internet.

NOTE: Students eligible for a refund will receive a check in the mail or a refund adjustment to their previous MasterCard/VISA or Discover payment.

Refund Schedule

(normal/full length term classes only)

First Week of term	100%
Second Week of term	75%
Third Week of term	50%
After Third Week of term	No Refund

Important:

1. Refunds for classes other than the normal full term length will be prorated. A complete copy of the refund policy for all semesters is available at all campuses in the Business/Student Accounts Offices.
2. Refunds for TV classes are based on the published class/term dates - **NOT the viewing dates.**

Education Tax Credits

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

Des Moines Area Community College reserves the right to change tuition and fees. Changes adopted by DMACC Board of Directors March 10, 2003

Financial Aid

Criteria and Conditions for DMACC Foundation Awards

The Foundation requires all applicants to have a minimum verifiable cumulative grade point average (GPA) of 2.0 and be enrolled at DMACC (any campus) for a minimum of 6 credit hours. Specific scholarships may have higher minimum criteria. GPAs can be from high school, other colleges, or from the students' prior or current DMACC attendance. If a GPA is not from DMACC, copies of transcripts must accompany applications.

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

Examples of Awards:

DMACC Foundation Freshman Scholar Award

Application for this competitive award is open to all DMACC District graduating high school seniors who place in the top ten percent of their graduating class. The award is applied towards tuition, fees and books for the first year at DMACC. Awards are limited to a maximum of 15 credit hours per semester and are dependent on available funding. Obtain an application from the Scholarship Office. Term Offered: Fall (renewable for spring)

Chrysalis Foundation Scholarships

These scholarships are for female students enrolling full or part time at Ankeny, Urban or West campus. These scholarships require a minimum 3.0 GPA and evidence of financial need. Award is for tuition, fees and books up to a maximum of $3,000 per academic year. Term offered: Fall (renewable for spring and summer)

Erskine F. and Vina G. Bennett Scholarships

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

Melvin G. Straub Scholarship in Graphic Communication

This award is for students in graphic communication with a minimum 2.5 GPA as they enroll for their third (summer) term. Term offered: Summer semester (renewable for fall)

DMACC Pioneers Scholarships

This scholarship is funded by the DMACC Pioneers, an organization of retired DMACC and Iowa Department of Education employees. To be eligible a 2.75 GPA is required. Awards are $400 for full-time and $200 for part-time. Awards are renewable dependent on maintaining minimum criterion. Term Offered: Fall (renewable for spring)

Campus General Scholarships

Each of the DMACC campuses have a general scholarship category. These awards are based on a minimum 2.0 GPA. Award amount varies. Term Offered: Fall (renewable for spring)

The Pella Rolscreen Scholarship

Application for this award is open to Ankeny and Carroll campus students only. This scholarship requires a 3.0 GPA and is need based. Awards are for $350. Term Offered: Fall (renewable for spring)

Lue B McLain Trust Scholarship

Application for this award is limited to Jasper County resident students. This scholarship requires a 2.5 GPA and is need based. The award may be used at all campuses. Award amounts vary. Term Offered: Fall (renewable for spring)

Sciences & Humanities Scholarship

Must be a Liberal Arts Student. Requires a 3.0 GPA. Preference given to non-traditional students. Term Offered: Fall - renewable for spring

Al Borchers Memorial Scholarship

Awards to student enrolled full or part-time in a Business/math Program at the Newton Campus. Must be a Jasper County resident with a minimum 2.5 GPA. Term Offered: Fall (not renewable)

DMACC Alumni Association

DMACC Alumni Association Scholarships and Grants

DMACC's Alumni Association annually awards scholarships to outstanding DMACC students and financial grants to students with financial need. These awards are made possible through special alumni fund-raising activities and gifts to the Association for this purpose. Contact the DMACC Alumni Office for more information. Term Offered – Spring

How DMACC Awards are Paid

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

Outside Scholarships and Grants Websites

FASTWEB-http://www.fastweb.com
CollegeQuest-http://www.collegequest.com
CASHE-http://www.cashe.com

Tips for Applying for Outside Scholarships and Grants

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

Employment

College Work-Study Program (CWSP)

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

Community Service/America Reads/Counts

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

Study Abroad

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

Loans

Federal Direct Student Loan Program– Subsidized and Unsubsidized: These are need-based, variable interest rate loans available to assist students for educational costs. Students must file a completed Free Application for Federal Student Aid (FAFSA) and be enrolled at least half-time to apply for a loan. The government pays the interest on the subsidized loan during periods of enrollment and the six-month grace period. The student pays all interest after receiving an unsubsidized loan. Repayment for both loan types begins six months after terminating enrollment or dropping to less than half-time. The maximum annual subsidized/unsubsidized Direct Loan amounts are $2,625 for freshmen and $3,500 for sophomores. Independent students may be eligible to receive additional unsubsidized loans. Loan funds cannot be released until 30 days after the term starts if the student is a first-time borrower. Entrance and exit counseling are required.

Financial Aid

How to Apply for Financial Aid at DMACC

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

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

Budget Allowances

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

Cost of Attendance

Estimated costs for a full-time undergraduate student, based on the 2002-2003 budget, are as follows:

	Iowa Resident	Non-Resident
Tuition and Fees	$2,412	$4,572
Books and Supplies	690	690
Room and Board	4,461	4,461
Personal/Misc.	1,494	1,494
Transportation	1,498	1,498
	$10,555	$12,715

Filing Request for Special Consideration

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

Free Application for Federal Student Aid (FAFSA)

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

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

When to Apply

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

1. Complete the FAFSA as soon after January 1 as possible.
2. Make sure the appropriate signatures are on all forms.
3. Review all data before mailing the FAFSA. Check the student's social security number and birth date. ESTIMATED tax data may be used, but it is preferred that taxes be completed before filing the FAFSA, when possible.
4. Mail the FAFSA in the attached envelope.
5. If the student will be filing the FAFSA by using the Internet it may be necessary to print the signature page and mail it to: Federal Student Aid Programs, PO Box 4008, Mt. Vernon, IL 62864-8608.

Financial Aid Updates on the WEB

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

To Obtain a DMACC PIN

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

Helpful hints section:

1. **Keep together copies of all forms, letters, award notices and financial aid-related documents.**
2. **Please 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 and Scholarships)

Federal Pell Grants

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

Federal Supplemental Educational Opportunity Grants (SEOG)

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

Iowa Vocational-Technical Tuition Grants (IVTTG)

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

Iowa Grant

These grants are available to undergraduate students enrolled at least half-time, who have applied for financial aid and show exceptional need. The maximum amount offered is $1000 per academic year.

State of Iowa Scholarship Program

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

Miscellaneous Scholarships

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

Applying for DMACC and Outside Scholarships and Grants

DMACC Scholarships and Grants

The DMACC Foundation provides funds for DMACC students as scholarships and grants. Foundation money comes from private sources, including individual donations, business and industry support and a variety of fund-raising activities. These awards are competitive and are awarded through an application process. Most awards are based on both financial need and academic achievement, with a few that are based solely on academic achievement. A full listing of Foundation scholarship awards available college-wide can be found on the Foundation's web site www.dmacc.edu/foundation, or can be obtained from the Financial Aid Office, Building 1, Ankeny Campus.

How to Apply

Students may apply for most DMACC Foundation scholarships by completing a Generic Scholarship Application form on the DMACC internet site at: http://www.dmacc.edu/foundation, or by calling 515-964-6278 or 800-362-2127 ext. 6278 and asking for an application form. Program specific forms are available from program chairs or the Financial Aid Office. The Financial Aid Office also has special application forms for several named scholarship funds. For most scholarships, the annual deadline date is May 1. Scholarships with other deadlines are described in the Foundation Scholarship brochure and on the Foundation web site. Completed applications must be returned to the Financial Aid Office. Incomplete applications or those received after the deadline date will not be considered.

Financial Aid

Federal Direct Parent Loans for Undergraduate Students (PLUS)

A PLUS loan is a variable interest rate loan available to parents of dependent students. Students must be enrolled at least half-time. Parents can borrow the cost of the dependent student's education minus any financial aid the student receives. Parents apply through the DMACC Financial Aid Office.

Partnership Loans

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

Entrance Counseling

All first-time borrowers at DMACC are required to attend an entrance counseling session. Students may use the Internet Entrance Counseling - tutorial, at www.IFAP.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 the www.dlservicer.ed.gov/demo to complete the Exit Counseling requirement, or visit any DMACC campus for Exit Counseling.

Veterans Educational Benefits

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

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

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

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

Iowa National Guard

The Iowa National Guard Educational Assistance Program may pay up to 50% of an eligible student's tuition (not additional class fees) fall and spring semesters at DMACC. Eligible students must be active members of the Iowa Army or Air National Guard. The Iowa Adjutant General (TAG) determines eligibility for this tuition assistance program and funding for it is determined annually by the Iowa General Assembly. Individuals must apply for this grant through their Guard unit commander each spring for the coming academic year. TAG notifies the Iowa College Student Aid Commission (ICSAC) of approved application. That agency notifies DMACC of the student's eligibility and authorizes payment of the funds to DMACC.

Iowa New Choices

The Iowa New Choices 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 non-traditional occupations. Financial assistance may be provided in the following forms: Bus passes on a first come, first serve basis; mileage allowance to the Ankeny and Urban campuses if the student lives outside Polk County; childcare assistance if not eligible for State block grant. All financial assistance depends on availability of funds. Details may be obtained from the Iowa New Choices Office on the Urban campus, 515-248-7520.

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

Dislocated Workers

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

Strive

The STRIVE (Selected Training Received in Vocational Education) Program provides vocational education to special needs students from high school. Details may be obtained from the STRIVE coordinator on the Ankeny Campus.

Vocational Rehabilitation

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

Requirements for Continued Financial Aid Eligibility

Satisfactory Academic Progress (SAP)

Federal regulations require that students maintain satisfactory academic progress in the program of study they are pursuing in order to receive financial aid. At DMACC, a student must earn and maintain a minimum cumulative grade point average of 2.0. The student must also earn a minimum number of credits per year to continue receiving aid. Financial aid includes all federal and state grants, college work-study and loans, including the Federal Direct Student Loans. Academic records will be reviewed every semester.

Financial Aid Academic Progress Standards

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

1. **Qualitative Measurement:**
   - **a.** During the first term a student is enrolled and receiving financial aid at DMACC he/she must earn a minimum grade point average of 2.0.
   - **b.** Subsequent terms will require the student to earn a cumulative GPA of at least 2.0.
   - **c.** Acceptable grades to maintain a cumulative 2.0 GPA are: A (superior), B (above average), C (average), P (pass), T (credit by testing). A grade of D (below average) will be acceptable only from the standpoint that it is figured into the cumulative GPA.
   - **d.** If a student receives an I (incomplete), W (withdraw or dropped), X (repeats), or F (failing), he/she may receive financial aid as long as the student completes the required minimum hours for each calendar year and maintains a cumulative 2.0 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).

Financial Aid

d. Minimum credits not earned will result in deficit credits. The number of deficit credits must be eliminated the next term of enrollment.

e. Summer credits earned will be included when totaling minimum credits completed for each calendar year.

3. Warning Status

Students will be placed on Warning Status if either the qualitative or quantitative criteria are not met. During the next term of enrollment the student must increase his/her grade point average to a cumulative 2.0 GPA if the qualitative measurement was not met. If the student does not earn the minimum required credits, he/she must earn the deficit credits the next term that he/she is enrolled in addition to the minimum credits required by the next term. (Example: if a full-time student is deficient by 4 hours fall semester, a total of 4 + 8 credits with an appropriate GPA must be maintained spring semester).

4. Cancellation of Eligibility

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

5. Regaining Eligibility

To regain eligibility for financial aid, the student will be required to regain a cumulative 2.0 GPA at his/her own expense. If the student did not earn the minimum credits for which he/she received aid, the student must earn the number of deficit credits, as indicated in point 3 above, at his/her own expense.

If the student is re-enrolling after an absence of one or more terms and has had financial aid cancelled, the minimum qualitative and quantitative standards to regain eligibility must be met. If he/she feels extenuating circumstances prevented these standards from being maintained, an appeal may be made in writing to the Financial Aid Appeal Committee.

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

6. Transfer Students

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

7. Appeals of Cancellation of Eligibility

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

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

8. Duration of Eligibility

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

Students who have earned 150% of the number of credits required to graduate in their program will need to seek the advice of an academic counselor before receiving further financial aid. (Example: the student's program requires 64 credits for completion; the student has earned 96 credits without completing the program, he/she will need to seek advice from an academic counselor).

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

Repeating Classes

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

What happens 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 in the fall and maintains a GPA of 2.0. His status is satisfactory. If he retakes that 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 re-take of a class that has been passed will not make up deficit credits because it only replaces the grade for credits you have earned.

Never Attending Process (10th day — NA)

Prior to the 10th day of class, instructors are provided class lists and must identify students who have Never Attended their class. Students will receive a letter indicating the classes that were reported. Students are instructed that if they have been reported in error, they need to obtain their instructor's signature and submit the signed letter to the Information Center by the deadline provided. If the letter is not returned, the student is dropped from those reported classes and the student's financial aid is adjusted accordingly. If a balance is then due, a letter is sent to the student indicating the amount and a due date.

Quit Attending Process (mid-term — QA)

Instructors are asked to report students who have quit attending. A letter is sent to the students showing what classes have been reported as QA. They must obtain the instructor's signature and submit the signed letter to the FAO. If all instructors report a student as QA, a Return to 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 getting a failing grade.

Leave of Absence

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

Check out your Financial Aid on the Web at www.DMACC.edu

Financial Aid

Return of Financial Aid Title IV Funds

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 30 days after DMACC determines the student's withdrawal date.

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 which determines how much aid the student is eligible to receive and how much the student is no longer eligible for, because he/she is no longer enrolled in school. This calculation is applicable until the student has completed more than 60 percent of the semester. Once the student has completed more than 60 percent of the semester, all financial aid is considered earned.

For example:

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

Who Is Responsible for Returning the Unearned Funds?

As prescribed by federal law DMACC is required to return the lesser of:

- **The unearned amount of the financial aid; or**
- **An amount equal to the student's total institutional charges for the semester, multiplied by the percentage of unearned aid.**

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

- **The unearned amount of Title IV assistance minus any funds DMACC returned.**

If the student is required to repay unearned loan funds, these funds will be repaid in accordance with the terms of the promissory note. That is, through scheduled payments to the holder of the loan over a period of time.

If the student is required to repay unearned Pell and/or SEOG Grant funds, the law provides that the student is only required to return 50 percent of the unearned grant. Any unearned grant money must be repaid by either making arrangements with DMACC or with the U.S. Department of Education.

Example:

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

Penny was awarded the following financial aid, which was credited to her student account:

Federal Direct Student Loan	$1,261
Federal Pell Grant	2,000
Federal SEOG	250
Total Financial Aid Awarded	$3,511

Penny completed only 11 days of classes or 10 percent of the semester. Penny's tuition and fee charges for the full semester are $1,206.

To determine how much money must be returned by DMACC and Penny the financial aid staff must first determine how much financial aid Penny did not earn.

Since Penny only attended 10 percent of the semester, she only earned 10 percent of her financial aid. Therefore, the unearned percent of her financial aid is 90 percent.

Total Financial Aid Awarded	$3,511
Multiply Percent of Unearned Aid	X .90
Amount of Unearned Aid	$3,159.90

Per federal requirements, DMACC and Penny must repay a total of $3,159.90.

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

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

Total Institutional Charges	$1,206
Multiply Percent of Unearned Aid	X .90
Amount to be Repaid	$1,085.40

Penny is required to return the remaining unearned amount.

Total Unearned Aid	$3,159.90
Subtract Percent of Unearned Aid	1,085.40
Amount Penny Must Repay	$2,074.50

Amount and Order of Repayment

In the example, both DMACC and Penny must return loan funds. After completing the calculations and following the repayment guidelines it was determined that DMACC should repay $1,085.40 to Penny's loan. Penny will be required to repay $175.60 to the Federal Direct Student Loan Program, through a repayment plan in accordance with the terms of her promissory note.

In addition, based on the calculations, $1,898.90 of Penny's Pell Grant was unearned. As DMACC has already paid the total amount it owes to the loan program, Penny is responsible for paying back the unearned Pell Grant. However, because the unearned Pell Grant money is to be repaid by Penny (the student), only 50 percent of the unearned grant must be repaid.

Unearned Pell Grant	$1,898.90
	X .50
	$ 949.45

Title IV Grant Overpayment

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

Outstanding Balance on DMACC Account

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

Example:

Penny's tuition and fee charges for the term are $1,206. Because Penny withdrew during the third week of classes (11 days), her tuition refund is calculated at 50 percent. DMACC refunded (adjusted) Penny's tuition bill to $603.00. Because Penny only earned 10 percent of her financial aid, only $351.10 of her DMACC bill was covered. Penny still owes DMACC $251.90. She will need to make payment arrangements with the DMACC Student Accounts Office.

Post Withdrawal Disbursement

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

Questions Concerning Return of Financial Aid Title IV Funds

Contact the DMACC Financial Aid Office by calling 1-800-362-2127, ext. 6282 for additional information concerning the Return of Title IV Aid or at www.DMACC.edu. As the regulations governing Return of Title IV aid are subject to change, refer to DMACC's financial aid web site www.DMACC.edu for up-to-date information.

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 Student Academic Appeals Procedure.

Academic Recognition

Dean's List: Students who have earned 6 credits in any term with a 3.500 to 3.99 grade point average are honored by being named to the Dean's List. Students are mailed a certificate from their respective Dean and the names of students on the list are published in their "hometown" newspaper.

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

Attendance & Enrollment

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

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

When one-third of the term has passed, instructors are asked to report students who quit attending class and students with grades below 2.0. All students are notified. Those students who quit attending all courses and have financial aid may be dropped. Students may be required to repay financial aid under the federal repayment formula and will be notified. (For information on the Return of Title IV Funds, please see the Financial Aid section.) The students will have the established options to appeal in writing to the Financial Aid Appeals Committee or the Petition for Policy Waiver Committee.

Auditing Courses

Students may enroll in any course on an audit basis if space is available. The same tuition and fees are due for audited courses. Each audited course will appear on the student's transcript with no credit and a mark of audit ("N"). Students auditing courses are not required to complete regular assignments or examinations, though attendance is expected. Enrollment on an audit basis does not qualify for financial aid or insurance purposes.

The deadline for changing a course from "credit" to "audit" is the same as the deadline for dropping classes. The completion of a Drop/Add form is required. Once a class has been placed on an audit status it cannot be changed back to credit.

Grade Reports

Final grade reports are issued from the Office of Academic Records approximately one to two weeks after the end of a term.

Progress grade reports are issued from this same office prior to midterm and the deadline for dropping classes. This report notifies students who are not progressing satisfactorily (receiving F, D-, D, D+, or C-grades) of services available to help them improve their academic performance. Students who have quit attending class are also notified. Students should be aware that there is not 100% participation in progress reporting. If there is a question about their grades, students should contact their instructors.

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
A	4.00
A-	3.67
B+	3.33
B	3.00
B-	2.67
C+	2.33
C	2.00
C-	1.67
D+	1.33
D	1.00
D-	.67
F	.00

Other Grade Designations:

W	Withdrawn
P	Pass
I	Incomplete
T	Testing
N	Audit
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 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:

	Semester Hours	Grade	Quality Points
Composition I	3	X B+ (3.33) =	9.99
Fundamentals of Speech	3	X A (4 .00) =	12.00
Finite Mathematics	4	X C- (1.67) =	6.68
Intro to Computer Literacy	3	X C+ (2.33) =	6.99
Elementary Spanish	4	X D+ (1.33) =	5.32
TOTAL	17 semester hours		40.98

Divide 40.98 points by 17 semester hours = 2.411

Repeat Coursework

Students may repeat a course previously taken at DMACC if the course is currently being offered. When a course is repeated, only the grade point value of the last grade earned will be included in calculating the grade point average. Earlier grades recorded for the repeated course will remain on the transcript record, but will be excluded from the GPA calculation. Withdrawing from a course that is being repeated and receiving a grade of "W" does not constitute a course repeat.

Repeat Symbols

I Grade value included in the GPA calculation

E Grade value excluded in the GPA calculation

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

Example:

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

Grade Appeals

Students should first attempt to resolve the matter with their instructors. If students wish to proceed further, they should follow the steps outlined in The Appeal Process for Final Grades. A copy of this procedure is available in any DMACC Student Service office.

Academic Information

Repeat, Incomplete and Failing Mark Policies

Students unable to complete some portion of assigned course work during the regular term may sign a contract with instructor approval for an "I" (Incomplete) grade. In such cases the students must complete the course by the midterm date of the following term. Should there be an extenuating circumstance, such as serious injury or illness, an extension of this period may be approved by the instructor. "Incomplete" grades automatically change to "F" grades if the work is not satisfactorily completed within the time period specified.

Students who fail a required course, must repeat and pass that course at Des Moines Area Community College in order to fulfill graduation requirements. Whenever a course is repeated, only the latter grade is included in the computation of the grade point average. This privilege does not pertain to courses failed while in attendance at other colleges and universities. Des Moines Area Community College cannot make changes in the grades issued by other institutions. Withdrawing from a course that is being repeated and receiving a grade of "W" does not constitute a course repeat.

Other Credit Options and Special Offerings

Advanced Placement (AP)

This program allows students, while still in high school, to take examinations for credit at the college level. DMACC awards credit for advanced placement through the Advanced Placement Program in art, computer science, English, foreign languages, history, mathematics, music and sciences. AP credit will be applied to the students' permanent record as transfer (TRF) credit after a minimum of 12 semester hours of credit has 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 students' permanent record after 12 semester hours of credit have been successfully completed at the college. Credit will not be granted if students have successfully completed college courses representing the same content.

Alternative Methods for Obtaining Credit

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

- **Converting DMACC continuing education coursework to credit.**
- **Converting DMACC corporate training to credit.**
- **Earning credit for experiential learning through portfolio development or skills demonstration.**
- **Earning credit through the assessment of work experience.**
- **Converting certification or licensure from a state or national examination to credit.**

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

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

Challenge Tests

(Local Department Examinations)

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

- **Students may challenge 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.**
- **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 record only when students have earned 12 credit hours at DMACC. A "T" grade is earned and is not included when computing grade point average.**

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

Credit for Educational Experience in the Armed Forces

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

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

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

College Level Examination Program (CLEP)

Des Moines Area Community College will award credit based on scores obtained on the General examinations and Subject examinations. Up to 30 semester hours of credit may be granted. CLEP credit will not be granted if it duplicates credit for a course already taken. A minimum of 12 semester credit hours must be successfully completed at DMACC before the CLEP credit will be applied to the students' permanent records.

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

Cross-Enrollment

Under a special agreement, a limited number of students may enroll, tuition free, in one course at Drake University, Grand View College, or Iowa State University fall or spring semester, provided they are taking at least 12 semester hours at DMACC, have earned 12 semester credits (including transfer credit) and have a cumulative 2.0 GPA. This credit will be added to the DMACC transcript according to transfer credit guidelines. This agreement does not apply to summer session. For more information on Cross Enrollment, contact the DMACC Registration Office.

Academic Information

High School Articulated Courses

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

Articulated credit is recorded on the students' permanent records after the students have 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, two or three credits. A maximum of four hours of elective credit in any one term and eight hours in total may be earned through independent study. Students may register for course work in independent study at any time during the term.

International Travel/Study Courses

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

For information on the Study Abroad in England program or international travel/study courses, please contact the Global Studies chairperson at 515-965-9032.

Postsecondary Enrollment Options Act

Eligible high school students may be accepted for admission to DMACC under Iowa's Postsecondary Enrollment Options Act. Approval by the high school is mandatory before any high school student may be accepted under this program. If the student is approved and accepted, the high school will pay up to $250 per course of the cost of the tuition, fees, books, materials and supplies. Students enrolled under this program take DMACC courses and credit is earned as DMACC credit.

Semester Abroad

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

Scholastic Standards

The following applies only to credit enrollment at DMACC.

Passing grades are required in all courses outlined in the program of study. The cumulative grade point average of 2.000 in all course work applicable to the degree, diploma, or certificate of specialization is required for satisfactory completion or progress.

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

1. Satisfactory academic progress is indicated by a cumulative grade point average (GPA) of 2.000 or higher.
2. Guidelines for placing a student on "ACADEMIC PROBATION":
   a. A student whose cumulative GPA falls below 2.000 at the end of any term will be placed on ACADEMIC PROBATION for the next term of enrollment.
   b. Students on ACADEMIC PROBATION who are assigned more than one grade of C- or less grade at progress report time will be restricted from registering for future credit coursework until they have developed an Educational Achievement Plan with a counselor, advisor and/or program chairperson and obtained the appropriate signatures for approval.
   c. A student on ACADEMIC PROBATION will return to a status of "good academic standing" when his/her cumulative GPA is raised to 2.000 or higher.
   d. A student on ACADEMIC PROBATION will continue on probationary status if his/her term GPA for the term following his/her placement on probation is 2.000 or higher but the cumulative GPA remains below 2.000. This same rule will apply for the next term of enrollment.
   e. The College will not award a Certificate of Specialization, Diploma, or Degree to a student who has a GPA below 2.000 in his/her chosen program of study. Only grades for coursework applicable to the chosen program of study will be calculated in the program GPA.
3. Guidelines for placing a student on "CONDITIONAL ENROLLMENT:"
   a. A student on probation who earns a term GPA of less than 2.000 will be placed on CONDITIONAL ENROLLMENT for the next term of enrollment.
   b. If the student is registered for the following term and is placed on CONDITIONAL ENROLLMENT for that term, he/she will be required to meet with a counselor/advisor no later than the first day of the CONDITIONAL ENROLLMENT term to review his/her course selections. Failure to comply will result in canceled classes.
   c. If the student placed on CONDITIONAL ENROLLMENT is not registered for the next term, he or she must meet with a counselor/advisor prior to re-enrolling in credit coursework.
   d. A student on CONDITIONAL ENROLLMENT who is assigned more than one grade of C- or less at progress time will not be allowed to register for the following term until his/her conditional enrollment term final grades are recorded.
   e. A student on CONDITIONAL ENROLLMENT who earns a term GPA of 2.000 or higher, but the cumulative GPA remains below a 2.000, will be placed on ACADEMIC PROBATION.
   f. A student on CONDITIONAL ENROLLMENT who earns a term GPA and a cumulative GPA of 2.000 or higher will be placed in good standing.
4. Guidelines for placing a student on "ACADEMIC SUSPENSION": A student on CONDITIONAL ENROLLMENT who earns a term GPA of less than 2.000 will be placed on ACADEMIC SUSPENSION and will not be allowed to enroll in credit coursework for a period of one term.

Academic Information

5. Guidelines for RE-ENROLLMENT OF SUSPENDED students:
   a. After the non-enrollment period, a student on ACADEMIC SUSPENSION may apply for re-enrollment.
   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/advisor and/or program chairperson and obtain the appropriate signatures for approval.
   d. Individual programs may impose additional re-enrollment requirements.
6. A student placed on ACADEMIC SUSPENSION may appeal. Students wishing to appeal should contact the Director of Student Development, Ankeny Campus.

Student Records-Confidentiality

Des Moines Area Community College complies with the laws of the United States and the State of Iowa in the maintenance of, access to and release of student records.

No third-party access to non-directory information is allowed without the student's written consent, except as allowed by law. At its discretion, the institution may provide Directory Information which 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 previous educational agency or institution attended, participation by the student in officially recognized activities and sports and weight and height of members of athletic teams.

More detailed information concerning the confidentiality of student information can be obtained by contacting the Registration Office on the Ankeny Campus.

Transfer Credit

A maximum of 43 semester credit hours of transfer credit is applicable toward associate degree requirements. The total grade point average of credits transferred to DMACC must equal 2.0 or higher. Some programs, e.g. Health Service programs and Accounting Specialist, may require a minimum grade of "C" in specific courses that fulfill a degree requirement. Grades earned at other colleges or universities will not be used in the computation of students' GPA at DMACC. Refer to Admission section on the Evaluation of Previous Training and Education for more details on transcript processing and transfer credits.

Transcript Requests

Des Moines Area Community College will send or issue a transcript when students or former students submit a signed, written request. Students can mail or FAX requests to the Office of Academic Records. Transcript request forms are available at each campus, but a letter requesting a transcript will be honored.

Transcript requests should include the student's name, social security number, telephone number, dates of attendance and the address to which the transcript should be mailed.

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

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

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.
- Official college or university transcripts and high school transcripts are required during the application process. Students should request these documents from all prior schools be sent directly to the transfer institution.
- A financial aid transcript may be required from each college or university attended in order to receive aid at the transfer institution.
- Students should keep a copy of all the catalogs of colleges attended. These may be needed when discussing transfer credit.

Copies should be kept of all documents completed as well as a record of names and phone numbers of people contacted at the transfer institution. This will help if there is a need to clarify information in the future. Applications for most major Iowa colleges and universities and information on colleges and universities throughout the United States, are available in the Career Resource Center in Building 1, Ankeny campus.

Program Requirements & Graduation

Programs of Study

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

Arts and Sciences

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

Vocational Education

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

Continuing Education

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

Pre-College Programs of Study

- College Prep/Adaptor 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
- Two credits in Mathematics
- Two credits in Science
- Four credits in English
- Elective courses shall be completed to meet a minimum requirement of 32 credits.
- Iowa High School Equivalency Diploma is awarded by the State of Iowa through the Iowa Department of Education. Eligible adults may earn this Diploma by achieving passing scores on the General Education Development (G.E.D.) test administered by the College.

Transfer Information

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

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

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

Transfer plans are available for some vocational programs to selected colleges.

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

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

Program to Assist College Transfer (PACT)

Students interested in transferring to Iowa State University in either the College of Business or the College of Family and Consumer Science after their course completion at DMACC are encouraged to participate in the Program to Assist College Transfers (PACT). PACT will assist students with a smooth transition between DMACC and ISU. Staff from the selected college will facilitate this transfer by:

1. Assigning students to an ISU advisor to help select appropriate coursework.
2. Inviting students to participate in ISU programs and activities appropriate to their major.
3. Assisting students with the ISU application process.

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

Course Substitutions

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

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

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

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

Graduation Requirements

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

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

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

Program Requirements & Graduation

Graduation Analysis Report

Students may visit the credentials/graduation office or mail a request to receive a report of their progress toward completion of requirements for a program of study. Students are encouraged to request a Graduation Analysis Report at least one semester prior to their planned graduation date to assist with planning their final semester.

Application for Graduation

Candidates for graduation must complete an application for graduation in order to receive their diploma. Students who do not complete requirements for graduation in the term for which they applied must submit a new application. Students who plan to participate in one of the annual commencement ceremonies indicate their intent on the application for graduation. There is no graduation fee. Students who plan to receive more than one degree, diploma or certificate need to complete a graduation application for each program. Candidates for graduation should submit their applications to the credentials/graduation office at the Ankeny campus or the Student Services Office at the other DMACC campuses by the following dates:

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

Commencement Ceremonies

Students who graduate at the end of Fall, Spring or Summer terms are invited to participate in the annual commencement ceremonies in May. Participation in commencement ceremonies is free. Ankeny, Newton, Urban and West campuses have a combined commencement ceremony. The Boone and Carroll campuses have individual ceremonies.

Diplomas

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

Graduation Honors

Phi Theta Kappa

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

Graduation With Program Honors

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

General Education

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

Program Requirements & Graduation

Degrees Awarded

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

Degrees

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

Associate in Arts Degree (AA)

To receive an AA degree students must:

A. Maintain a 2.0 grade point average on all work applicable for the AA degree.

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

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

D. Complete a minimum of 64 semester credit hours.

E. Include at least 48 semester credit hours of core courses.

- **Communications.....9 credits**
- **Social & Behavioral Sciences.....9 credits**
- **Math & Sciences.....9 credits**
- **Humanities.....9 credits**
- **Distributed requirements.....12 credits**

F. Include at least 16 semester credit hours of elective credit.

1. Students may include 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; 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:

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

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

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

D. Complete a minimum of 64 semester credit hours.

E. Include at least 28 semester credit hours of core courses.

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

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

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.

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:

A. Maintain a 2.0 grade point average on all work applicable for the AGS degree.

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

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

D. Students must complete a minimum of 12 semester credit hours at DMACC after the effective date of the AGS degree (January 1, 1992).

E. Complete a minimum of 64 semester credit hours.

F. Complete the following core:

- **Communications.....3 credits**
- **Social & Behavioral Science/ Humanities.....3 credits**
- **Math & Sciences.....3 credits**
- **Distributed requirements.....3 credits**

G. Electives - 52 credits

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

Associate in Applied Science Degree (AAS)

Programs of study that lead to an Associate in Applied Science degree include specific courses required for the degree in addition to the core and general education requirements listed below. Refer to individual A.A.S. programs of study in this catalog to learn degree requirements in addition to these general requirements.

To receive an AAS degree students must:

A. Maintain a 2.0 grade point average on all work applicable for the AAS 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 at DMACC. No more than 43 transfer semester credit hours may be applied toward the degree.

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

D. Complete all required courses in a particular program of study. (Minimum of 64 semester credit hours)

Program Requirements & Graduation

E. Students must satisfy the following core:

1. **Communications - 3 credits**

   ENGL 117, ENGL 118, ENGL 119, ENGL 410, OFFC 205

2. **Social & Behavioral Sciences/Humanities - 3 credits**

   AGRI411
   ARTS 101
   ANTH 120, 121
   CHIN 101, 102, 103, 104
   DRAM 110
   ECON 101, 102
   FREN 101, 102, 103, 104
   GERM 101, 102,103,104
   GEOG 141, 147, 148
   HIST 121, 122, 124, 125
   HUMN 115, 131, 133
   ITAL 101, 102, 103, 104
   JAPN 101, 102, 103, 104
   LITR 120, 121, 122, 123, 125, 130, 131, 132, 133, 134
   MGMT 203
   MUSI 130, 131
   PHIL 110, 111, 112, 113
   PHOT 105
   PLSC 111, 112, 121, 122, 126
   PSCH 101, 103, 104, 105, 106, 108
   SOCY 101, 102, 103, 105
   SPAN 101, 102, 103, 104

3. **Mathematics or Sciences - 3 credits**

   BIOL 118, 119, 126, 127, 132, 133, 134, 141, 142, 144, 147, 149, 154
   BSAD 152 or MATH 121, BSAD223
   CHEM 120, 131, 132, 151, 152, 161, 162
   ELEM 450
   ELHT 313, 323
   MATH 115, 118,
   MATH121 or BSAD152,
   MATH122, 123, 124, 129, 130, 132, 410, 411,
   PHYL 106, 111, 112, 121, 122, 401

4. **Distributed Requirement - 3 credits**

   Choose one course from 1, 2, or 3 above or SPCH 110 or SPCH 111 or SPCH 117 or ELEM 451.

Diploma

To receive a diploma students must:

A. Maintain a 2.0 grade point average on all work applicable for the diploma.

B. Earn at DMACC a minimum of 1/3 of the semester credit hours applicable to the degree being pursued.

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

D. Complete all required courses in a particular program of study. (Minimum of 30 semester credit hours)

E. Complete the following core:

- **One Communications course**
- **One Social & Behavioral Science**
- **One Math course**

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

Certificate of Specialization

To receive a certificate students must:

A. Maintain a 2.0 grade point average on all work applicable for the certificate.

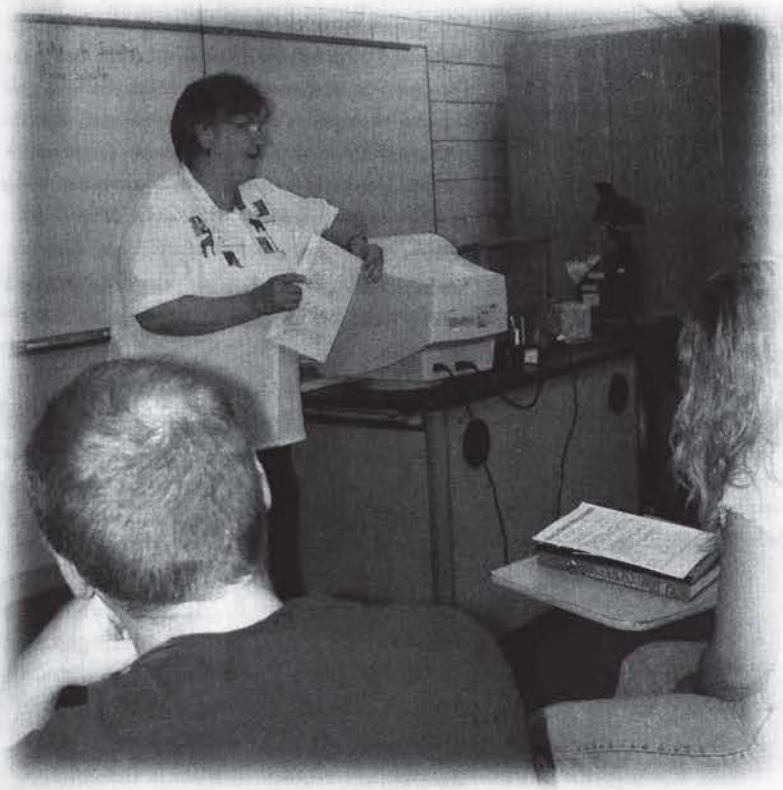
B. Earn at DMACC a minimum of 1/3 of the semester credit hours applicable to the certificate being pursued.

C. Complete the number of semester credit hours required in a particular program of study.

D. Complete all required courses in a particular program of study.

Certificate of Completion

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



Student Services

Academic Achievement Centers

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

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

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

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

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

Alumni Association

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

Assessment Centers

The COMPASS assessment is available for current and prospective students at each of the six DMACC campuses. Please call for an appointment.

Ankeny Campus **515-964-6595**
Boone Campus **515-432-5096**
Carroll Campus **712-729-8303**
Newton Campus **641-791-1730**
Urban Campus **515-248-7218**
West Campus **515-633-2426**

The Ankeny Assessment Center also offers:

CLEP, VUE, EMT-B & First Responder, GRE, LSAT, PRAXIS, MPRE, MCAT, TABE and the Foreign Service Exam.

Campus Security

Law enforcement and security is provided as warranted by existing conditions 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. through 10:30 p.m., Monday through Thursday; 7:00 a.m. through 3:00 p.m. Friday; and 8:00 a.m through 12:30 p.m. Saturday. Security measures may include uniformed security guards, closed circuit television, building security systems, exterior lighting, courtesy phones and attention to landscape materials. In addition, the Ankeny, Des Moines, Boone, Carroll, Newton and West Des Moines Police Departments patrol and assist the College in their respective jurisdictions. DMACC Security personnel administer traffic and parking regulations and provide assistance to the college community.

Career Resource Center (CRC) Ankeny Campus

The CRC offers assistance and informational resources to students, prospective students and for career changers, all stages of career planning. The CRC has up-to-date information about hundreds of occupations. There are many resources available for Iowa's two-year and four-year colleges and universities as well as information on colleges throughout the United States. CHOICES, a computerized career-guidance system, is an excellent resource. Appointments are preferred, but walk-in assistance is also available. The Strong Interest Inventory is available on-line for career-decision making and requires an appointment with a counselor for interpretation and recommendations.

The CRC resources will enable persons to learn about job requirements, job trends and salaries. Students will be better prepared for making decisions about school majors and costs. Job-seekers will organize personal interests and skills for making better career choices. Call for appointment at 515-964-6474.

Child Care

The DMACC Child Development Center on the Ankeny Campus provides child care for the children of students and staff. Children ages 2 - 5 are eligible for child care during normal College business hours. Children must attend on a full or part-time regularly scheduled basis. The child care center is open year around on student contact days only. There is generally a waiting list. To make application or for more information call 515-964-6588.

College Bookstores

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

In addition to course requirements, the bookstores stock supplemental study aids, paper products, office supplies, calculators, cassette recorders, computer supplies, seasonal and everyday greeting cards, imprinted gift items and up-to-date college fashions.

Hours of operation vary at each campus. Check with each bookstore for more information. During the first week of each semester, hours will be extended to accommodate evening and weekend students. During student breaks all bookstores will close early. Hours will be posted.

A cash register or financial aid receipt is required for a full refund or exchange of any textbook. Textbooks may be returned within 14 days from the beginning of each semester, as long as the textbook is in the same condition as when purchased. Check with the bookstore for further details of the Bookstore Return Policy. Materials purchased with a check require ten working days for a cash refund.

Students whose books do not qualify for a refund are encouraged to use our book buyback at the end of each semester. Check with the bookstore about further details regarding the Buyback Policy. Representatives from wholesale companies may be present at the beginning of the semester and mid-term. Notices will be posted at least two weeks before the end of the semester with all necessary information.

Textbook purchases should be made at the campus location of your class. Mail orders from the Ankeny Campus bookstore are available for other off-campus courses. ON-line purchases may be made through the DMACC Web Site www.dmacc.edu. MasterCard, VISA and Discover charge cards are accepted. A picture I.D. is required when writing a check in the bookstore. Students with prewritten checks from parents must also present a picture I.D. Checks must be written for the amount of purchase only and payable to DMACC or Knowledge Knook Bookstore.

Students receiving funds from an agency must pick up a voucher in Student Accounts before purchasing books and supplies.

Picture IDs are required for all Financial Aid and Voucher purchases.

Student Handbook

For more information about services, procedures and policies at Des Moines Area Community College pick up a copy for 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 Services

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 with a counselor. Counselors can also provide assistance with study skills, developing satisfying personal and social relationships, solving financial problems and getting through a crisis.

Counseling services are available to assist all students including those in evening classes and at off-campus sites. Contact the most convenient campus for further information.

College Prep Program

The College Prep Program offers a variety of academic and personal support services to help students succeed in reaching their educational and career goals. These services are particularly designed for students who need to strengthen their academic skills before enrolling in college-level courses.

Staff is available to counsel and advise students prior to registration and during their enrollment. Instructional services provided by the program include a career planning course and adaptor courses in reading, writing, mathematics and study skills. Although credits from the college prep/adaptor courses do not count toward a degree or diploma, they do help students fill in any gaps in the skills needed for success in college-level courses. The Academic Achievement Centers provide the following support services to students enrolled in college prep/adaptor courses: tutoring, individualized instruction, homework help, assessment of basic skills and vocational interest and academic planning offered by the Academic Achievement Centers.

Educational Advising

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

Food Services

Vending machines are available at each campus. The Ankeny, Boone, Urban 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.

Gymnasium

There are indoor recreational facilities on the Ankeny and Boone Campuses. Schedules of the events and guidelines for utilization of the facilities are available.

Recreation/Wellness Services serve students' recreational needs. All current Des Moines Area Community College students are eligible to participate in Recreation/ Wellness Activities.

At the Ankeny Campus, indoor facilities accommodate basketball, volleyball and indoor track. Free weights, CYBEX equipment, exercise bikes, stair climbers, treadmills, exercise mats and locker rooms are also available for student use. Lockers, padlocks and towels may be rented on a daily or semester basis.

Gym and Exercise Room Schedules are available at the Gym office and schedules may vary due to special events.

Open Recreation: Facilities may be used by current students, staff/faculty and alumni with current membership cards.

Family Recreation: Facilities may be used, by current students, staff/faculty and alumni with current membership cards. Members may bring only their immediate family or one guest.

Please do not bring children before 5:00 P.M., as they will not be permitted in the facilities until then. Children of students, students, staff/faculty and alumni MUST be with their family when using the facility. Evening gym hours will be posted on the bulletin boards around campus.

Information Center

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

Student Employment Assistance

Placement 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; and information about companies and the labor market.

Individual assistance with resume writing, application letters, interviewing and job seeking skills is readily available.

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

Libraries

Library services are provided at the Ankeny, Boone, Carroll and Urban Campuses. The DMACC Libraries' website provides access to information from any computer on the college network at www.library.dmacc.edu. DMACC provides access to INNOPAC, the on-line catalog; several EBSCO host databases which include full text articles from over 3,000 periodicals as well as abstracting and indexing for over 6,000 titles; other resources such as Electric Library, Encyclopedia Britannica On-line and selected FirstSearch databases; on-line catalogs of other Iowa libraries; an on-line reference service; and library news and information. Selected sources, including INNOPAC and the EBSCO host databases, are also available to students and staff from remote sites. The DMACC Libraries are full members of the On-line Computer Library Center, Inc. (OCLC), an internationally recognized bibliographic utility, which provides important products and services to libraries and their users. DMACC is a member of the Polk County Biomedical Consortium, a group of health science libraries affiliated with the National Library of Medicine. DMACC also participates in the State Library of Iowa's Open Access program, which allows our cardholders to borrow materials from other participating libraries.

Ankeny Campus

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

Student Services

Boone Campus

The Boone Campus Library has a collection of approximately 19,000 circulating and reference books, 175 periodical subscriptions, compact discs, audio books and a large collection of videos. Material not owned by the Library can be obtained through interlibrary loan at no charge. It also participates in the Open Access program through the State Library. The Library also provides access to the 40-station student computer lab at the Boone Campus. In addition, Library Instruction classes (LIBS120) and Internet Research classes (LIBS123) are offered by the staff each semester.

Carroll Campus

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

Newton Polytechnic

The Interactive Learning Center (ILC) at the Newton Polytechnic 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 on-line research via the DMACC Library website (www.library.dmacc.cc.ia.us) at the computer stations located in the ILC or from their home computers. The ILC also houses instructor reserve materials and is the designated location for students to take make-up exams and quizzes. Students who enrolled in telecourses may view telecourse videotapes for these courses in the ILC. Students may borrow materials housed at any of the other DMACC libraries by processing an interlibrary loan request at the ILC.

Urban Campus

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

In addition to the book collection, the Urban Campus Library subscribes to a large number of periodicals and has many more periodicals available on-line along with other reference databases. There is a collection of video tapes that supplements the textbooks in accounting and mathematics, video tapes for the telecourse division of the College and video tapes to amplify a variety of subjects. There is a pamphlet file of materials to use in research. Students can access materials from other libraries through interlibrary loan services. Study facilities and audio-visual equipment are available in the Library. Assistance in the use of the library and its materials can be obtained from the library staff.

West Campus

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

Rehabilitation Counseling

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

Facilities constructed by the College have been designed to be accessible for students with mobility impairments.

Services for Students with Disabilities

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

DMACC employs a special needs coordinator to work with students to develop and coordinate services based on individual student need. If you are a student with a disability who requires reasonable accommodation to participate fully at DMACC, follow the steps listed below.

1. Contact the special needs coordinator at (515) 964-6850 V, (515) 964-6809 TTY or the counseling and advising office on any of the six campuses for an Application for Accommodation.
2. Submit the completed application and supporting documentation to:

   Des Moines Area Community College
   2006 South Ankeny Boulevard, Bldg. 6-30d
   Ankeny, Iowa 50021-3993
   Attention: Special Needs Coordinator
3. Schedule a time to meet with the special needs coordinator, counselor, or advisor to discuss coordination of these services.
4. Contact the special needs coordinator with any questions during this process.

Student Housing

Student housing apartments are located on the Ankeny Campus. This housing is owned and operated by a private firm and managed by Frandson & Knapp Associates. For information about this housing contact Campus View Apartments at 515-964-7474. The College Information Center in Building 1 of the Ankeny campus also provides information on the student apartments as well as other housing options near the Ankeny and Urban Campuses.

Information about housing for the Boone, Carroll, Newton & West Campuses is available from the Student Services Offices at the respective campuses.

Testing Center

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

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

Tutoring

The Tutoring Office provides peer tutors to assist students who have difficulty with a particular course or courses. Knowledgeable tutors can assist students by reviewing the course material, answering questions and reviewing for exams. Students can be scheduled individually or with a group. For more information call the Tutoring Office on the Ankeny campus at 515-965-7004 or stop by Building 6, room 30. Students interested in tutoring on the Boone, Carroll, Newton, Urban and West campuses should contact the Academic Achievement Center at the campus attended. The college cannot guarantee the availability of tutors.

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

Student Activities

DMACC Choirs

For students interested in choral music DMACC Ankeny Campus offers two student choral group experiences. The Concert Choir (MUSI 144) meets on MWF from 11:15 AM until 12:10 PM. This group, the larger of the two choirs, is available to everyone. No audition is required and no experience is necessary, however, it is expected that persons who enroll will have sufficient pitch-matching skills to accurately learn to sing the choral part to which they are assigned.. The Chamber Choir (MUSI 145) is selected by audition from the Concert Choir membership. Chamber Choir rehearses MWF from 12:25 PM until 1:00 PM. Both choirs sing a wide variety of music ranging from serious to pop selections. Concert Choir is a two-hour elective credit course. Chamber Choir is a one-hour elective credit course. Students interested in Concert Choir should register for MUSI 144. Students may not register for Chamber Choir until after they have auditioned and been accepted. Madrigal and Show Choir are offered on a volunteer, no-credit, no-tuition, semester-to-semester basis. These ensembles are open to anyone who is a DMACC student, full or part-time. Rehearsals are in the middle of the afternoon. Again, it is expected that persons who volunteer will have sufficient pitch-matching skills to accurately learn to sing the choral part to which they are assigned.

Recreation and Wellness

Des Moines Area Community College offers well-rounded athletic, intramural and campus recreation programs, plus physical education classes. Complete details can be obtained from the Recreation Services office on each campus.

Intramural

Intramural activities provide an opportunity for students to participate in a wide variety of sports activities on a recreational basis. A variety of sports and recreational equipment is available for check-out. A year-round program of tournaments and team sports provides for participation on an individual or team basis.

Intercollegiate

Des Moines Area Community College is a member of the National Junior College Conference. Currently, the College offers women's intercollegiate athletics in basketball and volleyball as well as men's intercollegiate athletics in basketball and baseball on the Boone Campus.

Student Activities Council

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

Student Activities

Much of a student's growth is the result of participation in activities, clubs and 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 which is charged each term in addition to regular tuition. Student representatives elected to the Student Activities Council are responsible for assessment and disbursement of these funds.

Student Centers

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

Student Clubs and Organizations

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

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

Student Publications

On the Boone Campus students publish the "Banner" and on the Ankeny Campus students publish "The Chronicle." Publications emphasize news, features, entertainment, sports and college events. For additional information, contact the publications advisor at the Ankeny or Boone Campus.

Ticket Sales

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

Business Resources

Synerg.e™ Center

The Synergy.e™ Center was created as part of the West campus with the sole purpose of bringing together people and technology to build better learning solutions. Through active partnerships with other educational institutions, providers of technology and business and industry, DMACC will help to advance education through the use of technology. Activities of the Synergy.e™ Center include:

- Creation of the EduLab Consortium, a group of proactive educational institutions brought together for the purpose of pooling intellectual capital and resources for the accelerated advancement of education course content delivery through technology;
- Building close partnerships with a variety of technology-focused companies and organizations for the development of new applications and processes within the context of learning;
- Beta-testing of new and emerging technologies within the educational context;
- Building partnerships with business and industry as a whole to bring real-life technology-based projects to classroom lab environments to enhance student motivation and learning;
- Creation and development of publications, white papers, e-books and a variety of other learning resources;
- Hosting annual conferences and informational workshops to provide up-to-date, relevant information in a focused environment.

The Synergy.e™ Center is committed to solving the problems and issues surrounding the use of technology in varying educational contexts and rapidly changing environments. Through continuous innovation and assessment, the Synergy.e™ Center will improve and accelerate the process of educational adaptation to changing market demands and requirements.

DMACC Business Resources (DBR)

Des Moines Area Community College Business Resources (DBR) provides businesses, governmental agencies and non-profit 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 the needs assessment to the customized design and implementation of training programs, DBR consultants ensure schedules and budgets are met. Training can be provided at the business, on one of our six campuses in central Iowa, online, or at any convenient location.

Continuing Education & Specialized Programs

Adult Basic Education ABE/HSE/ESL

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

GED Testing Centers

- **DMACC Ankeny Campus**
- **DMACC Boone Campus**
- **DMACC Carroll Campus**
- **DMACC Urban Campus**
- **DMACC Newton Polytechnic Campus**
- **DMACC Success Center**

English as a Second Language

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

For more information call 515-964-6384 or 800-362-2127, ext. 6384.

Conference Center - Ankeny

Conference Center facilities on the Ankeny Campus are available for use on a rental or co-sponsorship basis. The facilities can accommodate groups from 10 to 300, with classroom facilities, dining areas and an auditorium. Ample parking is provided just outside the facility with access to food services, audio visual equipment and satellite downlink capability.

DMACC staff will assist you with your plans for a conference or a meeting. Call 515-964-6477 for further information.

Conference Center - Newton

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

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

Continuing Education

The Continuing Education division provides a wide range of educational experiences. Activities for courses may begin at any time and do not necessarily coincide with the College's academic calendar. A variety of non-credit 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 re-certification of professionals in areas such as child care, insurance, nursing, emergency medical services, cosmetology, real estate, long-term care and social work.

The West campus will provide continuing education that focuses primarily on the technology industry and other soft skill training.

The Conference Center on the Ankeny and Newton Polytechnic Campuses provide settings for many conferences and events offered in cooperation with DMACC. The Continuing Education division works with local businesses, service agencies, institutions, organizations, and associations to tailor courses or conferences specifically for employees or members.

For more information call 515-964-6214.

Distance Learning

Distance learning provides alternative delivery of credit classes throughout the district, state and nation. College credit classes are provided via Online Courses utilizing the World Wide Web, the Iowa Communications Network (ICN) and through television courses aired on Mediacom Cable, College Channel 46 and Iowa Public Television Channel 11 in Central Iowa.

Non-credit and continuing education opportunities are also available through distance delivery. For more information, see the Distance Learning Homepage at www.dmacc.edu/distance/welcome.htm or call 515-964-6422.

Continuing Education & Specialized Programs

Evening/Weekend College

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

The Evening/Weekend College provides support to the full range of services offered for students, faculty and staff during evening and weekend hours. These include Registration, Student Accounts, Limited Financial Aid, Student Records and Admissions. Support is also provided for the Distance Learning classes, Off-Campus credit 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 Polytechnic, Des Moines Urban and West Campus in West Des Moines call their main campus numbers. Evening counselor and advisor appointments available 4:00-7:00 pm. Monday-Thursday.

Off-Campus Credit

Off-Campus credit is an extension of the six DMACC Campuses and offers arts and sciences and business and computer courses throughout the district, including Ames, Colo, Indianola, Knoxville, Perry and Urbandale high schools. The courses are normally scheduled in the evenings on Monday through Thursday, starting at 6:00 p.m. Many of the courses are "starter courses" that are transferable to the state universities and private colleges and universities. Students may be required to take additional courses on campus, if they desire to complete a degree.

Transportation Institute Commercial Vehicle

Commercial Vehicle Operator Program

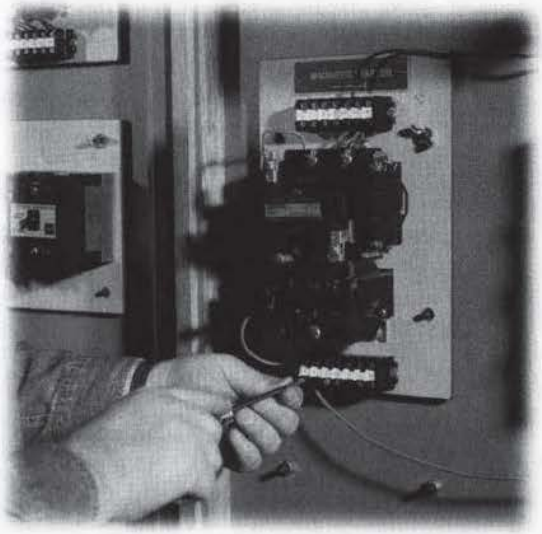
The Transportation Institute commercial vehicle operator program is one of approximately 50 in the U.S., which has been certified by the Professional Truck Drivers Institute of America. The 320-hour, non-credit program uses the U.S. Department of Transportation Model Curriculum. Students may complete the program in the daytime in 10 weeks or during the evenings in 16 weeks.

The Institute provides customized programs and services to individuals and companies including: remediation and evaluation services, advanced driver programs, Defensive Driving Course (DDC), driver/dispatcher relationships and driver retention programs. It also offers a 24-hour Train the Trainer Program that allows transportation carriers to qualify their drivers to become certified driver finishers.

RV Safety and Education Program

RV Safety and Education Program Students become confident when traveling in situations they may encounte in the RV lifestyle after receiving training in all phases of driving, maneuvering and backing a recreational vehicle. The RV program is a total of 16 hours, 8 hours in the classroom and 8 hours hands-on driving. Additional driving time and private lessons are available. The program specializes in safety, respect, patience and confidence in a variety of vehicles of all sizes from class A, B, & C motor homes, to fifth-wheel trailers to travel trailers. For students who do not own their own equipment, most varieties are available.

We also have RV (Recreation Vehicle) training and educational programs aimed at present and prospective RV drivers to provide the best information and training possible about RVs and the RV lifestyle. DMACC is the 2nd school nationwide to offer this RV training.



Des Moines Area Community College
Educational Programs Map

A = Associate Degree
D = Diploma
C = Certificate

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

Administrative Assistant/Legal/Secretarial Careers
- A Administrative Assistant
- C Information Processing Support
- A Legal Assistant
- A D Medical Administrative Assistant
- C Medical Transcriptionist
- D Office Assistant
- C Office Specialist
- C Supervision

Automotive/Diesel
- A ASEP – General Motors
- A ASSET – Ford
- A Auto Collision Technology
- A Auto Mechanics Technology
- A CAP – Chrysler
- A Caterpillar Technology
- A D Diesel Technology

Agri-Business
- A Agri-Business AAS
- C Agronomy
- C Animal Science
- C Farm Management
- C Sales and Service

Art
- A Commercial Art
- C Air Brush Art Certificate
- C Production Art Certificate

Biotechnology
- A Biotechnology

Business
- A Business Administration
- C Entrepreneurship
- A C Fashion/Design
- C Interior Design Consultant
- A C Management
- A Marketing
- D C Retailing
- C D Sales and Management
- C Technical Management

Building Trades
- D Building Trades
- C Building Maintenance
- A D Heating, Air Conditioning, & Refrigeration Technology

College Transfer – Liberal Arts
- A Associate of Arts
- A Associate of Science

Community Services
- D A Early Childhood Education
- A Criminal Justice
- A Fire Science Technology
- C Fire Specialist
- A Human Services
- C Chemical Dependency Counseling

Computers and Data Processing
- A Business Information Systems
- C Computer Languages
- A Computer Programming
- A Information Technology/Network Administration
- C Computer Applications
- C Data Base Specialist
- C Data Entry
- C Computer Languages
- C Microcomputers

Culinary Arts – Hotel Management – Dietary Management
- A D Culinary Arts
- A Hotel & Restaurant Management
- D Hospitality & Business
- C Dietary Management

Drafting/Design
- A D Architectural Technology
- A D Computer Aided Design Technology

Electronics & Engineering Technology
- A Civil Engineering Technology
- A Electronic Systems Servicing Technology
- A High Tech – Automation/Robotics
- A C Land Surveying
- A C Telecommunications Technology

Exercise Science
- A Exercise Science

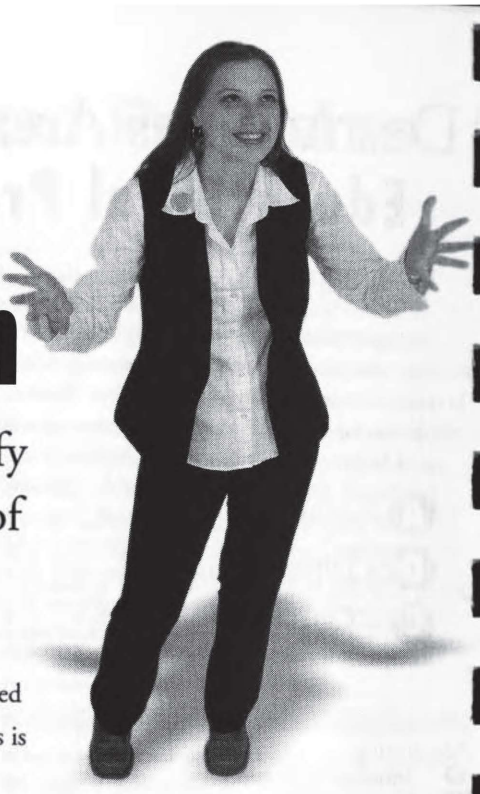
Health Professions
- A Associate Degree Nursing (RN)
- A Advanced Standing Nursing (RN)
- D Dental Assistant
- A Dental Hygiene
- C Emergency Medical Technology (EMT)
- A Health Care Administration
- C Health Services Management
- D Licensed Practical Nursing (LPN)
- D Medical Assistant
- A Medical Laboratory Technology
- C Long Term Care Administrator
- C Phlebotomy
- C Nurse Aide
- A Respiratory Therapy
- C Residential Care Facility Administrator

Horticulture
- A Commercial Horticulture
- C Greenhouse Production
- C Landscape Design
- C Turf Maintenance

Manufacturing
- D Architectural Millwork
- D Die Making
- A D C Graphic Arts
- A D Industrial Electro-Mechanical Technology
- A Integrated Manufacturing Technology – John Deere
- D Machinist Technology
- A Manufacturing Technology
- C Security & Safety Specialist
- A Tool and Diemaking
- D Welding
- C Welding Certificates

Veterinary Careers
- C Small Animal Care
- D Veterinary Assistant
- A Veterinary Technician

Choose a Career Path



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

STEP 1

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

Values

The most important values for the work place are:

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

Skills

The skill areas I most like to use are:

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

School Subjects

The subjects I did well in and enjoy are:

- ☐ Office courses
- ☐ Math
- ☐ English
- ☐ Science
- ☐ Social Sciences
- ☐ Fine Arts
- ☐ Computers
- ☐ Business Courses
- ☐ Voc/Tech; i.e., construction, mechanics
- ☐ Family/Consumer Science
- ☐ Foreign Language
- ☐ Other _____

Interests

The interest areas I enjoy most are:

- ☐ People
- ☐ Things (hands on)
- ☐ Data
- ☐ Ideas
- ☐ Other _____

Other areas to consider are:

Special awards received
Enjoyable work experience
Hobbies
Clubs and organizations
Special talents

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

My career profile is: _____

Are you a Match?

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

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

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

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

Hospitality
- ☐ Enjoy preparing food
- ☐ Use math principles in practical situations
- ☐ Like working with the public
- ☐ Comfortable working a flexible schedule, sometimes under pressure
- ☐ Have a pleasant accommodating manner
- ☐ Make creative designs with food
- ☐ Good organizational skills

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

Public & Human Services
- ☐ Can take the initiative
- ☐ Be involved in helping persons with personal problems
- ☐ Help people in legal situations
- ☐ Work with small children
- ☐ Persuade persons 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.

Programs Available

Arts & Sciences

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

DMACC students will acquire skills for lifelong learning by:

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

Associate in Arts Degree (AA)

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

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

College transfer work is offered in the following disciplines:

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

Accounting	Dentistry	Law	Physics
Anthropology	Education	Literature	Political Science
Architecture	Engineering	Mathematics	Psychology
Art	English	Medicine	Physician's Assistant
Business Administration	French	Music	Sociology
Chemistry	Geography	Nursing	Social Work
Chiropractic	History	Optometry	Spanish
Computer Science	Humanities	Pharmacy	Speech
Drama	Journalism	Philosophy	Veterinary

AA Degree requirements

To receive an AA degree, students must:

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

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

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

D. Complete a minimum of 64 semester credit hours.

E. Include at least 48 semester credit hours of core courses:

- Communications 9 credits
- Social & Behavioral Sciences 9 credits
- Math & Sciences 9 credits
- Humanities 9 credits
- Distributed requirements 12 credits

F. Include at least 16 semester credit hours of elective credit.

1. Students may include 16 semester credit hours of vocational/technical credit.
2. Students may have up to 8 semester credit hours of Independent Study Courses; up to 4 semester credit hours of Independent Study may be earned in any single semester.

Communications — 9 Credits

NOTE: Students must take ENGL 117, ENGL 118 or ENGL 119 and a speech course. Students who plan to transfer to a four-year institution are advised to take ENGL 117 and ENGL 118.

ENGL 117	Composition I	SPCH 111	Public Communication
ENGL 118	Composition II	SPCH 117	Interpersonal and Small Group Communication
ENGL 119	Technical & Business Writing		
SPCH 110	Fundamentals of Speech		

Social and Behavioral Science — 9 Credits

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

ANTH 120	Introduction to Anthropology	PLSC 121	World Politics
ANTH 121	Cultural Anthropology	PLSC 122	Comparative Political Systems
ECON 101	Principles of Macroeconomics	PLSC 126	Intro to Public Administration
ECON 102	Principles of Microeconomics	PSCH 101	General Psychology
GEOG 141	Intro to Geography	PSCH 103	Developmental Psychology
GEOG 147	Developed World	PSCH 104	Abnormal Psychology
GEOG 148	Third World	PSCH 105	Social Psychology
HIST 121	Western Civilization Beg to 1715	PSCH 108	Human Sexuality & Gender Roles
HIST 122	Western Civilization 1715 to Present	SOCY 101	Intro to Sociology
HIST 124	American History 1492 to 1877	SOCY 102	Social Issues
HIST 125	American History 1877 to Present	SOCY 103	Courtship, Marriage & Family
PLSC 111	American National Government	SOCY 105	Race, Ethnic & Gender Relations
PLSC 112	State & Local Government		

Programs Available

Degrees and Diplomas

Mathematics & Sciences — 9 Credits

NOTE: Students must take one laboratory science course from BIOL, CHEM, or PHYL and BSAD 152 or one MATH course listed below.

BIOL 118	Environmental Conservation	CHEM 161	Organic Chemistry I
BIOL 119	Environmental Conservation Lab (if student has credit for BIOL 118)	CHEM 162	Organic Chemistry II
		MATH 115	Finite Mathematics
BIOL 126	Field Biology	MATH 118	Math for Elementary Educators
BIOL 127	Human Biology	MATH 121	Elementary Statistics (OR BSAD152 Business Statistics)
BIOL 141	Principles of Biology I		
BIOL 142	Principles of Biology II	MATH 122	Calculus for Business/Social Science
BIOL 144	General Zoology	MATH 123	Trigonometry
BIOL 147	Intro to Botany	MATH 124	Precalculus
BIOL 149	General Microbiology	MATH 129	Calculus I
BIOL 154	General Anatomy & Physiology	MATH 130	Calculus II
BSAD 152	Business Statistics (OR MATH 121 Elementary Statistics)	MATH 132	Differential Equat/Laplace Trans
		PHYL 106	Survey of Physical Science
CHEM 120	Survey of Chemistry	PHYL 111	College Physics I
CHEM 131	General Chemistry I	PHYL 112	College Physics II
CHEM 132	General Chemistry II	PHYL 121	Classical Physics I
CHEM 151	General/Inorganic Chemistry I	PHYL 122	Classical Physics II
CHEM 152	General/Inorganic Chemistry II		

Humanities — 9 Credits

ARTS 101	Art Appreciation	JAPN 102	Elementary Japanese II
CHIN 101	Elementary Chinese I	JAPN 103	Intermediate Japanese I
CHIN102	Elementary Chinese II	JAPN 104	Intermediate Japanese II
CHIN 103	Intermediate Chinese I	LITR 120	Intro to Literature
CHIN 104	Intermediate Chinese II	LITR 121	Major British Writers
DRAM 110	Intro to Theatre	LITR 122	Major American Writers I
FREN 101	Elementary French I	LITR 123	Major American Writers II
FREN 102	Elementary French II	LITR 125	Contemporary Literature
FREN 103	Intermediate French I	LITR 130	Science Fiction
FREN 104	Intermediate French II	LITR 131	Detective Fiction
GERM 101	Elementary German I	LITR 132	Humor
GERM 102	Elementary German II	LITR 133	Black American Literature
GERM 103	Intermediate German I	LITR 134	Women's Literature
GERM 104	Intermediate German II	MUSI 130	Music Appreciation
HIST 121	Western Civilization Beg to 1715	MUSI 131	Intro to Music
HIST 122	Western Civilization 1715 to Present	PHIL 110	Intro to Philosophy
HUMN 115	Introduction to Film	PHIL 111	Intro to Logic
HUMN 131	Humanities through Arts	PHIL 112	Ethical Problems
HUMN 133	America in the Movies	PHIL 113	Comparative Religions
ITAL 101	Elementary Italian I	SPAN 101	Elementary Spanish I
ITAL 102	Elementary Italian II	SPAN 102	Elementary Spanish II
ITAL 103	Intermediate Italian I	SPAN 103	Intermediate Spanish I
ITAL 104	Intermediate Italian II	SPAN 104	Intermediate Spanish II
JAPN 101	Elementary Japanese I		

Distributed Requirement — 12 Credits

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

Electives — 16 Credits

1. Students may include no more than 16 semester credit hours of vocational courses.
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.

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	Management	Education	Human Services
Paraprofessional	Information Systems	Criminal Justice	Legal Assistant
Biotechnology	Business Administration	Exercise Science	
	Early Childhood	Fire Science	

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

Associate in Science requirements

To receive an AS degree, students must

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

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

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

D. Complete a minimum of 64 semester credit hours.

E. Include at least 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.

AS Core Requirements

Communication — 9 credits

NOTE: Students must take ENGL 117, ENGL 118 or ENGL 119 and a speech course. Students who plan to transfer to a four-year institution are advised to take ENGL 117 and ENGL 118.

ENGL 117	Composition I	SPCH 110	Fundamentals of Speech
ENGL 118	Composition II	SPCH 111	Public Communication
ENGL 119	Technical & Business Writing	SPCH 117	Interpersonal and Small Group Communication

Social and Behavioral Sciences — 6 credits

ANTH 120	Introduction to Anthropology	PLSC 121	World Politics
ANTH 121	Cultural Anthropology	PLSC 122	Comparative Political Systems
ECON 101	Principles of Macroeconomics	PLSC 126	Intro to Public Administration
ECON 102	Principles of Microeconomics	PSCH 101	General Psychology
GEOG 141	Intro to Geography	PSCH 103	Developmental Psychology
GEOG 147	Developed World	PSCH 104	Abnormal Psychology
GEOG 148	Third World	PSCH 105	Social Psychology
HIST 121	Western Civilization Beg to 1715	PSCH 108	Human Sexuality & Gender Roles
HIST 122	Western Civilization 1715 To Present	SOCY 101	Intro to Sociology
HIST 124	American History 1492 to 1877	SOCY 102	Social Issues
HIST 125	American History 1877 to Present	SOCY 103	Courtship, Marriage & Family
PLSC 111	American National Government	SOCY 105	Race, Ethnic & Gender Relations
PLSC 112	State & Local Government		

Programs Available

Mathematics and Sciences — 6 credits

NOTE: Students must take one MATH or BSAD 152 and one science from BIOL, CHEM, or PHYL.

BIOL 118	Environmental Conservation
BIOL 119	Environmental Conservation Lab (if student has credit for BIOL 118)
BIOL 126	Field Biology
BIOL 127	Human Biology
BIOL 141	Principles of Biology I
BIOL 142	Principles of Biology II
BIOL 144	General Zoology
BIOL 147	Intro to Botany
BIOL 149	General Microbiology
BIOL 154	General Anatomy & Physiology
BSAD 152	Business Statistics (Or MATH 121 Elementary Statistics)
CHEM 120	Survey of Chemistry
CHEM 131	General Chemistry I
CHEM 132	General Chemistry II
CHEM 151	General/Inorganic Chemistry I
CHEM 152	General/Inorganic Chemistry II
CHEM 161	Organic Chemistry I
CHEM 162	Organic Chemistry II
MATH 115	Finite Mathematics
MATH 118	Math for Elementary Educators
MATH121	Elementary Statistics (OR BSAD 152 Business Statistics)
MATH 122	Calculus for Business/Social Science
MATH 123	Trigonometry
MATH 124	Precalculus
MATH 129	Calculus I
MATH 130	Calculus II
MATH 132	Differential Equat/Laplace Trans
PHYL 106	Survey of Physical Science
PHYL 111	College Physics I
PHYL 112	College Physics II
PHYL 121	Classical Physics I
PHYL 122	Classical Physics II

Humanities — 3 credits

ARTS 101	Art Appreciation
CHIN 101	Elementary Chinese I
CHIN 102	Elementary Chinese II
CHIN 103	Intermediate Chinese I
CHIN 104	Intermediate Chinese II
DRAM 110	Intro to Theatre
FREN 101	Elementary French I
FREN 102	Elementary French II
FREN 103	Intermediate French I
FREN 104	Intermediate French II
GERM 101	Elementary German I
GERM 102	Elementary German II
GERM 103	Intermediate German I
GERM 104	Intermediate German II
HIST 121	Western Civilization Beg to 1715
HIST 122	Western Civilization 1715 to Present
HUMN 115	Introduction to Film
HUMN 131	Humanities through Arts
HUMN 133	America in the Movies
ITAL 101	Elementary Italian I
ITAL 102	Elementary Italian II
ITAL 103	Intermediate Italian I
ITAL 104	Intermediate Italian II
JAPN101	Elementary Japanese I
JAPN 102	Elementary Japanese II
JAPN 103	Intermediate Japanese I
JAPN 104	Intermediate Japanese II
LITR 120	Intro to Literature
LITR 121	Major British Writers
LITR 122	Major American Writers I
LITR 123	Major American Writers II
LITR 125	Contemporary Literature
LITR 130	Science Fiction
LITR 131	Detective Fiction
LITR 132	Humor
LITR 133	Black American Literature
LITR 134	Women's Literature
MUSI 130	Music Appreciation
MUSI 131	Intro to Music
PHIL 110	Intro to Philosophy
PHIL 111	Intro to Logic
PHIL 112	Ethical Problems
PHIL 113	Comparative Religions
SPAN 101	Elementary Spanish I
SPAN 102	Elementary Spanish II
SPAN 103	Intermediate Spanish I
SPAN 104	Intermediate Spanish II

Distributed Requirement — 4 credits

Select the remainder from any of the courses in categories Communications, Social and Behavioral Science, Math & Sciences and Humanities.

Electives — 36 credits

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

Associate in General Studies

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

Associate in General Studies requirements:

To receive an AGS degree, students must:

A. Maintain a 2.0 grade point average on all work applicable for the AGS degree.

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

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

D. Complete a minimum of 64 semester credit hours.

E. Satisfy the following core:

- Communications — 3 credits
- Social & Behavioral Science/Humanities — 3 credits
- Math or Sciences — 3 credits
- Distributed requirements — 3 credits

F. Complete 52 credits of elective coursework.

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.

AGS Core Requirement Classes (12 credit hours)

Communications — 3 Credits

ENGL 410	Communication Skills
ENGL 117	Composition I
ENGL 118	Composition II
ENGL 119	Technical and Business Writing
OFFC 205	Business English

Programs Available

Degrees and Diplomas

Social and Behavioral Sciences/Humanities — 3 Credits

AGRI411	Agricultural Economics	LITR 120	Intro to Literature
ARTS 101	Art Appreciation	LITR 121	Major British Writers
ANTH 120	Introduction to Anthropology	LITR 122	Major American Writers I
ANTH 121	Cultural Anthropology	LITR 123	Major American Writers II
CHIN 101	Elementary Chinese I	LITR 125	Contemporary Literature
CHIN 102	Elementary Chinese I	LITR 130	Science Fiction
CHIN 103	Intermediate Chinese I	LITR 131	Detective fiction
CHIN 104	Intermediate Chinese II	LITR 132	Humor
DRAM 110	Introduction to Theatre	LITR 133	Black American Literature
ECON 101	Principles of Macroeconomics	LITR 134	Women's Literature
ECON 102	Principles of Microeconomics	MGMT 203	Human Relations in Business
FREN 101	Elementary French I	MUSI 130	Music Appreciation
FREN 102	Elementary French II	MUSI 131	Introduction to Music
FREN 103	Intermediate French I	PHIL 110	Introduction to Philosophy
FREN 104	Intermediate French II	PHIL 111	Introduction to Logic
GERM 101	Elementary German I	PHIL 112	Ethical Problems
GERM 102	Elementary German II	PHIL 113	Comparative Religions
GERM 103	Intermediate German I	PHOT 105	Principles of Photography
GERM 104	Intermediate German II	PLSC 111	American National Government
GEOG 141	Intro to Geography	PLSC 112	State and Local Government
GEOG 147	Developed World	PLSC 121	World Politics
GEOG 148	Third World	PLSC 122	Comparative Political Systems
HIST 121	Western Civ Beg to 1715	PLSC 126	Intro to Public Administration
HIST 122	Western Civ 1715 to Present	PSCH 101	General Psychology
HIST 124	American History 1492 to 1877	PSCH 103	Developmental Psychology
HIST 125	American History 1877 to Present	PSCH 104	Abnormal Psychology
HUMN 115	Introduction to Film	PSCH 105	Social Psychology
HUMN 131	Humanities Through Arts	PSCH 106	Psych of Human Relations and Adj
HUMN 133	America in the Movies	PSCH 108	Human Sexuality and Gender Roles
ITAL 101	Elementary Italian I	SOCY 101	Introduction to Sociology
ITAL 102	Elementary Italian II	SOCY 102	Social Issues
ITAL 103	Intermediate Italian I	SOCY 103	Courtship, Marriage and Family
ITAL 104	Intermediate Italian II	SOCY 105	Race, Ethnic and Gender Relations
JAPN 101	Elementary Japanese I	SPAN 101	Elementary Spanish I
JAPN 102	Elementary Japanese II	SPAN 102	Elementary Spanish II
JAPN 103	Intermediate Japanese I	SPAN 103	Intermediate Spanish I
JAPN 104	Intermediate Japanese II	SPAN 104	Intermediate Spanish II

Math or Sciences — 3 Credits

BIOL 118	Environmental Conservation	CHEM 162	Organic Chemistry II
BIOL 119	Environmental Conservation Lab	ELEM 450	Related Math
BIOL 126	Field Biology	ELHT 313	Technical Math I
BIOL 127	Human Biology	ELHT 323	Technical Math II
BIOL 132	Health Science Microbiology	MATH 115	Finite Mathematics
BIOL 133	Health Science Anatomy	MATH 118	Math for Elementary Educators
BIOL 134	Health Science Physiology	MATH 121	Elementary Statistics
BIOL 141	Principles of Biology I		(OR BSAD 152 Business Statistics)
BIOL 142	Principles of Biology II	MATH 122	Calculus for Business/Social Science
BIOL 144	General Zoology	MATH 123	Trigonometry
BIOL 147	Introduction to Botany	MATH 124	Precalculus
BIOL 149	General Microbiology	MATH 129	Calculus I
BIOL 154	General Anatomy and Physiology	MATH 130	Calculus II
BSAD 152	Business Statistics	MATH 132	Differential Equat/Laplace Trans
	(OR MATH 121 Elementary Statistics)	MATH 410	Mathematics for Technicians I
BSAD 223	Business/Financial Math	MATH 411	Mathematics for Technicians II
CHEM 120	Survey of Chemistry	PHYL 106	Survey of Physical Science
CHEM 131	General Chemistry I	PHYL 111	College Physics I
CHEM 132	General Chemistry II	PHYL 112	College Physics II
CHEM 151	General/Inorganic Chemistry I	PHYL 121	Classical Physics I
CHEM 152	General/Inorganic Chemistry II	PHYL 122	Classical Physics II
CHEM 161	Organic Chemistry I	PHYL 401	Physics for Technicians

Distributed Requirement — 3 Credits

Choose one course from Communications, Social and Behavioral Sciences/Humanities, Math or Sciences above or SPCH 110 or SPCH 111 or SPCH 117 or ELEM 451.

Electives — 52 Credits

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

Total AGS Degree Requirements — 64 credits

Programs Available

ASEP - General Motors

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

Location: Ankeny

Program Entry Requirements

Complete an application, satisfy the assessment requirement, aptitude and ability tests and be accepted by General Motors as a participant. In addition, all program participants must be employed by a participating General Motors dealership. Students start in October each year.

Graduation Requirements

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

Required Courses

ASEP312	GM Specialized Electronics Training	4
ASEP317	GM Shop Fund and Minor Service	3
ASEP318	GM Steering/Suspension/Brakes	4
ASEP320	Technical Internship I	3
ASEP326	GM Auto Air Conditioning Systems	3
ASEP327	Minor Service/Repair-GM Engines	3
ASEP328	Diagnosis/Repair-GM Electrical System	3
ASEP330	Technical Internship II	3
ASEP333	Major Service Procedures/GM Engines	3
ASEP336	GM Carb and Fuel Induction Systems	3
ASEP337	GM Tune-Up Proc and Emission Control	4
ASEP340	Technical Internship III	3
ASEP344	GM Manual Drivetrains	4
ASEP345	GM Automatic Drivetrains	4
ASEP350	Technical Internship IV	3
ASEP354	Advanced GM Motors Systems	5
AUTO464*	Auto Measurement and Tools	3
BSAD150	Intro to Business	3
ENGL410*	Communication Skills	3
MATH410*	Mathematics for Technicians I	3
PHYL401*	Physics for Technicians	3
PSCH106	Psychology of Human Relations & Adjustment	3
Total credits required to complete this program		**73**

ASSET - Ford

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

Location: Ankeny

Program Entry Requirements

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

Graduation Requirements

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

Required Courses

ASST312	Ford Automotive Electronics	5
ASST317	Ford Shop Fund and Minor Service	3
ASST318	Ford Steering/Suspension/Brakes	6
ASST320	Technical Internship I	3
ASST326	Ford Auto Air Conditioning Systems	3
ASST328	Diagnosis/Repair Ford Electrical Systems	5
ASST330	Technical Internship II	3
ASST333	Ford Engine Diagnosis/Repair	4
ASST336	Ford Fuel Systems & Injection	3
ASST337	Ford Tune-Up Procedure and Emission Control	4
ASST340	Technical Internship III	3
ASST344	Ford Driveline and 4X4 Diagnosis and Repair	2
ASST345	Ford Manual Transmissions	2
ASST346	Ford Transmission and Transaxle	4
ASST350	Technical Internship IV	3
ASST354	Ford Advanced Engine Controls, Electronics	5
BSAD150	Intro to Business	3
ENGL410*	Communication Skills	3
MATH410*	Mathematics for Technicians I	3
PHYL401*	Physics for Technicians	3
PSCH106	Psychology of Human Relations & Adjustment	3
Total credits required to complete this program		**73**

Accounting & Bookkeeping

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

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

Locations: Boone, Urban

Selected courses in this program are offered at other campuses.

Program Entry Requirements

- Complete an application, satisfy the assessment requirement and attend any required information/registration session.
- Successful completion of OFFC329 Keyboarding I or keyboarding skills of 25 NWPM is strongly recommended.
- Students start fall term.

Graduation Requirements

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

Term 1–Select 1 Course From Each Option

ACCT101	Principles of Accounting I		4
ACCT408	Accounting Professional Development		2
BSAD223	Business/Financial Math		3
COMS181	Intro to Computer Literacy		3
MGMT203	Human Relations in Business	Opt1	3
PSCH101	General Psychology	Opt1	3
ECON101	Principles of Macroeconomics	Opt1	3
ECON102	Principles of Microeconomics	Opt1	3
ENGL117	Composition I	Opt2	3
OFFC205	Business English	Opt2	3

Students planning to transfer to a four-year institution should select courses numbered between 100 and 199. ECON 101 or ECON 102 is strongly recommended for business majors.

Term 2

ACCT102	Principles of Accounting II		4
ACCT411	Payroll Accounting		3
ACCT430	Accounting Procedures/Mgt.		4
ACCT351	Financial Accounting/Computers		3
ACCT352	Excel for Accounting Principles		3

Term 3–Select 1 Course From Option 3 and 1 Course from Option 4

ACCT404	Accounting Career Seminar		1
ACCT402	Accounting Internship	Opt3	4
ACCT403	Accounting Internship	Opt3	4
ENGL118	Composition II	Opt4	3
ENGL119	Technical and Business Writing	Opt4	3
ENGL410*	Communication Skills	Opt4	3

Students planning to transfer to a four-year institution should select ENGL118.

Total credits required to complete this program **42**

Accounting Certificate I and Accounting Certificate II are available. See Certificate section starting on page 75.

Accounting Information Systems

The Accounting Information Systems program prepares you for a career in accounting and for a liaison position between accounting and the information systems. You will receive strong information technology skills in addition to traditional accounting skills. You will become proficient in commercial and customized accounting software and spreadsheets. The program is 70 credits and you can complete it in four regular semesters.

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 non-profit private and governmental sectors.

Locations: Ankeny, Boone, Urban

Selected courses in this program are offered at other campuses.

Program Entry Requirements

- Complete an application, satisfy the assessment requirement and attend any required information/registration session.
- Successful completion of OFFC329 Keyboarding I or keyboarding skills of 25 NWPM is strongly recommended.
- High school Algebra II or higher with a grade of "C" or better or MATH094 and/or MATH115 at DMACC.
- Students start fall term at Boone and Urban, spring term at Ankeny. Course sequence will vary at Ankeny, see a counselor/advisor for details.

Graduation Requirements

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

Term 1

ACCT101	Principles of Accounting I		4
COMS181	Intro to Computer Literacy		3
ECON101	Principle of Macroeconomics		3
ENGL117	Composition I		3
Math - Any 100 level math course			4

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

Term 2–Select 1 Course From Option 1

ACCT102	Principles of Accounting II		4
ENGL118	Composition II		3
COMS111	Computers & Program Logic		3
ACCT351	Financial Accounting/Computers		3
ACCT411	Payroll Accounting	Opt1	3
ACCT430	Accounting Procedures	Opt1	4

Term 3–Select 1 Course From Option 2

ACCT103	Intermediate Accounting I		4
ECON102	Principle of Microeconomics		3
SPCH110	Fundamentals of Speech		3
COMS125	Business Programming COBOL I	Opt2	3
DATA103	Visual Basic Programming	Opt2	3
DATA318	C++ Programming	Opt2	3
Math - Any 100 level math course			4

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

Term 4–Select 1 Course From Option 3

ACCT206	Income Tax		3
ACCT312	Accounting Information Systems		4
ACCT352	EXCEL for Accounting Principles		3
COMS126	Business Programming COBOL II	Opt3	4
DATA110	Computer Network Literacy	Opt3	3
Science - Any 100 level BIOL, CHEM or PHYL course			3
Humanities - Any 100 level ARTS, DRAM, FREN, HIST, HUMN, LITR, MUSI, PHIL, SPAN course			3

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

Total credits required to complete this program **69**

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 non-profit private and governmental sectors.

Locations: Ankeny, Boone, Carroll, Urban

Selected courses in this program are offered at other campuses.

Program Entry Requirements

- Complete an application, satisfy the assessment requirement and attend any required information/registration session.
- Successful completion of OFFC329 Keyboarding I or keyboarding skills of 25 NWPM is strongly recommended.
- High school Algebra II or higher with a grade of "C" or better or MATH094 and/or MATH115 at DMACC.
- Students start fall term at Urban and Boone, spring term at Ankeny and Carroll. Course sequence will vary at Ankeny, see a counselor/advisor for details.

Graduation Requirements

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

Term 1

ACCT101	Principles of Accounting I		4
COMS181	Intro to Computer Literacy		3
ECON101	Principles of Macroeconomics		3
ENGL117	Composition I		3
MATH - Any 100 level math course			4

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

Programs Available

Term 2

ACCT102	Principles of Accounting II	4
ACCT351	Financial Accounting/Computers	3
ACCT411	Payroll Accounting	3
ACCT430	Accounting Procedures	4
ENGL118	Composition II	3

Term 3

ACCT103	Intermediate Accounting I	4
ACCT203	Cost Accounting	4
ECON102	Principles of Microeconomics	3
SPCH110	Fundamentals of Speech	3
MATH - Any 100 level math course		4

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

Term 4–Select 1 Course From Each Option

ACCT206	Income Tax		3
ACCT312	Accounting Information Systems		4
ACCT352	Excel for Accounting Principles		3
Any 100 level BIOL, CHEM or PHYL course		Opt1	3
Any 100 level ARTS, DRAM, FREN, HIST, HUMN, LITR, MUSI, PHIL, SPAN course		Opt2	3

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

Total minimum credits required to complete this program 68

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. The program is 73 credits and you can complete it in five regular terms.

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

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

Locations: Boone, Urban

Selected courses in this program are offered at other campuses.

Program Entry Requirements

- Complete an application, satisfy the assessment requirement and attend any required information/registration session.
- Successful completion of OFFC329 Keyboarding I or keyboarding skills of 25 NWPM is strongly recommended.
- High school Algebra II or higher with a grade of "C" or better or MATH094 and/or MATH115 at DMACC.
- Students start fall term at Urban and Boone.

Graduation Requirements

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

Term 1–Select 1 Course From Option 1

ACCT101	Principles of Accounting I		4
ACCT408	Accounting Professionalism		2
COMS181	Intro to Computer Literacy		3
ENGL117	Composition I	Opt1	3
OFFC205	Business English	Opt1	3
MATH - any 100 level math course			4

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

Term 2–Select 1 Course From Option 2

ACCT102	Principles of Accounting II		4
ACCT351	Financial Accounting/Computers		3
ACCT411	Payroll Accounting		3
ACCT430	Accounting Procedures/Mgt.		4
ENGL118	Composition II	Opt2	3
ENGL119	Technical and Business Writing	Opt2	3
ENGL410*	Communication Skills	Opt2	3

Students planning to transfer to a four-year institution should select ENGL118.

Term 3–Select 1 Course From Option 3

ACCT404	Accounting Career Seminar		1
SPCH110	Fundamentals of Speech		3
ACCT402	Accounting Internship	Opt3	4
ACCT403	Accounting Internship	Opt3	3

Term 4–Select 1 Course From Option 4

ACCT103	Intermediate Accounting I		4
ACCT203	Cost Accounting		4
BUSL101	Business Law I	Opt4	3
ECON101	Principles of Macroeconomics	Opt4	3
MATH - any 100 level math course			4

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

Term 5–Select 1 Course From Option 5

ACCT206	Income Tax		3
ACCT312	Accounting Information Systems		4
ACCT352	EXCEL for Accounting Principles		3
MGMT203	Human Relations in Business	Opt5	3
PSCH101	General Psychology	Opt5	3
ECON102	Principles of Microeconomics	Opt5	3

Students planning to transfer to a four-year institution should select courses numbered from 100 to 199. ECON 101 is strongly recommended for business majors.

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

Total minimum credits required to complete this program 69

Administrative Assistant

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

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

Locations: Ankeny, Boone, Carroll, Urban

Selected courses in this program are offered at Newton.

Programs Available

Program Entry Requirements

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

Graduation Requirements

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

Term 1

BSAD223	Business/Financial Math	3
MGMT203	Human Relations in Business	3
OFFC205	Business English	3
OFFC305	Word Processing Skill Development I	4
OFFC324	Office Calculators	1
OFFC355	Computer Applications	3

Term 2

COOP220	Career-Seeking Skills	2
OFFC204	Office Procedures	3
OFFC206	Business Correspondence Techniques	3
OFFC306	Word Processing Skill Development II	3
OFFC356	Advanced Computer Applications	3
OFFC405	Professional Development	3

Term 3–In addition to the required courses, students must select 1 Course From Options 1 and 2 and 6 Credits from Option 3

MGMT153	Office Management		3
ACCT101	Principles of Accounting I	Opt1	4
ACCT301*	Accounting Fundamentals	Opt1	3
SPCH110	Fundamentals of Speech	Opt2	3
SPCH117	Interpersonal & Small Group Comm	Opt2	3
BSAD150	Intro to Business	Opt3	3
BSAD151	Personal Finance	Opt3	3
BUSL101	Business Law I	Opt3	3
DATA110	Computer Network Literacy	Opt3	3
MGMT243	Management of Information	Opt3	3
BSEN229	Small Business Management	Opt3	3
MKTG102	Principles of Marketing	Opt3	3

Term 4–Select 3 Credits From Option 4

OFFC207	Administrative Office Applications		3
OFFC357	Emerging Technologies		3
OFFC358	PC Desktop Publishing Principles		3
OFFC410	Office Internship		2
OFFC411	Office Seminar		1
ACCT	Any Accounting (except adjunct)	Opt4	
BSAD	Any Business Admin (except adjunct)	Opt4	
BUSL	Any Business Law (except adjunct)	Opt4	
COMS	Any Computer Science (except adjunct)	Opt4	
DATA	Any Data Processing (except adjunct)	Opt4	
ECON	Any Economics (except adjunct)	Opt4	
MGMT**	Any Management (except adjunct)	Opt4	
MKTG**	Any Marketing (except adjunct)	Opt4	
OFFC**	Any Office (except adjunct)	Opt4	

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

*** The following courses are approved for high school articulation for these categories:*

MKTG103	Principles of Selling	3
MKTG231	Fashion Analysis & Design	3
MKTG332	Textiles	3
OFFC329	Keyboarding I	1

Agri-Business

The Agri-Business program is designed to prepare students for the rapidly expanding food fiber and natural resources industry. Students are given an option of emphasizing agricultural supply and service and farm management.

This program provides the student with training in the latest developments in technical agriculture in both the classroom and industry settings. The program also includes on-the-job employment experience in the industry.

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

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

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

Location: Ankeny

Selected courses in this program are offered at other campuses.

Program Entry Requirements

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

Graduation Requirements

To earn an Agri-Business AAS degree, students must complete all course work as prescribed and maintain a 2.0 grade point average.

Required Courses

AGRI201	Feeding & Animal Nutrition I	3
AGRI202	Crop Scouting	3
AGRI203	Feeding & Animal Nutrition II	3
AGRI204*	Animal Science	3
AGRI206	Crop Management	3
AGRI207	Livestock Disease Prevention	3
AGRI209*	Soils Laboratory	1
AGRI216	Commodity Marketing	3
AGRI217	Precision Agriculture Applications	3
AGRI219	Soils and Fertilizers	3
AGRI411	Agricultural Economics	3
AGRI421	Chemical Technology	3
AGRI430	Agribusiness Internship I	2
AGRI436	Grain Management	2
AGRI455	Agribusiness Internship II	3
COMS181	Intro to Computer Literacy	3
COOP220	Career-Seeking Skills	2
SPCH110	Fundamentals of Speech	3

Programs Available

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

MATH115	Finite Mathematics	Opt1	4
MATH410*	Mathematics for Technicians I	Opt1	3
ACCT101	Principles of Accounting I	Opt2	4
ACCT301*	Accounting Fundamentals	Opt2	3
ENGL117	Composition I	Opt3	3
ENGL410*	Communication Skills	Opt3	3
MGMT203	Human Relations in Business	Opt4	3
PSCH101	General Psychology	Opt4	3
SOCY101	Introduction to Sociology	Opt4	3
AGRI222	Survey of the Aquaculture Industry	Opt5	3
AGRI304	Swine Production and Management	Opt5	3
AGRI305	Beef Production and Management	Opt5	3
AGRI306	Advanced Crop Management	Opt5	3
AGRI322	Agribusiness Management	Opt5	3
AGRI323	Farm Management	Opt5	3
AGRI333	Petroleum Products in Agriculture	Opt5	3
BUSL101	Business Law I	Opt5	3
MKTG103*	Principles of Selling	Opt5	3

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

Agri-Business Agronomy, Agri-Business Animal Science, Agri-Business Farm Management and Agri-Business Sales/Service Certificates are available. See Certificate section starting on page 75.

Airbrush Art (see Certificate Section page 75)

Architectural Millwork

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

Location: Ankeny

Program Entry Requirements

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

Graduation Requirements

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

ALL MILL courses are reserved for students accepted into the full-time Architectural Millwork program.

Term 1

MILL440	Blueprint Reading and Layout	3
MILL441	Material Identification and Usage	3
MILL442	Introduction to Portable Tools	3
MILL443	Stationary Equipment	4
HLCR314	Emergency Care	1
MATH410*	Mathematics for Technicians I	3

Term 2

MILL444	Advanced Equipment Techniques	3
MILL445	32 Millimeter Cabinet Techniques	3
MILL446	Millwork Techniques	4
MILL447	Introduction to Application	3
ENGL410*	Communication Skills	3

Term 3

MILL448	Advanced Millwork Applications I	5
MILL449	Advanced Millwork Applications II	5

Total credits required to complete this program **43**

Architectural Technologies

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

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

Location: Ankeny

Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Submit evidence of grade "C" or above in one year of high school algebra or the equivalent (DMACC Academic Achievement Center Algebra I & II or MATH 092). Students start summer term.

NOTE: DATA110 has a prerequisite of COMS181 Introduction to Computer Literacy.

The requirement for MATH410 & 411 can be fulfilled with evidence of a grade of "C" or above in MATH 123 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.

Graduation Requirements

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

Term 1

ARCH410*	Architectural Drafting I	2
ARCH460*	Architectural Drafting Lab I	3
ARCH464	Construction Techniques I	2
ARCH472	Construction Estimating	2
CADD401*	Intro to Computer Aided Drafting	3

Term 2

ARCH420	Architectural Drafting II	2
ARCH461	Architectural Drafting Lab II	3
ARCH470	Construction Techniques II	2
ARCH473	Building Assemblies I	2
CADD403	Intermediate CADD-Architectural	3
ENGL117	Composition I	3
MATH410*	Mathematics for Technicians I	3

Term 3–Select 1 Course from Option 1

ARCH462	Architectural Drafting III		2
ARCH463	Architectural Drafting Lab III		3
ARCH465	Building Assemblies II		2
ARCH471	Construction Techniques III		3
ARCH475	Technical Report & Specs		2
MATH411	Mathematics for Technicians II		3
MGMT203	Human Relations in Business	Opt1	3
PSCH101	General Psychology	Opt1	3
PSCH106	Psychology of Human Relations & Adjustment	Opt1	3
SOCY101	Introduction to Sociology	Opt1	3

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

Term 4

HIST121	Western Civilization Beginning to 1715	4
HIST122	Western Civilization 1715 to Present	4
ENGL119	Technical and Business Writing	3
DATA110	Computer Network Literacy	3
CADD410	Introduction to Multimedia	3

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

Programs Available

Degrees and Diplomas

Auto Collision Technology

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

The Auto Collision diploma option prepares graduates for entry into auto collision jobs related to paint, refinishing and major structural repairs.

In addition, individual courses may be taken to satisfy the person who wants only specific segments of the complete program.

Location: Ankeny

Program Entry Requirements

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

Graduation Requirements

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

Auto Collision - Diploma

Required Courses

AUTC403	Basic Shop Safety	1
AUTC405	Basic Shop Operations/Metal	5
AUTC408	Basic Shop Operations/Paint	5
AUTC410	Basic Estimating	2
AUTC412	Get Ready for Paint	7
AUTC413	Plastic Repair and Refinishing	3
AUTC414	Collision Analysis and Measuring	2
AUTC420	Advanced Refinishing	6
AUTC421	Adv Estimating/Ownership/Management	2
AUTC440	Frame and Unibody Structural Repair	5
ENGL410*	Communication Skills	3
MATH410*	Mathematics for Technicians I	3
WELD468*	Related Welding/Auto Collision	2
Total credits required to complete the diploma		**46**

Auto Collision - AAS

AUTC403	Basic Shop Safety	1
AUTC405	Basic Shop Operations/Metal	5
AUTC408	Basic Shop Operations/Paint	5
AUTC410	Basic Estimating	2
AUTC412	Get Ready for Paint	7
AUTC413	Plastic Repair and Refinishing	3
AUTC414	Collision Analysis and Measuring	2
AUTC420	Advanced Refinishing	6
AUTC421	Adv Estimating/Ownership/Management	2
AUTC440	Frame and Unibody Structural Repair	5
AUTO469	Basic Automotive Electricity	3
AUTO470	Advanced Automotive Electricity	3
AUTO472	Auto Air Conditioning and Heating	4
AUTO486	Basic Brakes	3
AUTO488	Basic Suspension/Alignment	4
ENGL410*	Communication Skills	3
HLCR314	Emergency Care	1
MATH410*	Mathematics for Technicians I	3
PHYL401*	Physics for Technicians	3
WELD468*	Related Welding/Auto Collision	2

Option Courses–Select 1 Course From Each Option

MGMT203	Human Relations in Business	Opt1	3
PSCH106	Psychology of Human Relations & Adj	Opt1	3
PSCH101	General Psychology	Opt1	3
SOCY101	Introduction to Sociology	Opt1	3
BSEN229	Small Business Management	Opt2	3
BUSL101	Business Law I	Opt2	3
Total credits required to complete the AAS degree			**73**

Auto Mechanics Technology

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

There are two 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. The other option prepares graduates to enter the automotive industry trained in the latest Power Train and Chassis Repair techniques. By completing the two diploma options plus one course, students may receive an AAS degree.

Location: Ankeny

Program Entry Requirements

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

Graduation Requirements

To earn an Auto Mechanics Technology AAS degree, a student must complete all course work as prescribed and maintain a 2.0 grade point average.

Auto Engines & Tune up

Required Courses

AUTO464*	Auto Measurement and Tools	3
AUTO466	Fuel Systems	4
AUTO469	Basic Automotive Electricity	3
AUTO470	Advanced Automotive electricity	3
AUTO472	Auto AC and Heating	4
AUTO474*	Automotive Engine Fundamentals	3
AUTO476	Electronic Engine Controls	6
AUTO478	Advanced Tune-Up	4
AUTO479	Service Management	2
AUTO482	Advanced Engines	3
ENGL410*	Communication Skills	3
MATH410*	Mathematics for Technicians I	3
PHYL401*	Physics for Technicians	3
Total credits required to complete Engines & Tune-Up diploma		**44**

Auto Chassis & Power Train

Required Courses–Select 1 Course from Option 1

AUTO464*	Auto Measurement and Tools		3
AUTO484	Basic Power Train		6
AUTO486*	Basic Brakes		3
AUTO488*	Basic Suspension/Alignment		4
AUTO490	Advanced Power Train		6
AUTO492	Advanced Brakes & Alignment		5
ENGL410*	Communication Skills		3
HLCR314	Emergency Care		1
MGMT203	Human Relations in Business	Opt1	3
PSCH101	General Psychology	Opt1	3
PSCH106	Psychology of Human Relations & Adj	Opt1	3
SOCY101	Introduction to Sociology	Opt1	3
Total credits required for Chassis & Power Trains diploma			**34**

Automotive Mechanics Technology

WELD467*	Related Weld-Transportation Trades	2
Total credits required for the Auto Mechanics AAS degree		**74**

Programs Available

Biotechnology

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

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

Students planning to transfer to a four-year program after completion of this program should consider taking CHEM151 and 152 (instead of CHEM131 and 132) and CHEM161 and 162, depending on the program being considered. In addition, many programs will require calculus (MATH129 and/or 130) and physics (PHYL121 and 122 or PHYL111 and 112). Additional credit hours in humanities and the social sciences may also be helpful. Please check with the program chairperson for Biotechnology or an advisor for additional information or assistance.

Location: Ankeny

Selected courses in this program are offered at other campuses.

Program Entry Requirements

One year of high school chemistry or Academic Achievement Chemistry I & II, two years of high school algebra or MATH092 and 094 and satisfactory writing skills. Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students start fall or spring term.

Graduation Requirements

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

Required Courses

BIOL140	Introductory Biology	3
BIOL111	Opportunities in Biology	1
ENGL117	Composition I	3
CHEM131	General Chemistry I	4
COMS181	Introduction to Computer Literacy	3
BIOL141	Principles of Biology I	4
CHEM132	General Chemistry II	4
ENGL118	Composition II	3
MATH121	Elementary Statistics	4
ENGL119	Technical and Business Writing	3
BIOL142	Principles of Biology II	4
BIOL149	General Microbiology	4
SPCH110	Fundamentals of Speech	3
BIOL162	Cell and Molecular Biology	5
BIOL165	Genetics	3
BIOL163	Topics in Biotechnology	1
BIOL167	Biotechnolgy Internship	3

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

Core Humanities	Opt 1	3
Core Social and Behavioral Sciences	Opt 2	6

Total minimum credits required to complete this program 64

Building Maintenance Certificate

(see Certificate Section page 76)

Building Trades

The Building Trades program provides students with the skills and knowledge necessary to enter either residential or commercial construction fields.

Classroom work focuses on familiarizing the students with basic knowledge of construction materials. Laboratory activities emphasize practical hands-on skills needed in the building trades.

The last term is devoted to applying classroom theory and lab skills in an actual construction job, either residential or commercial.

Location: Ankeny

Program Entry Requirements

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

Graduation Requirements

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

Term 1

BLDG451	Materials/Construction Theory	5
BLDG452	Construction Techniques	7
BLDG453*	Care/Use of Hand/Power Tools	1
BLDG455*	Construction Blueprint Reading	1
BLDG456	Materials Takeoff	1
HLCR314	Emergency Care	1
MATH410*	Mathematics for Technicians I	3

Term 2

BLDG461	Concrete Systems and Forming	4
BLDG462	Construction Drafting & Design	2
BLDG464	Interior Trim Practices	3
BLDG480	Construction Procedure/Application I	5
ENGL410*	Communication Skills	3

Term 3

BLDG481	Construction Procedure/Application II	5
BLDG482	Construction Procedure/Application III	5

Total credits required to complete the program 46

Business Administration

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

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

This program helps prepare the student for a career, or should the student decide to transfer to a four-year college, this program provides a curriculum that will satisfy most freshman and sophomore Business Administration requirements of four-year colleges. The Student Development Office can provide course check sheets from the various colleges identifying which DMACC courses should be taken for college transfer. Students planning on transferring to a four-year college should contact a counselor or advisor for course planning assistance.

Locations: Ankeny, Boone, Carroll, Newton, Urban, Selected Courses Offered at West

Program Entry Requirements

Programs Available

Degrees and Diplomas

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

Graduation Requirements

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

Required Courses

	Complete AS Degree Core Requirements	28
ACCT101	Principles of Accounting I	4
ACCT102	Principles of Accounting II	4
BSAD150	Intro to Business	3
BUSL101	Business Law I	3
COMS181	Intro to Computer Literacy	3
ECON101	Principles of Macroeconomics	3
ECON102	Principles of Microeconomics	3

NOTE: ECON101 and ECON102 can be used to satisfy the Social and Behavioral Sciences component of the AS core. Students choosing this option will need to complete an additional 6 credit hours from either core or elective course work to meet program requirements.

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

1. College Transfer Plan

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

Additional AS Degree Core Requirement Courses	6
Electives	7

Students should contact a counselor or academic advisor to assure transferability of courses to the four-year institution.

2. General Business Option Course Plan–

Select 4 Courses From Option 1

BSAD151	Personal Finance	Opt1	3
BSAD201	Principles of Banking	Opt1	3
BSAD224	Introduction To Investments	Opt1	3
BSAD225	Principles of Insurance	Opt1	3
BSEN229	Small Business Management	Opt1	3
BUSL102	Business Law II	Opt1	3
MGMT102	Introduction to Management	Opt1	3
MGMT243	Management of Information	Opt1	3
MKTG102	Principles of Marketing	Opt1	3
Elective			1

3. Business Computer Option Course Plan–

Select 2 Courses From Option 1 and 2 Courses from Option 2

COMS111	Computers and Program Logic	Opt1	3
COMS125	Business Programming COBOL I	Opt1	3
BSEN306	E-Commerce Website I	Opt2	3
COMS126	Business Programming COBOL II	Opt2	4
DATA103	Visual BASIC Programming	Opt2	3
DATA104	Advanced Visual BASIC	Opt2	3
DATA110	Computer Network Literacy	Opt2	3
DATA306	COBOL Intermediate	Opt2	4
DATA318	C++ Programming	Opt2	3
DATA341	Introduction to Databases	Opt2	3
DATA343	Introduction to SQL	Opt2	3
DATA349	Advanced PL/SQL Program Units	Opt2	3
DATA350	Relational Database Design	Opt2	3
OFFC356	Advanced Computer Applications	Opt2	3
Elective			1

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

Business Information Systems

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

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

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

Location: Ankeny, Newton, Urban, West

Selected courses in this program are offered at other campuses.

Program Entry Requirements

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

Graduation Requirements

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

Required Courses

ACCT101	Principles of Accounting I	4
BSAD150	Intro to Business	3
COMS111	Computers and Program Logic	3
COMS125	Business Programming COBOL I	3
COMS181	Intro to Computer Literacy	3
COOP220	Career-Seeking Skills	2
DATA103	Visual BASIC Programming	3
DATA110	Computer Network Literacy	3
DATA341	Introduction to Databases	3
DATA382	Systems Analysis	4
ENGL410	Communication Skills	3
MGMT243	Management of Information	3
MATH	Any 100 level Math	3
SPCH110	Fundamentals of Speech	3
OFFC329	Keyboarding I	1

Option Courses–Select 1 Course From Option 1 and 18 credits from Option 2

MGMT203	Human Relations in Business	Opt1	3
PSCH101	General Psychology	Opt1	3
SOCY101	Intro to Sociology	Opt1	3
ACCT351	Financial Accounting/Computers	Opt2	3
COMS126	Business Programming COBOL II	Opt2	4
COMS301	Java Programming	Opt2	3
COMS303	E-Commerce Scripting Languages	Opt2	3
DATA104	Advanced Visual BASIC	Opt2	3
DATA106	Microcomputers in Business	Opt2	3
DATA318	C++ Programming	Opt2	3
DATA319	Assembler - Beginning	Opt2	4
DATA320	Advanced C++	Opt2	3
DATA343	Introduction to SQL	Opt2	3
DATA349	Advanced PL/SQL Program Units	Opt2	3
DATA350	Relational Database Design	Opt2	3
BSEN305	E-Commerce on the Web	Opt2	3
BSEN306	E-Commerce Website I	Opt2	3
BSEN307	E-Commerce Website II	Opt2	3

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

CAP - Chrysler

The Chrysler Automotive Program (CAP), co-sponsored by DMACC and Daimler/Chrysler Company, is a two-year automotive program designed to upgrade the technical competence and professional level of the incoming Daimler/Chrysler dealership technician. The curriculum, designed by Daimler/Chrysler and DMACC, leads to the associate degree in Automotive Technology. The program involves classroom lecture, laboratory experience and dealership work experience.

Location: Ankeny

Program Entry Requirements

Complete an application, satisfy the assessment requirement, aptitude and ability tests and be accepted by Daimler/Chrysler as a participant. In addition, all program participants must be employed by a participating Chrysler dealership. Students start in October each year.

Graduation Requirements

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

Required Courses

CAAP312	Chrysler Electrical/Electronics	4
CAAP317	Shop Fundamentals and Minor Service	4
CAAP318	Basic Brakes	4
CAAP320	Technical Internship I	3
CAAP328	Chrysler Electrical Systems Repair	4
CAAP329	Chrysler Steering & Suspension	3
CAAP330	Technical Internship II	3
CAAP335	Service/Repair Chrysler Engines	5
CAAP336	Chrysler Fuel Systems	3
CAAP340	Technical Internship III	3
CAAP346	Chrysler Engine Performance	5
CAAP347	Chrysler Heating & AC	3
CAAP350	Technical Internship IV	3
CAAP354	Chrysler Manual Drivetrains	4
CAAP355	Chrysler Automatic Drivetrains	4
CAAP356	Advanced Chrysler Systems	5
CAAP360	Technical Internship V	2
ENGL410*	Communication Skills	3
MATH410*	Mathematics for Technicians I	3
PHYL401*	Physics for Technicians	3
PSCH106	Psychology of Human Relations & Adjustment	3
Total credits required to complete this program		**74**

Caterpillar Technology

The Caterpillar Technician program prepares students for a career in the area of diesel repair, focusing on Caterpillar products. Instruction is in the repair, maintenance and testing of diesel engines, power trains and components of trucks and construction equipment.

Location: Ankeny

Program Entry Requirements

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

Graduation Requirements

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

Required Courses

DISL401	Diesel Engines I	6
DISL402	Diesel Engines II	6
MATH410*	Mathematics for Technicians I	3
DISL404	Power Trains I	6
DISL406	Hydraulics and Brakes	5
DISL408	Basic Electricity	5
DISL420	Air Conditioning	3
DISL428	Operation and Maintenance	5
DISL405	Power Trains II	5
DISL409	Diesel Electronics	5
DISL430	Caterpillar Fuel Systems	4
DISL431	Caterpillar Failure Analysis	2
DISL432	Caterpillar LS/PC Hydraulics	2
DISL433	Caterpillar Service Information System	2
DISL470	Advanced Electricity	4
DISL434	Caterpillar Internship	4
DISL435	Caterpillar Multi-Media	2
WELD467*	Related Welding-Transportation Trades	2
ENGL410*	Communication Skills	3
PHYL401*	Physics for Technicians	3
MGMT203	Human Relations in Business	3
Total credits required to complete AAS degree		**80**

Chemical Dependency Counseling

(see Certificate Section page 76)

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 inspection. These positions could include highway/bridge design, surveying, right-of-way legalities, materials testing and highway/bridge construction techniques.

Upon completion of the program, graduates will be able to follow laboratory procedures and apply their knowledge through the use of high-tech instruments. They will have a working knowledge of surveying equipment, industry-based computer software and laboratory testing instruments.

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

Location: Boone

Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students must have earned a grade of "C" or above in a high school algebra course, or be placed in MATH 411 by the results of a Compass test. If not placed in MATH411, students will be required to take remedial math courses to be brought up to the level of MATH411 before entering that class. Students start fall term.

Graduation Requirements

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

Term 1

CET-315	Fundamentals of Civil Engineering	3
CET-320	Survey I	3
CET-390	Automated Design I	4
COMS181	Intro to Computer Literacy	3
CET-350	Materials I	4

Term 2

CET-325	Survey II	4
CET-330	Highway Design I	4
CET-340	Construction I	3
ENGL117	Composition I	3
MATH411	Mathematics for Technicians II	3

Term 3

CET-405	Field Coop	5
With faculty approval, students may take the following in place of CET-405:		
CET-407	Field Orientation	2
and		
MGMT203	Human Relations in Business	3
or		
PSCH101	General Psychology	3

Term 4–Select 1 Course From Option 1

CET-380	Statics		3
CET-422	Survey III		4
CET-450	Materials II		3
CET-490	Automated Design II		4
MGMT203	Human Relations in Business	Opt1	3
PSCH101	General Psychology	Opt1	3
PSCH106	Psychology of Human Relations & Adj	Opt1	3

Term 5

CET-360	Soils and Foundations	3
CET-430	Highway Design II	4
CET-440	Construction II	3
CET-470	Structure Design and Construction	3
ENGL119	Technical and Business Writing	3
Total credits required to complete AAS degree		**72**

Commercial Art

The Commercial Art program prepares students for a career in graphic communications. Skills emphasized stress the ability to successfully design and produce a wide variety of materials for use in this challenging field. The development of "portfolio quality" work is stressed throughout the training program.

Courses utilizing the traditional methods along with desktop publishing prepare students for entry level positions. Required courses such as design, typography, electronic photo editing and computer graphics allow students to seek advanced opportunities. Electives in photography, printing, airbrush and advanced computer graphics will allow students to specialize.

Internship and portfolio preparation courses focus on the placement of students in the "real world." Instructors have all been employed in the career field and are teaching courses directly related to their expertise.

When the program is completed, students may find employment in art studios, advertising agencies, in-house art departments, printing companies, publishing firms and other establishments in need of creative communications.

Location: Ankeny

Program Entry Requirements

Complete an application and attend a Commercial Art Realities Exploration Day, obtaining a satisfactory score on an art portfolio. Although not a requirement for acceptance into this program, students are encouraged to take the COMPASS assessment. Students start fall term.

Graduation Requirements

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

Required Courses

CART401	Commercial Art Orientation	3
CART403	Communication Design I	3
CART404	Typography II	3
CART405	Typography I	3
CART407	Production Art I	3
CART410*	Illustration I	3
CART411	Communication Design II	3
CART415	Production Art II	3
CART421	Internship Preparation	2
CART424	Commercial Art Internship I	3
CART426	Communication Design III	3
CART430	Production Art III	3
CART436	Portfolio Preparation I	3
CART437	Communication Design IV	3
CART440	Production Art IV	3
CART444	Portfolio Preparation II	3
CART459	Computer Graphics I	3
CART463	Electronic Photo Editing	3
DKTP401*	Intro To Desktop Publishing	3

Option Courses–Select 2 Courses From Option 1

CART414	Illustration II	Opt1	3
CART419	Lettering and Sign Art	Opt1	2
CART425	Commercial Art Internship II	Opt1	3
CART428	Illustration III	Opt1	3
CART449	Airbrush I	Opt1	4
CART451	Airbrush II	Opt1	4
CART462	Computer Graphics II	Opt1	3
GRPH400*	Graphic Arts Orientation	Opt1	4
GRPH401	Methods of Graphic Arts	Opt1	3
GRPH416	Desktop Publishing II	Opt1	3
GRPH425	Electronic Image Control	Opt1	4
PHOT106	Advanced Photography	Opt1	3
PHOT407	Studio Photography	Opt1	3
MKTG104	Advertising/Sales Promotion	Opt1	3

Option Courses–Select 1 Course From Each Option

AAS Core Communications	Opt2	3

AAS Core Social and Behavioral Sciences/Humanities

(PHOT105 recommended)	Opt3	3
AAS Core Mathematics or Sciences	Opt4	3
AAS Core Distributed Requirement	Opt5	3
Total minimum credits required to complete this program		**73**

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 grounds, commercial, public and recreation. 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. Certificate of Specialization are offered in Greenhouse production, Landscape Design and Turf Maintenance.

In addition to the required and option courses listed, there are five elective courses that may be taken for additional credit. Those courses are COMH433 Irrigation Systems, COMH435 Sports Turf, COMH483 Plant Propagation II, COMH497 Floral Design I and COMH485 Floral Design II.

Location: Ankeny

Program Entry Requirements

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

Graduation Requirements

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

Programs Available

Required Courses

AGRI209*	Soils Laboratory**	1
AGRI219	Soils and Fertilizers**	3
COMH441	Landscape Drafting	1
COMH450	Botany	3
COMH486	Construction, Safety & Maintenance	2
COMH488	Woody Plant Materials	3
COMS181	Intro to Computer Literacy	3
COMH410*	Introduction to Greenhouse	3
COMH437	Turf I**	2
COMH440	Landscape Design I	3
COMH454	Horticulture Internship I	2
COMH478	Plant Propagation I	3
COMH453	Landscape Design II	2
COMH457	Fruit and Vegetable Science	3
COMH458	Insects and Diseases	2
COMH489	Herbaceous Plant Materials	3
COMH411	Horticulture Chemical Techniques**	2
COMH479*	Nursery Production I	3
COOP220	Career-Seeking Skills	2
COMH452	Arboriculture	3
COMH469	Garden Center Management	3
COMH498	Horticulture Internship II	2
AAS degree core science course		3

For the Turf Maintenance Emphasis the following course is required

COMH455	Turf II**	3

For the Greenhouse Production Emphasis the following course is required

COMH490	Greenhouse Production Techniques	3

Option Courses–Select 1 Course From Each Option

MATH115*	Finite Mathematics	Opt1	4
MATH410*	Mathematics for Technicians I**	Opt1	3
ENGL117	Composition I	Opt2	3
ENGL410*	Communication Skills	Opt2	3
MGMT203	Human Relations in Business	Opt3	3
PSCH101	General Psychology	Opt3	3
PSCH106	Psychology of Human Rel & Adj.	Opt3	3
ACCT301*	Accounting Fundamentals	Opt4	3
MKTG103*	Principles of Selling	Opt4	3
Total minimum credits required for the Greenhouse Production emphasis			*72*

Total minimum credits required for the

Turf Maintenance emphasis	72

** Course approved for High School Articulation*

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

COMH433	Irrigation Systems**	2
COMH435	Sports Turf**	2
COMH497	Floral Design I	1
COMH483	Plant Propagation II	1
COMH485	Floral Design II	1

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

Computer-Aided Design Technology

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

Students can obtain a one year diploma or a two year associate degree in CAD technology. Students enrolled in the one year diploma will be taught basic drafting and CAD practices with emphasis on entry level drafting job skills. Students enrolled in the associate degree program will complete the first year diploma requirements and in the second year apply advanced CAD software operations including three-dimensional (solid) modeling, computer analysis and rendering. Associate degree students will also be taught a variety of specialized drafting standards in their respective field of interest.

Engineering and manufacturing design drafting, computer animation and graphics, technical publishing and independent CAD contracting are areas in which computer-aided drafting technology graduates may find employment.

Location: Ankeny

Selected courses in this program are offered at other campuses.

Program Entry Requirements

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

Graduation Requirements

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

Term 1

CADT405	Principles of Computer Operations	3
CADT410*	CAD Graphics I	6
ENGL117	Composition I	3
MATH410*	Mathematics for Technicians I	3

Term 2–Select 1 Course From Option 1

CADT411	CAD Graphics II		6
CADT431	Manufacturing Interface		3
MATH411	Mathematics for Technicians II		3
MGMT203	Human Relations in Business	Opt1	3
PSCH106	Psychology of Human Relations & Adj	Opt1	3

Term 3

CADT415	Engineering Disciplines & Practices	3
CADT420	Microstation CAD I	3
CADT425	Applied Materials and Processes	3
Total credits required to complete the diploma		**39**

Term 4

CADT412	CAD Applications I	6
CADT421	Microstation CAD II	3
CADT426	Pro/Engineer CAD I	3
CADT451	Mechanical Systems	3

Term 5

CADT428	Introduction to CAD Analysis	3
CADT430	Networking Systems	3
CADT471	Layouts and Drawings	5
CADT472	Rendering and Animation	3
ENGL119	Technical and Business Writing	3
Total credits required to complete the AAS degree		**71**

Computer Applications and Computer Languages Certificate are available. See Certificate section starting on page 75.

Programs Available

Computer Programming

The Computer Programming curriculum prepares students for a position as a computer programmer or programmer analyst. With additional experience, graduates can advance to positions as systems analysts and programming managers.

The major curriculum focus is on technical courses which lead to proficiency in designing, writing and testing computer programs. The program also emphasizes the understanding of business and accounting principles since the majority of programming applications relate to specific business problems.

Location: Ankeny

Selected courses in this program are offered at other campuses.

Program Entry Requirements

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

Graduation Requirements

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

Required Courses

ACCT101	Principles of Accounting I	4
BSAD150	Intro to Business	3
COMS111	Computers and Program Logic	3
COMS125	Business Programming COBOL 1	3
COMS181	Intro to Computer Literacy	3
COOP220	Career-Seeking Skills	2
DATA301	DOS Job Control	4
DATA306	COBOL/Intermediate	4
DATA308	COBOL/Advanced	3
DATA319	Assembler/Beginning	4
DATA334	Applications Programming	6
DATA341	Introduction to Databases	3
DATA343	Introduction to SQL	3
DATA352	Telecommunications/CICS Programming	4
DATA382	Systems Analysis	4
ENGL117	Composition I	3
MATH	Any MATH 100 level	3-5
OFFC329*	Keyboarding I	1

Select 1 Course From Option 1, 2 Courses from Option 2 and 1 Course from Option 3

MGMT203	Human Relations in Business	Opt1	3
PSCH101	General Psychology	Opt1	3
SOCY101	Introduction to Sociology	Opt1	3
DATA103	Visual BASIC Programming	Opt2	3
DATA104	Advanced Visual BASIC	Opt2	3
DATA309	COBOL on the World Wide Web	Opt2	3
DATA318	"C++" Programming	Opt2	3
DATA320	Advanced C++	Opt2	3
DATA327	Assembler/Advanced	Opt2	4
DATA343	Introduction to SQL	Opt2	3
DATA349	Advanced PL/SQL Program Units	Opt2	3
DATA350	Relational Database Design	Opt2	3
SPCH110	Fundamentals of Speech	Opt3	3
SPCH117	Interpersonal and Small Group Comm	Opt3	3

Total minimum credits required to complete this program 72

Criminal Justice - AA or AS

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

Location: Ankeny

Selected courses in this program are offered at other campuses.

Program Entry Requirements

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

Graduation Requirements

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

AA Degree

Required Courses

CRIM101	Intro to Criminal Justice	3
CRIM103	Community Relations	3
CRIM105	Constitutional Law	3
CRIM235	Survey/Criminal Justice Agencies	3
PLSC126*	Intro to Public Administration	3
SOCY107	Criminology	3

Complete Remaining AA Degree Core Requirements 45

**(PLSC126 is a required course for this program and may also be used to fulfill 3 credits of Social & Behavioral Science AA Core)*

Option Courses–Select 12 Credits From Option 1

CRIM104	Criminal Law	Opt1	3
CRIM106	Juvenile Law	Opt1	3
CRIM107	Theories of Interviewing	Opt1	3
CRIM110	Penology	Opt1	3
CRIM211	Correctional Treatment	Opt1	3
CRIM212	Correctional Law	Opt1	3
CRIM214	Criminal Investigation I	Opt1	3
CRIM236	Internship	Opt1	3
CRIM255	Criminal Investigation II	Opt1	3
CRIM273	Introduction to Security	Opt1	3
CRIM275	Scientific Investigation	Opt1	3
CRIM285	Criminal Justice Ethics	Opt1	3

Total minimum credits required to complete the AA degree 75

AS Degree

Required Courses

Complete AS Degree Core Requirements 28

(ENGL117, 118 and 119 are required for this AS degree)

CRIM101	Intro to Criminal Justice	3
CRIM103	Community Relations	3
CRIM105	Constitutional Law	3
CRIM235	Survey/Criminal Justice Agencies	3
CRIM236	Internship	3
PLSC126	Intro to Public Administration	3
SOCY107	Criminology	3

Option Courses–Select 15 Credits From Option 1

CRIM104	Criminal Law	Opt1	3
CRIM106	Juvenile Law	Opt1	3
CRIM107	Theories of Interviewing	Opt1	3
CRIM110	Penology	Opt1	3
CRIM211	Correctional Treatment	Opt1	3
CRIM212	Correctional Law	Opt1	3
CRIM214	Criminal Investigation I	Opt1	3
CRIM255	Criminal Investigation II	Opt1	3
CRIM273	Introduction to Security	Opt1	3
CRIM275	Scientific Investigation	Opt1	3
CRIM285	Criminal Justice Ethics	Opt1	3

Total minimum credits required to complete the AS degree 64

Programs Available

Culinary Arts

The Culinary Arts program prepares students to enter culinary positions with hotels, restaurants, clubs or institutions and some select jobs in dining room service, catering or management. By the end of the program graduates will have taken courses in food preparation, nutrition, menu planning, purchasing, garde manger and baking. International cuisine, restaurant management and advanced culinary cuisine are practicum courses and a valuable part of the training. These courses are management designed and offer students practical knowledge of the restaurant industry.

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

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

Location: Ankeny

Program Entry Requirements

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

Graduation Requirements

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

Term 1–Select 1 Course From Option 1

HRMT315	Sanitation and Equipment		2
HRMT319	Sanitation and Equipment Lab		1
HRMT316*	Food Preparation I		3
HRMT320*	Food Preparation I Lab		3
HRMT330	Intro to Hospitality Industry		2
BSAD223	Business/Financial Math	Opt1	3
MATH410*	Mathematics for Technicians I	Opt1	3

Term 2

CULA340	Baking	2
ENGL410*	Communication Skills	3
HRMT321	Dining Room Fundamentals	2
HRMT326	Food Preparation II	2
HRMT328	Food Preparation II Lab	2
HRMT350*	Nutrition	2
HRMT351	Menu Planning	2

Term 3

CULA386	Garde Manger	2
HRMT347	Work Experience	3
MGMT203	Human Relations in Business	3

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

Term 4

CULA446	International Cuisine Lab I	3
CULA456	International Cuisine	2
HRMT335	Restaurant Management	2
HRMT348	Food Service Purchasing	2
HRMT357	Culinary Skill Development	3
SPCH117	Interpersonal & Small Group Communication	3

Term 5

COOP220	Career-Seeking Skills	2
CULA349	International Cuisine Lab II	3
CULA365	Advanced Baking/Buffet Decorating	2
CULA451	Culinary Cuisine Lab	4
CULA452	Advanced Culinary Cuisine	2
HRMT367	Beverage Seminar	2

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

Data Entry I and Data Specialist Certificates are available. See Certificate section starting on page 75.

Dental Assistant

The Dental Assistant program prepares the student, as a member of the dental health team, to assist the dentist in all phases of dentistry. The program includes general and specialty dentistry, chairside procedures, radiology and laboratory and business office assisting.

An integral part of the educational program is clinical experience; this is provided by rotation through various dental facilities.

The Dental Assistant program is accredited by the Commission on Dental Accreditation, a specialized accrediting body recognized by the Council of Postsecondary Accreditation and the United States Department of Education.

Location: Ankeny

Program Entry Requirements

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

Graduation Requirements

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

Term 1

DENA302	Dental Science I	4
DENA304	Dental Anatomy	2
DENA325	Dental Materials Lab	1
DENA320	Predinical Dental Assisting	6
DENH201	Dental Materials	2
DENH257	Dental Radiography I	3

Term 2

DENA305	Dental Radiography II	2
DENA309	Dental Assisting Seminar	1
DENA310	Dental Assisting Clinical	3
DENA312	Dental Science II	2
DENA322	Clinical Dental Assisting	5
DENA323	Dental Business Office Procedures	2
ENGL117	Composition I	3

Term 3

DENA316	Ethics and Clinical Seminar	1
DENA318	Dental Assisting Clinical II	4
PSCH106	Psychology of Human Relations & Adjustment	3
SPCH110	Fundamentals of Speech	3

Total credits required to complete this program **47**

Dental Hygiene

The Dental Hygiene curriculum is designed to prepare graduates for positions in general and specialty dental offices, hospitals, schools, public health agencies and industrial agencies.

Students are trained in educational methods and preventive clinical services which qualify them as dental health educators and competent clinicians. Emphasis is placed on the correlation between prevention, education and the clinical phases of dental hygiene practice as well as basic and social sciences.

The Dental Hygiene program is accredited by the Commission on Dental Accreditation, a specialized accrediting body recognized by the Council of Postsecondary Accreditation and the United States Department of Education.

Location: Ankeny

Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required information/registration session including a Dental Hygiene Program information session. Submit to Admissions office evidence of completion of college level Introduction to

Programs Available

General Chemistry and General Anatomy and Physiology with a grade of "C" or better (DMACC equivalent course numbers are CHEM 131 and BIOL 154 or BIOL 133 and 134) and proof of high school graduation or GED completion.

NOTE: Students who successfully complete Introduction to General Chemistry and General Anatomy and Physiology, at a school other than DMACC, MUST have an official transcript sent to the Admissions office at DMACC.

On February 1st and June 15th the applicants who have completed the program entry requirements will be accepted by date of application until such time as the program is filled. Applicants will be notified in writing and will be given seven working days to accept or decline their acceptance in the program.

After the program is full and the applicant has fulfilled all program entry requirements, he/she will be placed on a waiting list until a position in the program becomes available. Applicants will be notified in writing of placement on a waiting list. Students start fall term.

Graduation Requirements

To earn a Dental Hygiene AAS degree, a student must successfully complete all dental hygiene and liberal arts support courses required in the curriculum, achieving a grade of "C" (not C-) or better in each course. In order to progress to the next term of the Dental Hygiene program, all required courses in the current term must be completed with a grade of "C" or better.

Term 1–CPR Certification

CHEM132	Intro to Organic/Biochemistry		4
DENH208	Principles of Dental Hygiene		2
DENH209	Principles of Dental Hygiene Practicum		3
DENH210	Oral Histology and Embryology		2
DENH230	Dental Anatomy		4
DENH257	Dental Radiography I		3

Term 2–Select the Option 1 Course or both Option 2 Courses and 1 Course From Option 3

DENH228	Dental Hygiene I		2
DENH229	Dental Hygiene I Practicum		4
DENH259	Dental Radiography II		2
DENH293	General and Oral Pathology		3
DENH240	Nutrition/Preventative Dentistry	Opt1	4
HRMT334	Human Nutrition	Opt2	3
DENH241	Nutrition/Dental Counseling	Opt2	1
BIOL132	Health Science Microbiology	Opt3	4
BIOL149	General Microbiology	Opt3	4

Term 3

DENH278	Dental Hygiene II	2
DENH279	Dental Hygiene II Practicum	2
DENH280	Periodontology	2
DENH282	Dental Pharmacology	3
PSCH101	General Psychology	3

Term 4

DENH201	Dental Materials	2
DENH203	Dental Materials Lab	1
DENH227	Dental Health Education	3
DENH288	Dental Hygiene III	2
DENH281	Dental Hygiene III Practicum	5
SOCY101	Introduction to Sociology	3

Term 5 –Select 1 Course From Option 4

DENH290	Community Dentistry		3
DENH298	Dental Hygiene IV		2
DENH291	Dental Hygiene IV Practicum		5
ENGL117	Composition I		3
SPCH110	Fundamentals of Speech	Opt4	3
SPCH117	Interpersonal & Small Group Communication	Opt4	3

Total credits required to complete this program **81**

Diemaking (See Tool & Diemaking)

Diesel Technology

The Diesel Technology program prepares students for a career in the area of diesel repair. Instruction is in the repair, maintenance and testing of diesel engines, power trains and components of trucks and heavy construction equipment.

Location: Ankeny

Program Entry Requirements

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

Graduation Requirements

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

Required Courses - Diploma

DISL401	Diesel Engines I	6
DISL402	Diesel Engines II	6
MATH410*	Mathematics for Technicians I	3
DISL404	Power Trains I	6
DISL406	Hydraulics and Brakes	5
DISL408	Basic Electricity	5
DISL420	Air Conditioning	3
DISL428	Operation and Maintenance	5
ENGL410*	Communication Skills	3

Total credits required to complete the diploma **42**

Required Courses - AAS

DISL401	Diesel Engines I	6
DISL402	Diesel Engines II	6
MATH410*	Mathematics for Technicians I	3
DISL404	Power Trains I	6
DISL406	Hydraulics and Brakes	5
DISL408	Basic Electricity	5
DISL420	Air Conditioning	3
DISL428	Operation and Maintenance	5
DISL405	Power Trains II	5
DISL409	Diesel Electronics	5
DISL407	Diesel Fuel Systems	6
DISL470	Advanced Electricity	4
DISL417	Heavy Equipment Repair	5
DISL418	Truck Repair	5
WELD467*	Related Weld-Transportation Trades	2
ENGL410*	Communication Skills	3
PHYL401*	Physics for Technicians	3
MGMT203	Human Relations in Business	3

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

Dietary Manager (see Certificate Section page 77)

Programs Available

Early Childhood Education

The Early Childhood Education program prepares students for careers working with young children in a variety of settings. Students who successfully complete the program are competent to assume a position of responsibility in early childhood education.

Course work includes instruction in human development, guidance techniques, assessment, curriculum planning, infant and toddler care, health, safety and nutrition and emergency care.

Students will have the opportunity to participate in the Des Moines Area Community College Child Care Center as well as a community-based program as they develop their competencies in the field of early childhood education.

When course work is completed, students will assume positions in a variety of settings such as child care centers, preschools, child development homes and public and private schools working with infants and toddlers, preschoolers or school-age children. A second career option, Early Childhood Education Associate, is also available.

Location: Ankeny

Selected courses in this program are offered at other campuses.

Program Entry Requirements

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

Graduation Requirements

To earn an Early Childhood Education diploma, a student must complete all course work as prescribed and maintain a 2.0 grade point average.

Recommended Course of Study

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

Required Courses 1st Semester

CHLD110	Early Childhood Development	3
CHLD210	Intro to Early Childhood Education	1
CHLD211	Guidance Techniques for Young Children	2
CHLD212	Assessment and Planning for Young Children	1
CHLD213	Group Experience for Early Childhood Programs	2
CHLD214	Curriculum for Preschool Children	3
CHLD240*	Emergency Care	1
CHLD410	Student Participation I	3
	Total	16

Required Courses 2nd Semester

CHLD215	Child Health Safety and Nutrition	3
CHLD216	Infant and Toddler Care and Education	2
CHLD217	Professional Relationships	2
CHLD411	Student Participation II	3
CHLD420	Early Childhood Education Practicum	2

Option Courses–Select 1 Course From Each Option

ENGL117	Composition I	Opt1	3
ENGL410	Communication Skills	Opt1	3
OFFC205	Business English	Opt1	3
MGMT203	Human Relations in Business	Opt2	3
SOCY101	Introduction to Sociology	Opt2	3
PSCH101	General Psychology	Opt2	3
PSCH106	Psychology of Human Relations & Adj	Opt2	3
		Total	18

Total credits required to complete this program 34

Early Childhood Education-Associate

The Early Childhood Education Associate program is designed to build on those skills developed in the Early Childhood diploma program and to broaden the students' background in general education. Further competence in early childhood education is developed through course work in administration of programs for children and field practicum settings.

Students completing the Early Childhood diploma program plus the additional requirements listed will earn an Early Childhood Associate in Science degree. They may choose to transfer to a four-year institution or take one of the many jobs available in early childhood education.

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

Location: Ankeny

Selected courses in this program are offered at other campuses.

Program Entry Requirements

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

Graduation Requirements

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

Recommended Course of Study

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

Required Courses–1st Semester

CHLD110	Early Childhood Development	3
CHLD210	Intro to Early Childhood Education	1
CHLD211	Guidance Techniques for Young Children	2
CHLD212	Assessment and Planning for Young Children	1
CHLD213	Group Exp for Early Childhood Programs	2
CHLD214	Curriculum for Preschool Children	3
CHLD240*	Emergency Care	1
CHLD410	Student Participation I	3
	Total	16

Required Courses–2nd Semester

CHLD215	Child Health Safety and Nutrition	3
CHLD216	Infant and Toddler Care and Education	2
CHLD217	Professional Relationships	2
CHLD411	Student Participation II	3
CHLD420	Early Childhood Education Practicum	2
	Total	12

Required Courses for Remaining Semesters

Additional AS Degree Core Requirements		28
CHLD220	Admin of Programs/Children	3
CHLD421	Early Childhood Ed Assoc Practicum	3
Elective courses		2

Total minimum credits required to complete this program 64

Electronic Systems Servicing Technology

The Electronics Systems Servicing Technology program prepares students 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.

Location: Ankeny

Program Entry Requirements

1. Complete an application.
2. Satisfy the assessment requirement and attend any required information/ registration session.
3. Complete the required department algebra entrance exam obtaining a satisfactory score (18 or higher,) or math ACT score of 19 or higher, or a grade of "C" or better in MATH094 or ELHT313, or an equivalent course.

Students start fall term.

Graduation Requirements

To earn an Electronics Systems Servicing Technology AAS degree, a student must complete all course work as prescribed and maintain a 2.0 grade point average.

Term 1–Select 1 Course from Option 1

ELHT314	Circuit Analysis I		5
ELHT316	Circuit Analysis I Lab		3
ELHT315	Fabrication Techniques		3
ELHT323	Technical Math II		3
ENGL117	Composition I	Opt1	3
ENGL410	Communication Skills	Opt1	3

Term 2–Select 1 Course from Option 2

ELHT332	Digital Electronics		3
ELHT364	Digital Electronics Lab		3
ELHT331	Circuit Analysis II		3
ELHT363	Circuit Analysis II Lab		3
MGMT203	Human Relations in Business	Opt2	3
PSCH101	General Psychology	Opt2	3
PSCH106	Psychology of Human Relations & Adj.	Opt2	3
SOCY101	Introduction to Sociology	Opt2	3

Term 3

ELHT346	Microcomputer Operating Systems	3
ESST376	Electro-Mechanical Systems	2
ESST377	Electro-Mechanical Systems Lab	2
ESST378	Basic Imaging Devices	2
ESST379	Basic Imaging Devices Lab	2

Term 4

ESST380	Communications Systems	4
ESST381	Communications Systems Lab	4
HTCT364	Microcomputer Systems	3
ESST382	Security Systems	2
ESST383	Security Systems Lab	2
ECON101	Principles of Macroeconomics	3

Term 5

ESST384	Medical Electronics Systems	2
ESST385	Medical Electronics Systems Lab	2
ESST386	System Troubleshooting	2
ESST387	System Troubleshooting Lab	5
ESST388	Internship	5

Total credits required to complete the AAS degree **77**

Emergency Medical Tech Basic and Entrepreneurship Certificates are available. See Certificate section starting on page 75.

Exercise Science

Exercise Science includes the study of the effects of physical activity on the human body. The interest in exercise to maintain health and fitness is increasing in our society in both the young and older population. It is a well-known fact that exercise has a positive effect on the health and well being of all people regardless of age. More and more corporations and communities are offering wellness programs to fight the escalating cost of health care and to improve the quality of life in seniors/elderly. There has been an increase in the fields of cardiac rehabilitation and adult fitness programs in hospitals and clinics as well as sports and rehabilitative medicine. The expanding of these areas has increased the marketplace for professionals in the field of exercise and sports medicine.

The Exercise Science AS degree is a transfer degree for students who want some career specialization during the first two years of college. The main focus of this program is to provide a two-year curriculum with a strong science foundation, which will prepare students for an easy transfer into an exercise-related field in four-year institutions. Graduates of this program would also be prepared to work in entry level positions as exercise and fitness technicians in health and fitness centers and corporate fitness programs, technicians in chiropractic clinics, retirement communities and in nursing facilities.

Location: Boone

Selected courses in this program are offered at other campuses.

Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required information/registration session. A program orientation will be required for all students entering the program. Students start any term.

Graduation Requirements

To earn an Exercise Science AS degree, a student must complete all course work as prescribed and maintain a 2.0 grade point average.

Required Courses

AS Degree Core	Humanities Requirement	3
COMS181	Intro to Computer Literacy	3
EXSP220	Physical Fitness & Conditioning	2
EXSP221	Leadership Techniques for Fitness Program	2
EXSP250	Introduction to Exercise Physiology	3
ENGL117	Composition I	3
ENGL118	Composition II	3
HRMT334	Human Nutrition	3
LIBS120	Library Instruction	1
MATH121	Elementary Statistics	4
PHYE146	Personal & Community Health	3
PSCH101	General Psychology	3
SOCY101	Introduction to Sociology	3
SPCH110	Fundamentals of Speech	3

Option Courses–Select 1 Course From Each Option

CHEM131	Intro to General Chemistry	Opt1	4
CHEM151	General/Inorganic Chemistry I	Opt1	4
PHYL106	Survey of Physical Science	Opt2	4
PHYL111	College Physics I	Opt2	4
MATH115	Finite Mathematics	Opt3	4
MATH123	Trigonometry	Opt3	3

Select 1 Course From Option 4 or 2 Courses from Option 5

BIOL154	General Anatomy & Physiology	Opt4	5
BIOL133	Health Science Anatomy	Opt5	3
BIOL134	Health Science Physiology	Opt5	3

Select remaining 7-9 Credits from Option 6 to fulfill program requirement of 64 credits.

BIOL260	Biology of Aging	Opt6	3
EXSP145	First Aid	Opt6	2
PHYE144	Intro to Physical Education	Opt6	3
PHYE157	Intro to Athletic Training	Opt6	2
SOCY204	Social Gerontology	Opt6	4
SPCH111	Public Communication	Opt6	3

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

Programs Available

Fashion Certificate (see Certificate Section page 78)

Fashion/Design

Challenges and rapid advancement opportunities set in an exciting atmosphere of change, fast paced business decisions and competition are offered to you in a fashion career. Take part in the action where style becomes a way of expression in apparel and accessories as well as interior design. A career in the fashion industry could include management, designing, buying, marketing or promotion, sales, customer service or visual merchandising.

The curriculum has been designed with the help of employers in both the apparel and interior design industries. Many students achieve management positions upon graduation or shortly thereafter because of the specialized course work and individual effort. Graduates interested in apparel design or interior design usually transfer to a four-year program.

Instruction is based upon lectures, labs, internship, speakers and a variety of conferences and field studies in fashion centers such as New York City. These activities offer the student a chance to interact with key industry professionals and develop an invaluable employment network.

Two awards are offered in the Fashion program. Upon successful completion of the Fashion/Design program students will receive an AAS degree. Students with a shorter-term educational goal may receive a diploma.

Fashion/Design emphasizes career development along with transfer options for students planning on attending a four year college. Contact a DMACC Fashion/Design instructor, counselor or advisor for transfer planning assistance.

Location: Ankeny

Selected courses in this program are offered at other campuses.

Program Entry Requirements

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

Graduation Requirements

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

Required Courses-Fashion/Design AAS Degree

MKTG231*	Fashion Analysis & Design	3
MKTG234	Interior Design Analysis	3
MKTG323	Visual Merchandising/Design	2
MKTG331	Fashion Coordination/Promotion	3
MKTG332*	Textiles	3
MKTG102	Principles of Marketing	3
MKTG103*	Principles of Selling	3
MKTG104	Advertising/Sales Promotion	3
MGMT101	Supervisory Management	3
MGMT341*	Business Internship I	6
MGMT342	Internship Seminar I	2
MGMT353	Business Internship II	4
MGMT358	Internship Seminar II	1
MGMT406	Relationship Strategies in Business	2
MGMT407	Leadership Strategies in Business	1
COOP220	Career-Seeking Skills	2

Option Courses–Select 1 Course From Each Option

MKTG233	Design Concepts	Opt1	3
MKTG235	Interior Design Planning	Opt1	3
BSAD150	Introduction to Business	Opt2	3
MKTG321	Retail Management I	Opt2	3
BSEN229	Small Business Management	Opt3	3
MKTG324	Fashion Buying	Opt3	3
MKTG322	Retail Management II	Opt3	3
DKTP401*	Intro To Desktop Publishing	Opt4	3
COMS181	Intro to Computer Literacy	Opt4	3
OFFC355	Computer Applications	Opt4	3
ENGL117	Composition I	Opt5	3
ENGL410*	Communication Skills	Opt5	3
MGMT203	Human Relations in Business	Opt6	3
PSCH101	General Psychology	Opt6	3
BSAD223	Business/Financial Math	Opt7	3
MATH115	Finite Mathematics	Opt7	4
SPCH110	Fundamentals of Speech	Opt8	3
SPCH111	Public Communication	Opt8	3
SPCH117	Interpersonal & Small Group Comm	Opt8	3

Elective Courses

	Electives	5-6
Total credits required to complete the AAS degree		**73**

Required Courses - Fashion/Design Diploma

MKTG231	Fashion Analysis & Design	3
MKTG234	Interior Design Analysis	3
MKTG323	Visual Merchandising/Design	2
MKTG332*	Textiles	3
MKTG102	Principles of Marketing	3
MKTG103*	Principles of Selling	3
MGMT341	Business Internship I	6
MGMT342	Internship Seminar I	2
MGMT406	Relationship Strategies in Business	2
MGMT407	Leadership Strategies in Business	1
COOP220	Career-Seeking Skills	2

Option Courses-Select 1 Course From Each Option

MKTG321	Retail Management I	Opt1	3
BSAD150	Introduction to Business	Opt1	3
MGMT203	Human Relations in Business	Opt2	3
PSCH101	General Psychology	Opt2	3
BSAD223	Business/Financial Math	Opt3	3
MATH115	Finite Mathematics	Opt3	4
ENGL117	Composition I	Opt4	3
ENGL410*	Communication Skills	Opt4	3
Total credits required to complete the diploma			**42**

Fire Specialist (see Certificate Section page 78)

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.

Location: Ankeny

Program Entry Requirements

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

Graduation Requirements

To earn a Fire Science Technology AS degree, a student must complete the standard core requirements for the degree, plus the Fire Science Technology required courses and maintain a 2.0 grade point average.

Required Courses

CHEM131	Intro to General Chemistry	4
ENGL117	Composition I	3
ENGL118	Composition II	3
FIRE241	Fire Behavior and Investigation	3

FIRE242	Property Insurance and Fraud Investigation	3
FIRE243	Building Construction	3
FIRE244	Fire Protection Systems	3
FIRE245	Hazardous Materials	3
FIRE247	Planning for Fire Protection	3
FIRE248	Emergency Scene Management	3
MGMT102	Introduction to Management	3
PHIL112	Ethical Problems	3
PHYL106	Survey of Physical Science	4
PLSC112	State & Local Government	3
PSCH101	General Psychology	3

Electives Courses

Electives	9-12
Complete remaining AS degree Core Requirements	
Total minimum credits required to complete the AS degree	**64**

Graphic Arts

Graphic Arts is the study of producing printed material. This means students learn the basics of design and layout, with a focus on what steps it takes to have the artwork printed. The curriculum and instruction are geared to provide both lecture and hands-on settings which will introduce and develop the student's knowledge and skill in the fast paced and high tech field of Graphic Arts.

The DMACC Graphic Arts program is designed to provide graduates with the knowledge needed to enter any number of career options in the graphic arts industry. The program will provide students with hands-on training in the following areas: press operations, film assembly, basic design concepts and desktop publishing.

Graduates of the Graphic Arts program will find employment in an industry that is needing more qualified individuals. Graphic Arts/Printing is the third largest industry in the United States and the second largest in Iowa. It offers a wide variety of exciting career options and opportunities for advancement.

Upon successful completion of Terms 1, 2 and 3 of the Graphic Arts curriculum a student may receive a diploma. By completing the diploma program and Term 4, a student may receive an AAS Degree.

Location: Ankeny

Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend the required Graphic Arts program information session. Obtain a satisfactory score on an English proficiency assessment or equivalent. Students start fall term.

Graduation Requirements

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

Term 1–Select 1 Course From Option 1

DKTP401*	Intro To Desktop Publishing		3
OFFC329*	Keyboarding I		1
GRPH400*	Graphic Arts Orientation		4
GRPH401	Methods of Graphic Arts		3
GRPH406	Graphic Arts Design I		4
ENGL117	Composition I	Opt1	3
ENGL410*	Communication Skills	Opt1	3

Term 2

PHOT105*	Principles of Photography	3
GRPH410	Press I	4
GRPH412	Graphic Prepress I	4
GRPH416	Desktop Publishing II	3
GRPH421	Electronic Prepress I	4

Term 3–Select Option 2 or Option 3

MATH410*	Mathematics for Technicians I		3
GRPH413	Graphic Prepress II	Opt2	4
GRPH420	Press II	Opt2	4
GRPH425	Electronic Image Control	Opt3	4
GRPH426	Graphic Arts Design II	Opt3	4
Total credits required to complete the diploma			**47**

Term 4

MGMT101	Supervisory Management	3
GRPH431	Electronic Prepress II	4
GRPH454	Graphic Arts Production Methods	4
GRPH456	Cost Estimating	3
PSCH106	Psychology of Human Relations & Adj	3
Total credits required to complete the AAS degree		**64**

A Graphic Arts Certificate is available. See Certificate section starting on page 75.

Greenhouse Production (see Certificate Section page 78)

Health Care Administration

The Health Care Administration program provides students with the opportunity to develop the abilities and skills needed to perform the duties of a health care administrator. Administrators play a vital role in planning, organizing, staffing, directing and controlling the operation of a health care facility. Students in this program will explore specific health care administration areas such as management, services, financial, legal, regulations and human relations.

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

IMPORTANT NOTE: Licensure requirements have changed and are quite complex. Students are strongly advised to contact one of the staff members of Health Care Administration in Bldg. 6, Room 16A on the Ankeny Campus or call 515-964-6814 or 515-964-6262 regarding additional important licensure information.

Students desiring to apply for licensure must complete 10 semester credit hours of option courses.

Location: Ankeny

Program Entry Requirements

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

Graduation Requirements

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

Required Courses

	Complete AS Degree Core Requirements	28
HCAD278	Management in Health Care	3
HCAD279	Health Care Human Resources	3
HCAD280	Health Care Delivery Systems	2
HCAD282	Services for Long-Term Care	2
HCAD283	Regulatory Management	2
SOCY204	Social Gerontology/Applications	4
SOCY205	Issues in Aging	2
HCAD251	Practicum: Social Services	1
HCAD252	Practicum: Dietary	1
HCAD253	Practicum: Legal Aspects/Gov't Organization	1
HCAD265	Practicum: Seminar	1
HCAD254	Practicum: Nursing	1
HCAD255	Practicum: Environmental Services	1
HCAD256	Practicum: Activity/Community Resources	1
HCAD265	Practicum: Seminar	1
HCAD257	Practicum: Business Administration	1
HCAD258	Practicum: Administrative Organization	1
HCAD259	Practicum: Human Resource Management	1
HCAD265	Practicum: Seminar	1

Programs Available

Option Courses - Select 11 or 12 Credits from Option 1

ACCT101	Principles of Accounting I	Opt1	4
ACCT301*	Accounting Fundamentals	Opt1	3
HCAD238	Health Care Financial Management	Opt1	3
HCAD239	Information Systems in Health Care	Opt1	2
HCAD274	Law and Ethics in Health Care	Opt1	3

Total minimum credits required to complete this program **69**

A Health Services Management Certificate is available. See Certificate section starting on page 75.

Heating, AC, Refrigeration Technology

The Heating, Air Conditioning, Refrigeration Technology program provides the theory, knowledge and skills of refrigeration, air conditioning, heating and ventilation equipment for systems in residential and light commercial structures. Students in air conditioning and refrigeration are taught in the classroom and laboratory on models and equipment to prepare the student for satisfactory entrance and advancement in the HVAC-R field.

By completing the first three terms a student can receive a diploma. An AAS degree will be awarded upon completion of all five terms.

Location: Ankeny

Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Obtain a satisfactory score on a math proficiency assessment. Students start fall term.

Graduation Requirements

To earn a Heating, Air Conditioning, Refrigeration Technology diploma or AAS degree, a student must complete all course work as prescribed and maintain a 2.0 grade point average.

Term 1

HACR451	Fundamentals of Refrigeration		5
HACR452	Trade Skills I		3
HACR453	Electricity		5
MATH410*	Mathematics for Technicians I		3

Term 2–Select 1 Course from Option 1

HACR454	Residential Heating and AC		5
HACR455	Electrical Controls and Circuits		5
HACR456	Trade Skills II		3
ENGL117	Composition I	Opt1	3
ENGL410	Communication Skills	Opt1	3

Term 3

HACR457	Applied Heating and AC		5
HACR458	HVAC Internship		4

Total credits required to complete the diploma **41**

Term 4

HACR459	Advanced Heating and AC		5
HACR461	Air Distribution		3
HACR465	Blueprint Reading		3
PHYL401*	Physics for Technicians		3

Term 5–Select 1 Course from Option 2

HACR462	Commercial HVAC and Refrigeration		5
HACR463	Computer Load Calculations		2
HACR464	Environmental Controls		5
MGMT203	Human Relations in Business	Opt2	3
PSCH101	General Psychology	Opt2	3
SOCY101	Introduction to Sociology	Opt2	3
SOCY102	Social Issues	Opt2	3

Total credits required to complete the AAS degree **70**

High Tech-Automation/Robotics

The High Tech-Automation/Robotics 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 microprocessor for programming and servo control.

The curriculum includes both the fundamental technologies and system applications. Upon program completion students may seek employment with area manufacturers maintaining plant equipment or with companies that produce process control or robotic devices.

Location: Ankeny

Program Entry Requirements

1. Complete an application.
2. Satisfy the assessment requirement and attend any required information/registration session.
3. Complete the required department algebra entrance exam obtaining a satisfactory score (18 or higher,) or math ACT score of 19 or higher, or a grade of "C" or better in MATH094 or ELHT313, or an equivalent course.

Students start fall term.

Graduation Requirements

To earn a High Tech-Automation/Robotics AAS degree, a student must complete all course work as prescribed and maintain a 2.0 grade point average.

Term 1–Select 1 Course from Option 1

ELHT314	Circuit Analysis I		5
ELHT316	Circuit Analysis I Lab		3
ELHT315	Fabrication Techniques		3
ELHT323	Technical Math II		3
ENGL117	Composition I	Opt1	3
ENGL410*	Communication Skills	Opt1	3

Term 2

ELHT331	Circuit Analysis II		3
ELHT363	Circuit Analysis II Lab		3
ELHT332	Digital Electronics		3
ELHT364	Digital Electronics Lab		3
ELHT324	Computer Programming		3

Term 3–Select 1 Course from Option 2

ELHT346	Microcomputer Operating Systems		3
HTPC358	Motor Controls		3
MGMT203	Human Relations in Business	Opt2	3
PSCH101	General Psychology	Opt2	3
PSCH106	Psychology of Human Relations & Adj	Opt2	3
SOCY101	Introduction to Sociology	Opt2	3

Term 4

ELHT340	Microprocessor		3
ELHT341	Microprocessor Lab		5
ITNA310	Intro to CISCO Networking I		4
ECON101	Principles of Macroeconomics		3

Term 5

HTPC351	Hydraulics and Pneumatics		3
HTPC352	Hydraulics and Pneumatics Lab		2
HTPC355	Process Control Instrumentation		3
HTPC357	Process Control Instrumentation Lab		2
HTPC359	Programmable Logic Controllers		3
CIM-404	Robotics		2

Term 6

CIM-413	Introduction to FMS Cell		2
HTPC360	Industrial Electronics		2
HTPC363	Mechanisms		2
HTPC364	Mechanisms Lab		2

Total credits required to complete this program **81**

Programs Available

Hospitality Business

The Hospitality Business program prepares students to enter either the food service field or lodging industry at an entry level position.

Students who have completed the program will have taken courses in subject areas including sanitation, dining room fundamentals, business math, food preparation, career-seeking skills and marketing. Positions that are filled by graduates include guest services clerk, night auditor and cooks.

Location: Ankeny

Program Entry Requirements

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

Graduation Requirements

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

Term 1

ENGL410*	Communication Skills	3
HRMT315	Sanitation and Equipment	2
HRMT321	Dining Room Fundamentals	2
HRMT330	Intro to Hospitality Industry	2
MGMT203	Human Relations in Business	3
OFFC324	Office Calculators	1
OFFC329*	Keyboarding I	1

Term 2

BSAD223	Business/Financial Math	3
HRMT316*	Food Preparation I	3
HRMT319	Sanitation and Equipment Lab	1
HRMT320*	Food Preparation I Lab	3
MKTG103*	Principles of Selling	3
OFFC355	Computer Applications	3

Term 3–Students seeking a restaurant management emphasis should select the option 1 courses. Students seeking a hotel management emphasis should select the option 2 course.

COOP220	Career-Seeking Skills		2
HRMT347	Work Experience		3
HRMT326	Food Preparation II	Opt1	2
HRMT328	Food Preparation II Lab	Opt1	2
MKTG102	Principles of Marketing	Opt2	3

Total minimum credits required to complete this program 38

Hotel and Restaurant Management

The Hotel and Restaurant Management program prepares students for a career in the hospitality field. Most graduates will enter the industry either in cooking positions or line management positions with hotels, restaurants and clubs.

Students who complete the program will have taken courses in sanitation, dining room fundamentals, business math, food preparation, marketing, purchasing, hotel services, menu planning and hotel administration. These courses are management designed and offer the student practical knowledge of either the restaurant management industry or the hotel management industry, depending on the students' chosen emphasis.

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

Location: Ankeny

Program Entry Requirements

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

Graduation Requirements

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

Term 1

ENGL410*	Communication Skills	3
HRMT315	Sanitation and Equipment	2
HRMT321	Dining Room Fundamentals	2
HRMT330	Intro to Hospitality Industry	2
MGMT203	Human Relations in Business	3
OFFC324	Office Calculators	1
OFFC329*	Keyboarding I	1

Term 2

BSAD223	Business/Financial Math	3
HRMT316*	Food Preparation I	3
HRMT319	Sanitation and Equipment Lab	1
HRMT320*	Food Preparation I Lab	3
MKTG103*	Principles of Selling	3
OFFC355	Computer Applications	3

Term 3–Students seeking a restaurant management emphasis should select option 1 courses. Students seeking a hotel management emphasis should select the option 2 course.

COOP220	Career-Seeking Skills		2
HRMT347	Work Experience		3
HRMT326	Food Preparation II	Opt1	2
HRMT328	Food Preparation II Lab	Opt1	2
MKTG102	Principles of Marketing	Opt2	3

Term 4–Terms 1,2,3 must be completed before enrolling in terms 4 & 5. Students seeking a restaurant management emphasis should select the option 3 courses. Students seeking a hotel management emphasis should select option 4 courses.

ACCT301*	Accounting Fundamentals		3
BSEN229	Small Business Management		3
HRMT348	Food Service Purchasing		2
HRMT335	Restaurant Management	Opt3	2
HRMT357	Culinary Skill Development	Opt3	3
HRMT366	Hotel Services Internship	Opt4	5
HRMT368	Hotel Services	Opt4	2

Term 5–Students seeking a restaurant management emphasis should select the option 5 course. Students seeking a hotel management emphasis should select the option 6 course. All students must select one course from the option 7 courses.

HRMT350	Nutrition		2
HRMT351	Menu Planning		2
SPCH117	Interpersonal & Small Group Communication		3
HRMT367	Beverage Seminar	Opt5	2
HRMT364	Hotel Administration	Opt6	2
BSAD150	Intro to Business	Opt7	3
BUSL101	Business Law I	Opt7	3
MGMT101	Supervisory Management	Opt7	3
MGMT102	Introduction to Management	Opt7	3

Total minimum credits required to complete this program 64

Programs Available

Human Services

The Human Services program prepares students for entry level jobs or for transfer to a four-year degree program. By the end of the program students will be able to interact effectively with clients in a human services agency.

The program emphasizes skills needed in working with clients such as interviewing, determining eligibility for services, making appropriate referrals and assisting with counseling. A supervised field experience allows students to apply their skills in a work setting.

Specializations are offered in chemical dependency counseling, mental health, psychosocial rehabilitation and social services.

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, institutions, hospitals, supported living and work programs and state or county departments of social services.

Locations: Ankeny, Urban, Newton

Selected courses in this program are offered at other campuses.

Program Entry Requirements

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

Graduation Requirements

To earn a Human Services AS degree, a student must complete the standard core requirements for the degree, plus the Human Services required courses and options and maintain a 2.0 grade point average.

Required Courses

Complete AS Degree Core Requirements		28
HUMS101	Introduction to Human Services	3
HUMS104	Community Organization	3
HUMS109	Survey Mental Health Treatment	3
HUMS202	Interviewing/Interpersonal Relations	3
HUMS205	Intervention Theories/Practice I	3
HUMS206	Intervention Theories/Practice II	3
HUMS208	Field Experience	3
PSCH103	Developmental Psychology	3
PSCH104	Abnormal Psychology	3

Option Courses–Select 3 Courses From Option 1 And 1 Course From Option 2

ANTH120	Introduction to Anthropology	Opt1	3
PHIL112	Ethical Problems	Opt1	3
PLSC112	State & Local Government	Opt1	3
HUMS210	Counseling Techniques	Opt1	3
HUMS211	Counseling with Women	Opt1	3
HUMS213	Pract: Chemical Depend Counseling I	Opt1	6
HUMS214	Pract: Chemical Depend Counseling II	Opt1	3
HUMS216	Survey of Addictive Disease	Opt1	3
HUMS217	Psychosocial Rehabilitation	Opt1	3
SOCY103	Courtship, Marriage and Family	Opt1	3
SOCY105	Race, Ethnic and Gender Relations	Opt1	3
SOCY106	Juvenile Delinquency	Opt1	3
SOCY107	Criminology	Opt1	3
SOCY204	Social Gerontology/Applications	Opt1	4
PSCH101	General Psychology	Opt1	3
PSCH105	Social Psychology	Opt1	3
PSCH106	Psychology of Human Relations & Adjustment	Opt1	3
PSCH107	Principles of Behavior Modification	Opt1	3
PSCH108	Human Sexuality and Gender Roles	Opt1	3
PSCH109	Educational Psychology	Opt1	3
SOCY101	Introduction to Sociology	Opt2	3
SOCY102	Social Issues	Opt2	3
Total minimum credits required to complete this program			**64**

Industrial Electro-Mechanical Technology

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

Locations: Ankeny, Newton

Selected courses in this program are offered at other campuses.

Program Entry Requirements

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

Graduation Requirements

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

Required Courses

BLDM330	Industrial Plumbing and Pipefitting	3
BPQI400	Total Quality Management	3
BPQI420	Preventative Maint & Troubleshooting Tech	3
CADD401	Intro to Computer Aided Drafting	3
COOP212	Coop Career Seminar	1
COOP222	Coop Career Experience	2
COOP225	Coop Career Experience	5
ELEM325	Basic Electricity	3
ENGL117	Composition I	3
ENGL119	Technical and Business Writing	3
HTPC358	Motor Controls	3
HTPC359	Programmable Logic Controls	3
HTPC351	Hydraulics and Pneumatics	3
HTPC352	Hydraulics and Pneumatics - Lab	2
HTPC370	Pump Overhaul and Repair	4
HTPC371	Mechanical Power Transmission I	3
HTPC372	Mechanical Power Transmission II	4
MATH410	Mathematics for Technicians I	3
MATH411	Mathematics for Technicians II	3
MGMT203	Human Relations in Business	3
SPCH111	Interpersonal & Small Group Communication	3
TOOL480	Blueprint Reading I	2
TOOL475	Intro Basic Machining-Ind. Electro-Mech Tech	4
WELD460	Related Welding - Industrial Maintenance	3

Option Courses–Select 1 Course From Option 1

COMS181	Introduction to computer Literacy	Opt1	3
PHYL401*	Physics for Technicians	Opt1	3
Total minimum credits required to complete this program			**75**

Information Processing Support

(see Certificate Section page 79)

Information Technology/ Network Administrator

The ITNA program will provide students with a foundation in the basic technologies of computer networking, both as an objective and measurable skill set, as well as a preface to certification. Students may choose to specialize in either Microsoft MCSE or NOVELL CNE. In addition, students may also earn CISCO certification by choosing to take the two CISCO courses listed in Option 2. The modular design of the ITNA core/certification integration is designed to allow the future addition of other professional certifications.

Campuses where program is offered: Ankeny, West

Selected courses in this program are offered at other campuses.

Programs Available

Program Entry Requirements

1. Complete an application.
2. Satisfy the assessment requirement and attend any required information/registration session.
3. Complete the required department algebra entrance exam obtaining a satisfactory score (18 or higher,) or math ACT score of 19 or higher, or a grade of "C" or better in MATH094 or ELHT313, or an equivalent course.

Students start fall term.

Graduation Requirements

To earn an Information Technology Network Administration AAS degree, a student must complete all course work as prescribed and maintain a 2.0 grade point average.

All students take the first three terms.

Term 1–Select 1 Course From Option 1

ELHT323	Technical Math II		3
ELHT332	Digital Electronics		3
ELHT364	Digital Electronics Lab		3
ELHT346	Microcomputer Operating Systems		3
MGMT203	Human Relations in Business	Opt1	3
PSCH106	Psychology of Human Relations & Adjustment	Opt1	3

Term 2–Select 1 Course From Option 2

HTCT364	Microcomputer Systems		3
ITNA310	Intro to CISCO Networking I		4
ECON101	Principles of Macroeconomics		3
ELHT324	Computer Programming		3
ENGL117	Composition I	Opt2	3
ENGL410*	Communication Skills	Opt2	3

Term 3

ITNA320	Advanced CISCO Networking II	3
ITNA330	Network Applications	4
ITNA332	Network Applications Lab	2

Note: For Terms 4 & 5

Students must declare either a Microsoft or Novell emphasis and take the respective required Microsoft or Novell courses. To fulfill the program requirement of 65 credits, the student must select courses from the options list. By selecting all CISCO or all LINUX courses as options, the student may also earn that respective certification.

For MCSE Specialization students must complete the following:

Term 4 – (13 credits)

Required Courses:

MCSE305	Implementing Network Infrastructure	3
MCSE310	MS Windows Professional/Server	5
MCSE320	Implementing Directory Services	3
In addition to the required courses, students must select a minimum of 2 credits from the Term 4 Option Courses		2

Term 5 – (12 credits)

Students must select a minimum of 12 credits from the Term 5 Option Courses	12

For Novell Specialization students must complete the following:

Term 4 – (13 credits)

Required Courses:

NECP351	Netware 5 Administration	2
NECP352	Netware 5 Advanced Administration	2
In addition to the required courses, students must select a minimum of 9 credits from the list of Term 4 Option Courses		9

Term 5 – (13 credits)

Required Courses

NECP344	Netware 4.x Design Implementation	2
NECP346	Novell Services and Support	2
In addition to the required courses, students must select a minimum of 9 credits from the list of Term 5 Option Courses		9

Term 4 Option Courses

CSCO340	CISCO Networking III	4
MCSE318	Upgrading from Windows NT 4.0	3
NECP351	Netware 5 Administration	2
NECP352	Netware 5 Advanced Administration	2
Web Development I		
NECP301	Internet Business Strategies	1
NECP302	Mastering the Net/Netscape	1
NECP303	Web Authoring Publishing	1
LINUX		
ITNA351	Linux Network Administration	3
ITNA352	Linux System Administration	3

Term 5 Option Courses

CSCO350	CISCO Networking IV	4
Web Development II		
NECP304	Advanced Web Authoring	1
NECP305	Designing Effective Websites	1
NECP308	Web Server Management	1
Novell Emphasis Only		
NECP306	Java Programming	2
NECP307	Advanced Java Programming	2
NECP314	Securing Intranets	2
MCSE Emphasis Only		
MCSE312	Designing MS Directory Services	2
MCSE314	Designing Security for MS Net	2
MCSE316	Designing MS Net Infrastructure	2
MCSE318	Upgrading from windows NT 4.0	3
MCSE345	Supporting Windows 9.x	3
MCSE375	Implementing an SQL Database	3
LINUX		
ITNA353	Linux system Programming	3
ITNA354	Network Security	3

Minimum number of credits required to complete this degree–
MCSE or NOVELL specialization **65**

Integrated Manufacturing Technology

The Integrated Manufacturing Technology program prepares selected applicants for a wide variety of manufacturing tasks at the John Deere Des Moines Works. Successful applicants will learn the basic elements of welding, computer numerical controlled machine operation, machining and other workplace skills.

Upon completion of the first three terms students may receive a one year diploma and have skills to enter the John Deere work force. Students who complete all five terms will earn an Associate of Applied Science degree. All graduates will be eligible for preferential hiring at the John Deere Des Moines Works.

To apply for this program, call 515-964-6277 during business hours to request information regarding the John Deere Team Scholars program application process.

Location: Ankeny

Program Entry Requirements

Complete a DMACC application and take the COMPASS and mechanical reasoning evaluation. Successfully complete the following:

1. John Deere "Job Fit Inventory,"
2. John Deere personal interview
3. DCI background check
4. Drug test

Students start fall term.

Graduation Requirements

To earn an Integrated Manufacturing Technology John Deere Team Scholars diploma or AAS degree, a student must complete all course work as prescribed and maintain a 2.0 grade point average.

Programs Available

Term 1

BPQI412	Controlling Mfg. Business Costs	2
ENGL410*	Communication Skills	3
MATH410*	Mathematics for Technicians I	3
MFGT475	Manufacturing Welding I	2
TOOL480*	Blueprint Reading I	2
TOOL482	Machine Shop Measurements I	3

Term 2

TOOL461	Lathe Operations I	1
TOOL462	Lathe Operations Lab I	2
TOOL463	Mill Operations I	1
TOOL464	Mill Operations Lab I	2
TOOL481	Blueprint Reading II	3
TOOL494	CNC Lathe Operations	1
TOOL495	CNC Lathe Operations Lab	2
TOOL496	CNC Mill Operations	1
TOOL499	CNC Mill Operations Lab	2

Term 3

MFGT418	IMT Internship	5
MFGT482	Related Welding Blueprint-Mfg. Technology	1
WELD483*	Gas Metal Arc Welding	2
Total minimum credits required to complete the diploma		**38**

Term 4–Select 1 Course from Option 1

BPQI400	Total Quality Management		3
CADD401*	Intro Computer Aided Drafting/CADD		3
CIM-404	Robotics		2
ELEM325	General Electricity		3
MGMT203	Human Relations in Business	Opt1	3
PSCH106	Psychology of Human Relations & Adj.	Opt1	3

Term 5

BPQI411	Measuring Devices - SPC	1
CADD402	Intermediate CADD-Mechanical	3
CADD405	Introduction to CAD/CAM	3
HTPC382	Control System Overview	2
MATH411	Mathematics for Technicians II	3
SFTY301	Introduction to Safety Science	3
Total minimum credits required to complete the AAS degree		**67**

Interior Design Consultant

(see Certificate Section page 79)

Land Surveying

The Land Surveying program is designed to provide a two-year AAS degree that will provide necessary training for future licensure as a land surveyor in Iowa. The program consists of topics including: field surveying techniques, surveying laws and ethics, Global Positioning Systems, Land Information Systems, safety and drafting. Career opportunities are with consulting firms; construction companies; federal, state and local government agencies; and large, land-owning companies. Many licensed surveyors own and operate their own surveying firms.

Location: Boone

Program Entry Requirements

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

Graduation Requirements

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

Required Courses

CET-315	Fundamentals of Civil Engineering	3
CET-320	Survey I	3
CET-325	Survey II	4
CET-390	Automated Design I	4
CET-422	Survey III	4
ENGL117	Composition I	3
ENGL119	Technical and Business Writing	3
SPCH110	Fundamentals of Speech	3
MATH123	Trigonometry	3
SURV310	Survey Drafting	3
SURV320	U.S. Public Lands Survey System	5
SURV430	Land Subdivision	3
SURV425	Surveying Ethics	2
SURV420	Boundary Surveying	3
SURV440	Boundary Law	4
SURV435	Intro to Geodesy	5
SURV415	Intro to Land Information Systems	2
SURV410	Safety in the Work Environment	1

Option Courses – Select 1 Course From Option 1 and 2 and 9 Credits from Option 3

MGMT203	Human Relations in Business	Opt1	3
PSCH106	Psychology of Human Relations & Adj	Opt1	3
ACCT101	Principles of Accounting I	Opt2	4
ACCT301	Accounting Fundamentals	Opt2	3
BSEN229	Small Business Management	Opt3	3
BUSL101	Business Law I	Opt3	3
BUSL102	Business Law II	Opt3	3
HIST126	Iowa History	Opt3	3
Total credits required to complete AAS degree			**73**

Landscape Design

(see Certificate Section page 79)

Legal Assistant

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

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

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

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

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

Location: Urban

Program Entry Requirements

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

Important Note: Students entering the program need satisfactory computer skills. OFFC 355 Computer Applications is highly recommended as a developmental course. (OFFC 355 will not satisfy program requirements.)

Programs Available

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 LEGA course work.

Required Courses

Complete AS Degree Core Requirements		28
LEGA240	Introduction to Law	3
LEGA242	Torts & Litigation I	3
LEGA246	Business & Corporate Law I	3
LEGA250	Legal Internship & Ethics	4
LEGA260	Legal Research and Writing I	3
LEGA261	Legal Research and Writing II	3

Option Courses–Select 15 Credits From Option 1

LEGA243	Torts & Litigation II	Opt1	3
LEGA244	Family Law	Opt1	3
LEGA247	Business & Corporate Law II	Opt1	3
LEGA248	Real Estate Law	Opt1	3
LEGA249	Probate Procedure	Opt1	3
LEGA251	Wills, Estate Planning & Taxation	Opt1	3
LEGA252	Administrative Practice	Opt1	3
LEGA254	Evidence: Theory and Practice	Opt1	3
LEGA256	Debtor/Creditor Law	Opt1	3
LEGA258	Computerized Legal Research	Opt1	1
LEGA259	Advanced Legal Research and Writing	Opt1	3
LEGA265	Mediation	Opt1	3
ACCT206	Income Tax	Opt1	3
COMS181	Intro to Computer Literacy	Opt1	3
CRIM104	Criminal Law	Opt1	3
CRIM105	Constitutional Law	Opt1	3
HUMS202	Interviewing/Interpersonal Relations	Opt1	3

Elective Courses

Electives	2
Total credits required to complete this program	**64**

A Legal Assistant Certificate is available. See Certificate section starting on page 75.

Long Term Care Administrator

(see Certificate Section page 79)

Machinist Technology (See Tool & Diemaking)

Management

The Management program will prepare you with people skills and organizational systems knowledge to succeed and earn promotions in the company or institutional environment of your choice. Experience and leadership skills are gained through on-the-job training and participation in a local, state and national management development association.

Course work in the management program includes: communications and human relations, management and supervision, information processing, problem solving and computer applications, team building and leadership development and organizational and human resource development.

Graduates of the program have found positions as general managers, supervisors, assistant personnel managers, office managers, manufacturing and distribution managers, production supervisors, parts and inventory managers, business owners, customer service representatives, training coordinators, sales managers, buyers and purchasing agents. Advanced management positions are available to those who enter the work force and demonstrate strong, individual skills and knowledge.

The Management program emphasizes career development along with transfer options for students planning on attending a four-year college. Contact a DMACC Management instructor, counselor or advisor for transfer planning assistance.

Location: Ankeny, Newton

Selected courses in this program are offered at other campuses.

Program Entry Requirements

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

Graduation Requirements

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

Required Courses

MGMT101	Supervisory Management	3
MGMT102	Introduction to Management	3
MGMT103	Sales Management	3
MGMT104	Organizational Behavior	3
MGMT242	Human Resource Management	3
MGMT243	Management of Information	3
MGMT344	Field Experience I Seminar	2
MGMT345	Field Experience I	6
MGMT406	Relationship Strategies in Business	2
MGMT407	Leadership Strategies in Business	1
MKTG102	Principles of Marketing	3
MKTG103*	Principles of Selling	3
BPQI400	Total Quality Management	3
COOP220	Career-Seeking Skills	2

Option Courses–Select 1 Course From Options 1-6 and 3 Courses From Option 7

COMS181	Intro to Computer Literacy	Opt1	3
DKTP401*	Intro to Desktop Publishing	Opt1	3
OFFC355	Computer Applications	Opt1	3
ENGL117	Composition I	Opt2	3
ENGL410*	Communication Skills	Opt2	3
ACCT101	Principles of Accounting I	Opt3	4
ACCT301*	Accounting Fundamentals	Opt3	3
SPCH110	Fundamentals of Speech	Opt4	3
SPCH111	Public Communication	Opt4	3
SPCH117	Interpersonal & Small Group Comm	Opt4	3
MGMT203	Human Relations in Business	Opt5	3
PSCH101	General Psychology	Opt5	3
BSAD223	Business/Financial Math	Opt6	3
MATH115	Finite Mathematics	Opt6	4
MGMT250	Fundamentals of Purchasing	Opt7	3
BSAD150	Intro to Business	Opt7	3
BSEN305	E-Commerce on the Web	Opt7	3
BSEN229	Small Business Management	Opt7	3
MGMT241	Production Management	Opt7	3
MKTG321	Retail Management I	Opt7	3
BUSL101	Business Law I	Opt7	3
ECON101	Principles of Macroeconomics	Opt7	3
ACCT102	Principles of Accounting II	Opt7	4

Elective Courses

Electives	5-6
Total minimum credits required to complete this program	**72**

A Management Certificate is available. See Certificate section starting on page 75.

Programs Available

Manufacturing Technology

The DMACC Manufacturing Technology program prepares applicants for a wide variety of manufacturing tasks in the industry. Successful applicants will learn the basic elements of welding, automation, computer numerical controlled machine operation, computer-aided drafting and design, machining and workplace skills. Manufacturers in Iowa report that they will require more than 1,000 workers who have these skills by 2005. Graduates will be positioned for employment by a wide variety of manufacturers throughout the state and nation.

At completion of this two year Associate of Applied Science degree program, graduates will be prepared for a large number of skilled careers in the manufacturing industry. Opportunities exist in many different types of manufacturing.

To apply for this program, call 515-964-6277 during business hours to request information.

Location: Ankeny, Newton

Program Entry Requirements

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

Graduation Requirements

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

Term 1

BPQI412	Controlling Mfg. Business Costs	2
ENGL410*	Communication Skills	3
MATH410*	Mathematics for Technicians I	3
MFGT475	Manufacturing Welding I	2
TOOL480*	Blueprint Reading I	2
TOOL482	Machine Shop Measurements I	3

Term 2

TOOL461	Lathe Operations I	1
TOOL462	Lathe Operations Lab I	2
TOOL463	Mill Operations I	1
TOOL464	Mill Operations Lab I	2
TOOL481	Blueprint Reading II	3
TOOL494	CNC Lathe Operations	1
TOOL495	CNC Lathe Operations Lab	2
TOOL496	CNC Mill Operations	1
TOOL499	CNC Mill Operations Lab	2

Term 3

MFGT418	IMT Internship	5
MFGT482	Related Welding Blueprint-Mfg. Technology	1
WELD483*	Gas Metal Arc Welding	2

Term 4–Select 1 Course from Option 1

BPQI400	Total Quality Management		3
CADD401*	Intro Computer Aided Drafting/CADD		3
CIM-404	Robotics		2
ELEM325	General Electricity		3
MGMT203	Human Relations in Business	Opt1	3
PSCH106	Psychology of Human Relations & Adj.	Opt1	3

Term 5

BPQI411	Measuring Devices - SPC	1
CADD402	Intermediate CADD-Mechanical	3
CADD405	Introduction to CAD/CAM	3
HTPC382	Control System Overview	2
MATH411	Mathematics for Technicians II	3
SFTY301	Introduction to Safety Science	3

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

Marketing

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

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

Many graduates of the Marketing Program have gone on to become marketing managers, regional marketing supervisors, professional sales and customer service representatives. Some have gone on to own their own businesses and others have found careers as managers, merchandisers and buyers in the retail community. Graduates from the Marketing Program are responsible for creating and/or executing marketing strategies, hiring, training and supervising employees. They are also responsible for buying and selling product offerings and planning promotions and advertising campaigns. Careers in marketing are listed as one of the fastest growing areas for the foreseeable future. Research indicates that about one third of the labor force is now employed in marketing. Marketing careers offer flexibility, mobility and pay to match your ability.

The Marketing Program emphasizes career development along with transfer options for students planning on attending a four-year college. Contact a DMACC Marketing instructor, counselor or advisor for transfer planning assistance.

Location: Ankeny

Selected courses in this program are offered at other campuses.

Program Entry Requirements

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

Graduation Requirements

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

Required Courses

MKTG102	Principles of Marketing	3
MKTG103*	Principles of Selling	3
MKTG104	Advertising/Sales Promotion	3
MKTG232	Advanced Selling Strategies	3
MKTG321	Retail Management I	3
MKTG323	Visual Merchandising/Design	2
MGMT101	Supervisory Management	3
MGMT341*	Business Internship I	6
MGMT342	Internship Seminar I	2
MGMT353	Business Internship II	4
MGMT358	Internship Seminar II	1
MGMT406	Relationship Strategies in Business	2
MGMT407	Leadership Strategies in Business	1
SPCH110	Fundamentals of Speech	3
COOP220	Career-Seeking Skills	2

Option Courses –Select 1 Course From Each Option

COMS181	Intro to Computer Literacy	Opt1	3
DKTP401*	Intro to Desktop Publishing	Opt1	3
OFFC355	Computer Applications	Opt1	3
BSAD223	Business/Financial Math	Opt2	3
MATH115	Finite Mathematics	Opt2	4
ENGL117	Composition I	Opt3	3
ENGL410*	Communication Skills	Opt3	3
ACCT101	Principles of Accounting I	Opt4	4

ACCT301*	Accounting Fundamentals	Opt4	3
BSAD150	Introduction to Business	Opt5	3
MKTG322	Retail Management II	Opt5	3
ECON101	Principles of Macroeconomics	Opt5	3
MGMT102	Introduction to Management	Opt5	3
MGMT203	Human Relations in Business	Opt6	3
PSCH101	General Psychology	Opt6	3
ACCT102	Principles of Accounting II	Opt7	4
BSEN229	Small Business Management	Opt7	3
BSEN305	E-Commerce on the Web	Opt7	3
MKTG306	Sports/Entertainment Marketing	Opt7	3
MKTG211	Business Marketing	Opt8	3
MKTG305	Internet Marketing	Opt8	3

Elective Courses

Electives		5-6
Total minimum credits required to complete this program		**70**

Medical Administrative Assistant

The Medical Administrative Assistant program is designed to prepare the student to work in a variety of medical settings, including hospitals/medical centers, clinics, physician offices, health insurance companies and other health-related businesses.

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

The medical administrative assistant has a variety of responsibilities such as receptionist, transcriptionist, insurance claims specialist and/or bookkeeper.

Upon successful completion of Terms 1, 2 and 3 of the Medical Administrative Assistant curriculum, a student may receive a diploma. Upon completion of the diploma program and Term 4, a student may receive an AAS Degree.

Location: Ankeny

Selected courses in this program are offered at other campuses.

Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Submit evidence of typing skill of 40 WPM with no errors or enroll in Keyboarding I (OFFC 329) first term. Students start fall term.

Graduation Requirements

To earn a Medical Administrative Assistant diploma or AAS degree, a student must complete all course work as prescribed and maintain a 2.0 grade point average.

Term 1

MGMT203	Human Relations in Business	3
OFFC205	Business English	3
OFFC221	Medical Terminology I	3
OFFC325	Medical Computer Applications	3
OFFC355	Computer Applications	3
OFFC430	Medical Transcription I	3

Term 2

COOP220	Career-Seeking Skills	2
OFFC222	Medical Terminology II	3
OFFC306	Word Processing Skill Development II	3
OFFC324	Office Calculators	1
OFFC326	Medical Insurance	3
OFFC405	Professional Development	3
OFFC431	Medical Transcription II	3

Term 3

BSAD223	Business/Financial Math	3
OFFC223	Medical Transcription III	3
OFFC320	Human Body-Health and Disease	3
OFFC433	Medical Techniques	3
Total credits required to complete the diploma		**48**

Term 4–Select 1 Course From Option 1

ACCT301*	Accounting Fundamentals		3
OFFC206	Business Correspondence Techniques		3
OFFC328	Internship for Medical Secretaries		4
OFFC356	Advanced Computer Applications		3
SPCH110	Fundamentals of Speech	Opt1	3
SPCH117	Interpersonal & Small Group Comm	Opt1	3
Total minimum credits required to complete AAS degree			**64**

Medical Assistant

The Medical Assistant program is designed to prepare students to be employed in a private physician's office, a clinic, hospital, or laboratory. As multi-skilled health professionals, medical assistants perform a variety of clinical procedures and administrative functions in these settings.

Students gain a basic knowledge of anatomy and physiology, laboratory procedures, administration procedures and patient care techniques. These subjects are presented in the classroom, through laboratory experience and in a 10-week supervised clinical experience in the field. The students will not receive pay during the clinical rotation.

The DMACC Medical Assistant program is accredited by the Commission of Accreditation of Allied Health Education Programs (CAAHEP), on recommendation of the Curriculum Review board of the American Association of Medical Assistants' Endowment (AAMAE). DMACC graduates are eligible to take the certification examination given by the certifying board of the American Association of Medical Assistants and the State of Iowa Limited Radiographer examination upon completion of the program.

Background checks for criminal history and dependent adult/child abuse will be done and results shared with cooperating agencies which may prevent placement for clinical/practicum courses. This will affect successful program completion.

Location: Ankeny

Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Submit evidence of grade "C" or better in one year of high school biology or equivalent (DMACC Academic Achievement Center Biology I & II or BIOL 127). Must also submit evidence of typing/word processing skill of 35 WPM with 5 errors or less. Submit proof of high school graduation or GED prior to enrollment. Students start fall term.

Graduation Requirements

To earn a Medical Assistant diploma, a student must complete all course work as prescribed and maintain a 2.0 grade point average. A grade of 2.0 (C) or better is required in all MEDA 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 MEDA 461 & MEDA 471; MEDA 464 & MEDA 474; MEDA 465 & MEDA 475; MEDA 466 & MEDA 473; MEDA 472 & MEDA 482; and MEDA 473 & MEDA 483. Several courses have corequisites as listed in the catalog.

Term 1–Select 1 Course from Option 1

MEDA461	Human Body-Health and Disease I		4
MEDA462*	Medical Terminology		1
MEDA464	Medical Laboratory Procedures I		4
MEDA465	Medical Office Procedures I		3
MEDA466	Medical Office Management I		2
MEDA467	Professional Development I		3
ENGL117	Composition I	Opt 1	3
ENGL410*	Communication SkillsOpt 1	Opt 1	3

Programs Available

Term 2

MEDA471	Human Body-Health and Disease II	4
MEDA472	Diagnostic Radiography I	2
MEDA473	Medical Office Management II	4
MEDA474	Medical Laboratory Procedures II	3
MEDA475	Medical Office Procedures II	3
PSCH101	General Psychology	3

Term 3

MEDA480	Professional Development III	1
MEDA482	Diagnostic Radiography II	2
MEDA483	Medical Office Management III	1
MEDA485	Practicum	5
Total credits required to complete this program		**48**

Medical Laboratory Technology

The Medical Laboratory Technology program prepares the student to perform complex laboratory procedures with a limited amount of supervision. This training includes a six-month hospital laboratory assignment.

The program is accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS). Graduates are eligible to take the national certification examination. Job opportunities are found in hospitals, clinics, doctors' offices, public health laboratories, veterinarians' offices and industrial laboratories.

Background checks for criminal history will be done and results shared with cooperating agencies which may prevent placement for clinical/practicum courses. This will affect successful program completion.

Location: Ankeny

Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Submit evidence of grade "C" or better in one year high school biology, algebra and chemistry or equivalent (DMACC Academic Achievement Center Biology I & II or BIOL 127; Academic Achievement Center Algebra I & II or MATH 092 and Academic Achievement Center Chemistry I & II). The following criteria is recommended: minimum of a high school diploma (GPA of 2.5) or equivalent (GED of 55), grade of 'C' or better in high school level Algebra II, ACT score of 19 or above, COMPASS scores (writing 70, reading 81, algebra 49). Students start fall term.

Graduation Requirements

To earn a Medical Laboratory Technology AAS degree, a student must complete all course work as prescribed and maintain a 2.0 grade point average. A grade of "C" or better is required in all MLTS courses.

Term 1

BIOL154	General Anatomy and Physiology	5
CHEM131	Intro to General Chemistry	4
MLTS401	Lab Fundamentals & Urinalysis	2
MLTS402	Beginning Hematology	2
MLTS403	Principles of Phlebotomy	2
PSCH101	General Psychology	3

Term 2

BIOL132	Health Science Microbiology	4
CHEM132	Intro to Organic/Biochemistry	4
ENGL117	Composition I	3
MLTS415	Advanced Hematology & Coagulation	5

Term 3

MLTS442	Immunohematology	5
MLTS440	Immunology & Serology	2
SPCH110	Fundamentals of Speech	3

Term 4

MLTS422	Clinical Chemistry	8
MLTS431	Clinical Microbiology	6

Term 5

MLTS455	Clinical Laboratory Practicum	12
MLTS465	Clinical Seminar and Review	2

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

Medical Transcriptionist

(see Certificate Section page 80)

Microcomputers

(see Certificate Section page 80)

Nurse Aide

(see Certificate Section page 80)

Nursing - Advanced Standing

This program offers the opportunity for current Iowa Licensed Practical Nurses to complete an Associate Degree in Nursing. Applicants with the equivalent of the first two terms of the Nursing Program are also eligible for admission. Students enter third term of the Associate Degree Nursing curriculum and upon completion of three terms and attainment of program objectives are eligible to take the NCLEX exam for Registered Nurse Licensure (NCLEX-RN). The program is approved by the Iowa Board of Nursing and accredited by the National League for Nursing Accrediting Commission (NLNAC).

Locations: Ankeny, Boone

Ankeny - Summer and Fall Term

Boone - Summer Term

Program Entry Requirements

- Complete an application
- Attend any required information/registration session including a nursing program orientation session
- Proof of high school graduation or GED completion
- Proof of completion of an approved Practical Nursing Program with a cumulative GPA of 2.0 or above
- Provide a copy of current Iowa LPN licensure (or state recognized by Iowa pursuant to the Nurse Licensure Compact)
- Complete required COMPASS testing obtaining satisfactory scores in reading (81 or above) and math (44 or above) or ACT of 19 or above
- Completion of following courses with a grade of C or above in each:
  - BIOL133 Health Science Anatomy
  - COMS181 Computer Literacy or OFFC355 Computer Applications
  - PSCH101 General Psychology
  - PSCH103 Developmental Psychology
  - BIOL134 Health Science Physiology
  - ENGL117 Composition I

Graduation Requirements

To earn an Associate Degree Nursing AAS degree, a student must complete all course work as prescribed and have a grade of "C" or above in all ASDN and support courses in the curriculum.

In both the Practical and Associate Degree levels of the nursing program, all nursing and liberal arts support courses must be successfully completed with a grade of "C" or above. In order to progress to the next term, courses must be successfully completed in the term identified or a previous term.

Background checks for criminal history will be completed, at student expense, prior to clinical placement. Criminal history may result in cooperating health care agencies denying student access and therefore inability to complete the program.

Programs Available

Term 3			
BIOL132	Health Science Microbiology		4
NURS232	Passport to ADN Nursing		2
SPCH117	Interpersonal & Small Group Comm		3

Term 4–Select 2 Courses From Option 1			
ASDN226	Nursing Practice II		2
SOCY101	Introduction to Sociology		3

Choose two from the following:

ASDN227	Family Health Nursing	Opt1	5
ASDN228	Adult and Older Adult Health	Opt1	5
ASDN229	Mental Health Nursing	Opt1	5

Term 5–Select 1 Course From Option 2 and 1 Course From Option 3			
ASDN230	Nursing Management		3
ASDN231	Nursing Seminar		3

Choose one from the following (not taken previously):

ASDN227	Family Health Nursing	Opt2	5
ASDN228	Adult and Older Adult Health	Opt2	5
ASDN229	Mental Health Nursing	Opt2	5

Choose one from the following :

PHIL110	Introduction to Philosophy	Opt3	3
PHIL111	Introduction to Logic	Opt3	3
PHIL112	Ethical Problems	Opt3	3
PHIL113	Comparative Religions	Opt3	3
HUMN131	Humanities Through the Arts	Opt3	3
LITR120	Introduction to Literature	Opt3	3
Total credits required to complete this program			**38**

Nursing Program

Practical Nursing
Associate Degree Nursing

The Nursing Program is designed as a career ladder program. The first two semesters provide a common core of nursing theory and skills for both the Practical Nursing and Associate Degree Nursing students.

The student who completes two terms is prepared to become a Licensed Practical Nurse (LPN). LPNs provide nursing care under the supervision of a Registered Nurse or a physician. The LPN is prepared to provide basic therapeutic, rehabilitative and preventative care for individuals of all ages, primarily in a structured care setting such as hospitals, long-term facilities or clinics.

Upon successful completion of Terms 1 and 2, the student will be eligible to take the National Council Licensure Exam for Practical Nurse Licensure (NCLEX - PN).

Program Locations: Ankeny, Boone, Carroll

An Associate Degree in Nursing and a career as a Registered Nurse are available to students who continue in the program and successfully complete Terms 3, 4 and 5. As members of the nursing profession, registered nurses are accountable for their own nursing practice. The Associate Degree Nurse utilizes more complex nursing knowledge and skills to assess, plan, provide, evaluate and manage nursing care for patients in hospitals, long-term care facilities and a variety of community based health care settings.

Upon successful completion of Terms 1 - 5 of the nursing curriculum, the student is eligible to take the National Council Licensure Exam for Registered Nurse Licensure (NCLEX - RN).

Program Locations: Ankeny, Boone, (Carroll Terms 1, 2 and 3 only)

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).

Program Entry Requirements

1. Complete an application.
2. Attend any required information/registration sessions including a nursing program orientation session.
3. Successful completion of NRA0301 or an equivalent 75 hour (or more) Certified Nurse Assistant course from an approved program - January 1992 or after.
4. BIOL133 Health Science Anatomy with a grade of C (not C-) or better.
5. COMS181 Computer Literacy or OFFC355 Computer Applications with a grade of C (not C-) or better.
6. Complete required COMPASS testing obtaining satisfactory scores in reading (81 or above) and math (44 or above) or ACT of 19 or above.
7. Proof of high school graduation or GED completion.

Practical Nursing starts:

Ankeny - Fall and Spring Terms

Boone, Carroll - Fall Term Only

In both the Practical and Associate Degree levels of the program, all nursing and liberal arts support courses must be successfully completed with a grade of "C" or above. In order to progress to the next term, these courses must be successfully completed in the term identified or a previous term.

Background checks for criminal history will be completed, at student expense, prior to clinical placement. Criminal history may result in cooperating health care agencies denying student access and therefore student would be unable to complete the program.

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

Graduation Requirements

To earn a Practical Nursing diploma, a student must complete all course work as prescribed in Terms 1 & 2 and have "C" or above in all Nursing and support courses in the curriculum.

To earn an Associate Degree Nursing AAS degree, a student must complete all course work as prescribed in Terms 1-5 and have a grade of "C" or above in all NURS, ASDN and support courses in the curriculum.

Practical Nursing

Term 1		
PSCH101	General Psychology	3
PSCH103	Developmental Psychology	3
NURS221	Health Assessment	3
NURS222	Foundation of Nursing Practice	3
NURS223	Skills and Technology	3

Term 2		
ENGL117	Composition I	3
BIOL134	Health Science Physiology	3
NURS224	Health: Birth to Middle Adult	5
NURS225	Older Adult Health	4
Total credits required to complete the diploma		**30**

Programs Available

Associate Degree Nursing

Must complete terms 1 & 2 prior to enrolling in ASDN courses

Term 3

BIOL132	Health Science Microbiology		4
SPCH117	Interpersonal and Small Group Comm.		3

Term 4–Select 2 Courses from Option 1

ASDN226	Nursing Practice II		2
SOCY101	Introduction to Sociology		3
ASDN227	Family Health Nursing	Opt1	5
ASDN228	Adult and Older Adult Health	Opt1	5
ASDN229	Mental Health Nursing	Opt1	5

Term 5–Select 1 Course From Option 2 and 1 Course from Option 3

ASDN230	Nursing Management		3
ASDN231	Nursing Seminar		3
ASDN227	Family Health Nursing	Opt2	5
ASDN228	Adult and Older Adult Health	Opt2	5
ASDN229	Mental Health Nursing	Opt2	5
HUMN131	Humanities Through the Arts	Opt3	3
LITR120	Introduction to Literature	Opt3	3
PHIL110	Introduction to Philosophy	Opt3	3
PHIL111	Introduction to Logic	Opt3	3
PHIL112	Ethical Problems	Opt3	3
PHIL113	Comparative Religions	Opt3	3

Total credits required to complete the AAS degree **66**

Office Assistant

The Office Assistant diploma curriculum is for individuals who want to develop or refresh their office skills in order to qualify for general office work.

Students gain a basic knowledge of English, math, computer applications and human relations skills. By selecting an emphasis during Term 2, students are able to customize their curriculum and gain specialized skills.

Locations: Ankeny, Boone, Carroll, Newton,Urban

Program Entry Requirements

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

Graduation Requirements

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

Term 1

BSAD223	Business/Financial Math	3
MGMT203	Human Relations in Business	3
OFFC205	Business English	3
OFFC305	Word Processing Skill Development I	4
OFFC324	Office Calculators	1
OFFC355	Computer Applications	3

Term 2

COOP220	Career-Seeking Skills	2
OFFC204	Office Procedures	3
OFFC206	Business Correspondence Techniques	3
OFFC405	Professional Development	3

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

Professional Emphasis Option

OFFC306	Word Processing Skill Dev II	3
OFFC410	Office Internship	2
OFFC411	Office Seminar	1

Information Processing Emphasis Option

OFFC306	Word Processing Skill Dev II	3
OFFC356	Advanced Computer Applications	3

Office Management Emphasis Option

DATA110	Computer Network Literacy	3
MGMT153	Office Management	3

Bookkeeping Emphasis Option

ACCT301*	Accounting Fundamentals	3
OFFC356	Advanced Computer Applications	3

Legal Emphasis Option

BUSL101	Business Law	3
OFFC331	Legal Terminology	3

Data Entry Emphasis Option

OFFC312	Data Entry	3
OFFC356	Advanced Computer Applications	3

Total credits required to complete the diploma **34**

Office Specialist

(see Certificate Section page 81)

Phlebotomy

(see Certificate Section page 81)

Production Art

(see Certificate Section page 81)

Residential Care Facility Administrator

(see Certificate Section page 81)

Respiratory Therapy

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

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

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

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

Background checks for criminal history will be done and results shared with cooperating agencies which may prevent placement for clinical/practicum courses. This will affect successful program completion.

Location: Ankeny

Program Entry Requirements

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

Programs Available

- Submit to Admissions office evidence of high school graduation or GED prior to enrollment.
- Submit to Admissions office evidence of grade "C" or above in two semesters of high school Algebra II or the equivalent (Academic Achievement Center Algebra III & IV or MATH094 Intermediate Algebra.)
- 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 CHEM131 Introduction to General Chemistry.)
- Submit to Admissions office evidence of grade of "C" or above in BIOL133 Health Science Anatomy or BIOL154 General Anatomy and Physiology or equivalent courses.

Students start fall term.

Graduation Requirements

To earn a Respiratory Therapy AAS degree, a student must complete all course work as prescribed and maintain a 2.0 grade point average. A minimum of grade "C" is required in all RESP courses.

Term 1

RESP300	Fundamentals of Respiratory Therapy	3
RESP302	Gas, Humidity and Aerosol Therapy	4
RESP304	Cardiopulmonary Therapeutics	4
CHEM131	Introduction to General Chemistry	4

Term 2

RESP310	Cardiopulmonary Renal Pathophysiology	5
RESP315	Respiratory Therapy Pharmacology	3
RESP352	Respiratory Therapy Practicum I	4
BIOL134	Health Science Physiology	3

Term 3-Select 1 Course From Option 1

RESP325	Neonatal/Pediatric Respiratory Therapy		3
RESP362	Respiratory Therapy Practicum II		5
ENGL117	Composition I	Opt1	3
ENGL410*	Communication Skills	Opt1	3

Term 4

RESP320	Advanced Respiratory Therapy	5
RESP372	Respiratory Therapy Practicum III	6
BIOL132	Health Science Microbiology	4

Term 5–Select 1 Course From Option 2

RESP330	Cardiopulmonary Diagnostics		3
RESP382	Respiratory Therapy Practicum IV		6
MGMT203	Human Relations in Business	Opt2	3
PSCH101	General Psychology	Opt2	3
PSCH106	Psychology of Human Relations & Adjustment	Opt2	3
SOCY101	Introduction to Sociology	Opt2	3

Term 6

RESP335	Respiratory Therapy Mgmt & Ethics	3
RESP392	Respiratory Therapy Practicum V	5

Total credits required to complete this program **76**

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 numerous career opportunities available to graduates of the program. Past graduates are now in careers that include: store managers, department managers, visual merchandisers, chain store supervisors, professional sales of automotive, home improvement and computer products and owners of their own businesses.

Personal, professional and leadership development is provided through lectures, study tours, labs and speakers. Practical experience is gained through a paid internship with leading retail companies.

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

Location: Ankeny

Selected courses in this program are offered at other campuses.

Program Entry Requirements

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

Graduation Requirements

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

Required Courses

MKTG102	Principles of Marketing	3
MKTG103*	Principles of Selling	3
MKTG104	Advertising/Sales Promotion	3
MKTG321	Retail Management I	3
MKTG322	Retail Management II	3
MKTG323	Visual Merchandising/Design	2
MGMT341	Business Internship I	6
MGMT342	Internship Seminar I	2
MGMT406	Relationship Strategies in Business	2
MGMT407	Leadership Strategies in Business	1
COOP220	Career-Seeking Skills	2

Option Courses–Select 1 Course From Each Option

ENGL117	Composition I	Opt1	3
ENGL410*	Communication Skills	Opt1	3
BSAD150	Intro to Business	Opt2	3
BSEN229	Small Business Management	Opt2	3
MKTG305	Internet Marketing	Opt2	3
MGMT203	Human Relations in Business	Opt3	3
PSCH101	General Psychology	Opt3	3
BSAD223	Business/Financial Math	Opt4	3
MATH115	Finite Math	Opt4	4

Total credits required to complete this program **42**

A Retailing Certificate is available. See Certificate section starting on page 75.

Long Term Care Administrator

(see Certificate Section page 79)

Sales

(see Certificate Section page 81)

Security and Safety Specialist

(see Certificate Section page 81)

Sales and Management

The Sales and Management program offers sales and management skill development. Many opportunities exist for the highly-motivated, people-oriented, goal-setting individual who wants to quickly move into a sales or management industry-sponsored training program.

Specific benefits of the program include rapid development of sales and management skills, total transferability into any of DMACC's two-year Marketing and Management AAS degree programs and the satisfaction of gaining self-confidence as marketing skills are acquired.

The student will have the opportunity to enroll in the program for either day or evening classes at the beginning of each term. In addition, the program offers: opportunities to earn as you learn through on-the-job training, opportunities to gain advanced standing with prior occupational experience (after evaluation by the program chairperson) and leadership training at local, state and national levels through involvement in the Sales and Management Club.

Programs Available

Location: Ankeny

Selected courses in this program are offered at other campuses.

Program Entry Requirements

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

Graduation Requirements

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

Required Courses

MGMT101	Supervisory Management	3
MGMT344	Field Experience I Seminar	2
MGMT345	Field Experience I	6
MGMT406	Relationship Strategies in Business	2
MGMT407	Leadership Strategies in Business	1
MKTG103*	Principles of Selling	3
MKTG232	Advanced Selling Strategies	3
COOP220	Career-Seeking Skills	2

Option Courses–Select 1 Course From Each Option

COMS181	Intro to Computer Literacy	Opt1	3
DKTP401*	Intro To Desktop Publishing	Opt1	3
OFFC355	Computer Applications	Opt1	3
MGMT102	Introduction to Management	Opt2	3
MGMT103	Sales Management	Opt2	3
ENGL117	Composition I	Opt3	3
ENGL410*	Communication Skills	Opt3	3
BSAD150	Intro to Business	Opt4	3
BSEN305	E-Commerce on the Web	Opt4	3
MKTG102	Principles of Marketing	Opt4	3
BSAD223	Business/Financial Math	Opt5	3
MATH115	Finite Math	Opt5	4
MGMT203	Human Relations in Business	Opt6	3
PSCH101	General Psychology	Opt6	3

Total credits required to complete this program 40

Small Animal Care

(see Certificate Section page 82)

Supervision

(see Certificate Section page 82)

Technical Management

(see Certificate Section page 82)

Telecommunications Technology

The Telecommunications Technology program begins with areas that are most familiar to the student and progresses to the new technologies that are the driving force of the information age. The program provides a blend of lecture and hands-on training courses that gradually introduce students to a variety of areas within the field of telecommunications. Graduates may pursue a career in several different areas of telecommunications.

NOTE: Students are required to purchase a handheld personal computer for this program.

Location: West

Selected courses in this program are offered at other campuses.

Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required information/registration session. High school electronics and algebra is recommended. Students start fall term (day program) and spring term (evening program).

Graduation Requirements

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

Term 1

ELEM450	Related Math	3
ELEM451*	DC and AC Fundamentals	3
ELEM452	DC and AC Fundamentals Lab	3
TELE410	Telecommunications I	3
TELE411	Telecommunications Experience I	4

Term 2

COMS181	Intro to Computer Literacy	3
ELEM462	Digital Electronics	3
OFFC329	Keyboarding I	1
TELE420	Telecommunications II	4
TELE421	Telecommunications Experience II	4

Term 3

COOP212	Coop Career Seminar	1
COOP226	Coop Career Experience	6

Term 4

ENGL410*	Communication Skills	3
TELE430	Telecommunications III	3
TELE431	Telecommunications Experience III	4
TELE432	Data Communications	3

Term 5–Select 1 Course From Option 1

BSAD150	Intro to Business		3
TELE440	Telecommunications IV		3
TELE441	Telecommunications Experience IV		4
MGMT203	Human Relations in Business	Opt1	3
PSCH101	General Psychology	Opt1	3
PSCH106	Psychology of Human Relations & Adjustment	Opt1	3
SOCY101	Introduction to Sociology	Opt1	3

Total credits required to complete this program 64

A Telecommunications Certificate is available. See Certificate section starting on page 75.

Tool & Diemaking

The Tool and Diemaking program prepares students to meet the demands for qualified personnel in either conventionally controlled or computer numerical controlled (CNC) tooling industry.

There are two separate diploma options available: Machinist Technology or Diemaking. Machinist Technology graduates should have the skills required to work in a general machine shop. Diemaking graduates should have the skills necessary to work as tool planners, tool makers, die makers, etc. By completing the two diploma options plus one course, students may receive a Tool & Diemaking AAS degree.

Location: Ankeny

Program Entry Requirements

Machinist Technology

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

Diemaking

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Submit proof of Machinist Technology Diploma or equivalent. Students start fall term.

Graduation Requirements

To earn a Machinist Technology or Diemaking diploma, or Tool and Diemaking AAS degree, a student must complete all course work as prescribed and maintain a 2.0 grade point average.

Programs Available

Machinist Technology

Required Courses

ENGL410*	Communication Skills	3
MATH410*	Mathematics for Technicians I	3
MATH411	Mathematics for Technicians II	3
TOOL437	Geometric Dimensioning and Tolerance	1
TOOL460	Hand & Basic Machine Tools	2
TOOL461	Lathe Operations I	1
TOOL462	Lathe Operations Lab I	2
TOOL463	Mill Operations I	1
TOOL464	Mill Operations Lab I	2
TOOL470	Lathe Operations II	2
TOOL471	Lathe Operations Lab II	3
TOOL472	Milling Operations II	2
TOOL473	Milling Operations Lab II	3
TOOL480*	Blueprint Reading I	2
TOOL481	Blueprint Reading II	3
TOOL482	Machine Shop Measurements I	3
TOOL489	Heat Treatment of Materials	2
TOOL492	Grinding Procedures	1
TOOL493	Grinding Procedures Lab	3
TOOL494	CNC Lathe Operations	1
TOOL495	CNC Lathe Operations Lab	2
TOOL496	CNC Mill Operations	1
TOOL499	CNC Mill Operations Lab	2

Total credits required to complete Machinist Technology diploma **48**

Diemaking

Required Courses

CADD401*	Intro to Computer Aided Drafting -	3
DIEM400	Basic Diemaking	4
DIEM401	Basic Diemaking Lab	6
DIEM402	Advanced Blueprint Reading	2
DIEM403	Progressive Die Design	3
DIEM404	Advanced Diemaking	4
DIEM405	Advanced Diemaking Lab	6
DIEM407	Plastic Moldmaking	3
DIEM413	Electrical Discharge Machining	3
ENGL410*	Communication Skills	3
MATH410*	Mathematics for Technicians I	3
MATH411	Mathematics for Technicians II	3

Total credits required to complete Diemaking diploma **43**

Tool and Die

Select 1 Course From Option 1

MGMT203	Human Relations in Business	Opt1	3
PSCH101	General Psychology	Opt1	3
PSCH106	Psychology of Human Relations & Adjustment	Opt1	3
SOCY101	Introduction to Sociology	Opt1	3

Total credits required to complete the AAS degree **85**

Veterinary Assistant

The Veterinary Assistant diploma curriculum is designed for individuals who want to develop a basic understanding of veterinary medicine and pursue additional course work that will lead to a diploma or advancement to the Veterinary Technician AAS degree.

As a Veterinary Assistant, you will have access to hospitalized patients; exposure to surgical procedures; assist with physical exam, lab work and technical procedures (blood draws, IV placement); take health histories; and perform reception duties. There will be opportunities to work with a variety of domestic, laboratory and exotic animals.

Location: Ankeny

Program Entry Requirements

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

   ACT scores or transferred composition course work from another institution may be submitted in lieu of the Compass placement exam. If you choose this option, make sure an original transcript is sent from your previous institution to the Credentials Office at Des Moines Area Community College.
3. Biology Competency Exam: All applicants must take this exam and receive a minimum score of 30. A photo identification and password is required for entrance to the exam. Your password will be mailed to you and you will need to bring it with you when you come to campus to take the exam.
4. Program Conferences: Each applicant must schedule a 30-minute conference with the Veterinary Technician program counselor, or the Chairperson of the Agriculture and Natural Resources Department. Please call 515-964-6866 to make an appointment. No walk-in conferences will be held. Applicants must bring the test scores from the Compass exam/ACT scores/copy of previous college transcript and the Biology competency exam with them to the conference.

Students start fall term.

Graduation Requirements

To earn a Veterinary Assistant diploma a student must complete all course work as prescribed and maintain a 2.0 grade point average.

Required Courses

AGRI201	Feeding and Animal Nutrition I	3
AGRI340	Veterinary Medical Terminology	1
AGRI341	Intro to Veterinary Pharmacology	1
AGRI342	Intro to Veterinary Technology	1
AGRI343	Veterinary Anatomy & Physiology	3
AGRI344	Anesthesia & Surgical Assistance	3
AGRI345	Veterinary Clinic Pathology I	3
AGRI349	Introduction to Animal Diseases	1
AGRI350	Clinical Mgmt of Domestic Species	2
AGRI431	Veterinary Assistant Internship	1
OFFC305	Word Processing Skills Development I	4
SPCH110	Fundamentals of Speech	3

Option Courses–Select 1 Course From Each Option

BIOL127	Human Biology	Opt1	3
BIOL141	Principles of Biology I	Opt1	4
ENGL117	Composition I	Opt2	3
ENGL410	Communication Skills	Opt2	3
MATH	Any 100 level MATH course	Opt3	4
MATH410	Mathematics for Technicians I	Opt3	3
BIOL132	Health Science Microbiology	Opt4	4
BIOL149	General Microbiology	Opt4	4

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

Turf Maintenance

(see Certificate Section page 83)

Programs Available

Veterinary Technician

Veterinary technicians provide professional technical support to veterinarians, biomedical researches and other scientists. As a vet tech, you will care for hospitalized animal patients; assist the doctor in surgery; perform physical exam, lab work and technical procedures (blood draws, IV placement); take health histories and X-rays; give and monitor anesthesia; provide client education; and perform reception duties. There will be opportunities to work with a variety of animals including dogs, cats, horses, cows, pigs, sheep, birds, snakes, guinea pigs, hamsters and rats.

Most Veterinary Technician graduates find work in small, mixed or large animal practices. Other opportunities exist in humane societies, animal shelters, zoos, specialty veterinary practices, pet shops, biological research labs, animal control agencies, veterinary teaching hospitals and state and federal agencies.

An Associate of Applied Science (AAS) degree will be awarded to those students who successfully complete the Veterinary Technician curriculum. Upon completion of this AAS degree, students will be provided the opportunity to participate in the licensure testing process to become a Certified Veterinary Technician (CVT).

Location: Ankeny

Program Entry Requirements

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

   ACT scores or transferred composition course work from another institution may be submitted in lieu of the Compass placement exam. If you choose this route, make sure an original transcript is sent from your previous institution to the Credentials Office at Des Moines Area Community College.
3. Biology Competency Exam: All applicants must take this exam and receive a minimum score of 30. A photo identification and password is required for entrance to the exam. Your password will be mailed to you and you will need to bring it with you when you come to campus to take the exam.
4. Program Conferences: Each applicant must schedule a 30-minute conference with the Veterinary Technician program counselor, or the Chairperson of the Agriculture and Natural Resources Department. Please call 515-964-6866 to make an appointment. No walk-in conferences will be held. Applicants must bring the test scores from the Compass exam/ACT scores/copy of previous college transcript and the Biology competency exam with them to the conference.

Students start fall term.

Graduation Requirements

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

Required Courses

AGRI201	Feeding and Nutrition I	3
AGRI340	Veterinary Medical Terminology	1
AGRI341	Intro to Veterinary Pharmacology	1
AGRI342	Intro to Veterinary Technology	1
AGRI343	Veterinary Anatomy & Physiology	3
AGRI344	Anesthesia & Surgical Assistance	3
AGRI345	Veterinary Clinic Pathology I	3
AGRI346	Adv. Veterinary Anatomy & Physiology II	3
AGRI347	Veterinary Clinical Pathology II	3
AGRI348	Veterinary Nursing Care	3
AGRI349	Introduction to Animal Diseases	1
AGRI350	Clinical Mgmt of Domestic Species	2
AGRI351	Clinical Mgmt of Lab & Exotic species	2
AGRI352	Advanced Veterinary Pharmacology	1
AGRI353	Large Animal Medicine and Surgery	3
AGRI354	Veterinary Radiology	2
AGRI431	Veterinary Assistant Internship	1
AGRI432	Veterinary Technician Internship	3
ECON101	Principles of Macroeconomics	3
SPCH110	Fundamentals of Speech	3
OFFC204	Office Procedures	3
OFFC305	Word Processing Skills Development I	4

Option Courses–Select 1 Course From Each Option

BIOL127	Human Biology	Opt1	3
BIOL141	Principles of Biology I	Opt1	4
CHEM120	Survey of Chemistry	Opt2	3
CHEM131	Intro to General Chemistry	Opt2	4
ENGL117	Composition I	Opt3	3
ENGL410	Communication Skills	Opt3	3
MATH	Any 100 level MATH course	Opt4	3-5
MATH410	Mathematics for Technicians	Opt4	3
BIOL132	Health Science Microbiology	Opt5	4
BIOL149	General Microbiology	Opt5	4

Total credits required to complete this program **68**

Welding

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

Ferrous and non-ferrous metals are joined using the oxy-acetylene, shielded metal arc, gas tungsten arc and gas shielded arc welding processes. Freehand and machine flame cutting are also taught.

Classroom theory, blueprint reading and technical math are part of the instructional program. The listed sequence of course offerings may be altered.

The Welding program offers open entry and open exit courses. Students will be allowed to enroll in these open entry/open exit courses as long as there is space available.

Location: Ankeny

Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students must meet with the program chair before admission to the program can be confirmed. Students start any term.

Graduation Requirements

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

Required Courses

ENGL410*	Communication Skills	3
MATH410*	Mathematics for Technicians I	3
WELD473*	Oxygen-Acetylene Welding/Cutting	2
WELD474*	Shielded Metal Arc Welding I	2
WELD478	Shielded Metal Arc Welding II	3
WELD479	Shielded Metal Arc Welding III	2
WELD481*	Blueprint Reading	3
WELD486	Shielded Metal Arc Welding IV	3
WELD487	Shielded Metal Arc Welding V	3
WELD488	Shielded Metal Arc Welding VI	2
WELD483*	Gas Metal Arc Welding	2
WELD493	Gas Tungsten Arc Welding	2

Total credits required to complete this program **30**

Welding Certificates are available: Blueprint Reading, Gas Metal Rrc, Gas Tungsten Arc, Oxy-acetylene, Pipewelding, Shielded Metal Arc and Structural Welding. See Certificate section starting on page 75.

Certificates of Specialization

Accounting Certificate I

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

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

Required Courses

ACCT101	Principles of Accounting I	4
ACCT102	Principles of Accounting II	4
ACCT351	Financial Accounting/Computers	3
BSAD223	Business/Financial Math	3
COMS181	Intro to Computer Literacy	3
OFFC324	Office Calculators	1

Option Courses–Select 1 Course From Option 1

ACCT206	Income Tax	Opt1	3
ACCT411	Payroll Accounting	Opt1	3

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

These credits are applicable to the AAS degree in Accounting Specialist. The majority of these credits are also applicable to the AS degree in Accounting Paraprofessional and the Accounting and Bookkeeping diploma.

Accounting Certificate II

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

Technical courses in intermediate accounting, computers and cost accounting allow students to seek advanced level placement in some cases.

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

Required Courses

ACCT101	Principles of Accounting I	4
ACCT102	Principles of Accounting II	4
ACCT103	Intermediate Accounting I	4
ACCT203	Cost Accounting	4
ACCT351	Financial Accounting/Computers	3
ACCT352	Excel - Accounting Principles	3
BSAD223	Business/Financial Math	3
COMS181	Intro to Computer Literacy	3
OFFC324	Office Calculators	1

Option Courses–Select 1 Course From Each Option

ENGL117	Composition I	Opt1	3
OFFC205	Business English	Opt1	3
ENGL118	Composition II	Opt2	3
ENGL119	Technical and Business Writing	Opt2	3
ENGL410	Communication Skills	Opt2	3
ACCT104	Intermediate Accounting II	Opt3	4
ACCT105	Nonprofit Accounting	Opt3	3
ACCT308	Managerial Acct for Non-Accountants	Opt4	3
ACCT206	Income Tax	Opt4	3
ACCT411	Payroll Accounting	Opt4	3

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

The majority of these credits are also applicable to the AAS degree in Accounting Specialist and the AS degree in Accounting Paraprofessional.

Agri-Business - Agronomy

The Agronomy certificate prepares the student for an entry-level position in the agronomic field. Upon completion, the successful candidate will be able to formulate fertilizers, identify weeds, insects and soil nutrient deficiencies. Marketing skills will be enhanced through the application of enterprise analysis and current commodity management tools.

The course work within this certificate will serve as a strong preparatory base for the "Certified Crop Advisor" (CCA) program.

Required Courses

AGRI202	Crop Scouting	3
AGRI206	Crop Management	3
AGRI209*	Soils Laboratory	1
AGRI216	Commodity Marketing	3
AGRI217	Precision Agriculture Applications	3
AGRI219	Soils and Fertilizers	3
AGRI306	Advanced Crop Management	3

Option Courses.–Select 1 Course from Option 1

AGRI421	Chemical Technology	Opt1	3
AGRI430	Agribusiness Internship I	Opt1	2
AGRI436	Grain Management	Opt1	2

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

Agri-Business - Animal Science

The Animal Science certificate prepares the student for an entry-level position in the livestock industry. Upon completion, the successful candidate will be able to formulate livestock rations, identify common diseases and select appropriate facilities for livestock handling. Marketing skills will be enhanced through the application of enterprise analysis and current commodity management tools.

Required Courses

AGRI201	Feeding and Animal Nutrition I	3
AGRI203	Feeding and Animal Nutrition II	3
AGRI204*	Animal Science	3
AGRI207	Livestock Disease Prevention	3
AGRI216	Commodity Marketing	3
AGRI430	Agribusiness Internship I	2

Option Courses–Select 1 Course from Option 1

AGRI304	Swine Production and Management	Opt1	3
AGRI305	Beef Production and Management	Opt1	3

Total credits required to complete this certificate **20**

Agri-Business - Farm Management

The Farm Management certificate prepares the student for an entry-level position in farm management. Upon completion, the successful candidate will be able to operate an entrepreneurial enterprise in the crop or livestock industry. Marketing skills will be enhanced through the application of enterprise analysis and current commodity management tools.

Required Courses

AGRI202	Crop Scouting	3
AGRI204*	Animal Science	3
AGRI206	Crop Management	3
AGRI216	Commodity Marketing	3
AGRI323	Farm Management	3
AGRI411	Agricultural Economics	3

Option Courses–Select 1 Course from Option 1

ACCT301*	Accounting Fundamentals	Opt1	3
AGRI430	Agribusiness Internship I	Opt1	2
BUSL101	Business Law	Opt1	3
COMS181	Introduction to Computer Literacy	Opt1	3

Total credits required to complete this certificate **20**

Programs Available

Certificates of Specialization

Agri-Business - Sales/Service

The Sales/Service certificate prepares the student for an entry-level position in the agricultural sales and service industry. Upon completion, the successful candidate will be able to utilize a general knowledge of the industry to more effectively serve the customers within the sales and service sector. Marketing skills will be enhanced through the application of enterprise analysis and management tools.

Required Courses

AGRI204*	Animal Science	3
AGRI206	Crop Management	3
AGRI216	Commodity Marketing	3
AGRI322	Agribusiness Management	3
AGRI411	Agricultural Economics	3
MKTG103*	Principles of Selling	3

Option Courses– Select 1 Course from Option 1

AGRI430	Agribusiness Internship I	Opt1	2
BUSL101	Business Law	Opt1	3
COMS181	Introduction to Computer Literacy	Opt1	3
MGMT203	Human Relations in Business	Opt1	3
PSCH101	General Psychology	Opt1	3
SOCY101	Introduction to Sociology	Opt1	3

Total credits required to complete this certificate **20**

Airbrush Art

The purpose of the Airbrush Art certificate is to provide design theory and practice in the techniques of airbrush regardless of the specialized application.

Airbrush is used in practically every phase of the commercial art field--in illustration, such as figure, mechanical, advertising, architectural and technical illustration; and in design, such as textile, plastic products, greeting cards and posters.

Required Courses

CART449	Airbrush I	4
CART451	Airbrush II	4

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

Building Maintenance

The Building Maintenance certificate is a series of job related courses which provide a person with an understanding of how to keep a commercial or industrial type of building operating efficiently and effectively. Skill training enables a maintenance specialist to do the job from the first day of employment.

Required Courses

BLDM325	Boiler Room Maintenance	1
ELEM325	General Electricity	3

Option Courses–Select 3 Credits From Option 1

BLDM326	Steam Plant Operations	Opt1	2
BLDM329	Basic Plumbing	Opt1	2
HLCR314	Emergency Care	Opt1	1

Total credits required to complete this certificate **7**

Chemical Dependency Counseling

This one year certificate is offered cooperatively with Powell Chemical Dependency Center (Powell CDC) at Iowa Lutheran Hospital.

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

Please Note: A limited number of practicum/field experience spaces are available at Powell CDC. Powell CDC reserves the right to establish admissions procedures and select their practicum/field experience students. Powell CDC charges a fee for their practicum training. This is in addition to the usual tuition and fees paid to DMACC for the required credit course work.

For information about and admission procedures for the practicum phase, contact Training Coordinator, Powell CDC, Iowa Lutheran Hospital, 700 East University, Des Moines, Iowa 50316-2392.

Required Courses

ENGL117	Composition I	3
HUMS109	Survey Mental Health Treatment	3
HUMS202	Interviewing/Interpersonal Relations	3
HUMS205	Intervention Theories/Practice I	3
HUMS206	Intervention Theories/Practice II	3
HUMS208	Field Experience	3
HUMS213	Practicum: Chemical Dependency Counsel I	6
HUMS214	Practicum: Chemical Dependency Counsel II	3
HUMS216	Survey of Addictive Disease	3

Option Courses–Select 1 Course From Each Option

BIOL127	Human Biology	Opt1	3
PSCH103	Developmental Psychology	Opt1	3
PSCH104	Abnormal Psychology	Opt1	3
SOCY102	Social Issues	Opt1	3
SPCH110	Fundamentals of Speech	Opt1	3
PSCH103	Developmental Psychology	Opt2	3
PSCH104	Abnormal Psychology	Opt2	3

Total credits required to complete this certificate **36**

Computer Applications

The Computer Applications certificate provides students with a basic understanding of the computer applications that may be performed in an office. A student will be able to use the following applications: word processing, data base, desktop publishing, graphics, presentation, spreadsheet, e-mail, internet and operating systems.

Required Courses

OFFC305	Word Processing Skill Dev I	4
OFFC306	Word Processing Skill Dev II	3
OFFC355	Computer Applications	3
OFFC356	Advanced Computer Applications	3
DATA110	Computer Network Literacy	3

Total credits required to complete this certificate **16**

These credits are also applicable to the diploma in Office Assistant and the AAS degree in Administrative Assistant.

Programs Available

Certificates of Specialization

Computer Languages

The purpose of the Computer Languages certificate is to provide the student who is presently employed in computer operations or who has strong business computer applications experience in word processing, spreadsheets and databases with the knowledge of how to design, write and execute computer programs to solve specific business problems.

Required Courses

ACCT101	Principles of Accounting I	4
COMS111	Computers and Program Logic	3
COMS125	Business Programming COBOL I	3
COMS181	Intro to Computer Literacy	3
DATA306	COBOL-Intermediate	4
DATA382	Systems Analysis	4

Option Courses–Select a Minimum of 6 Credits

DATA103	Visual BASIC Programming	Opt1	3
DATA104	Advanced Visual BASIC	Opt1	3
DATA106	Microcomputers in Business	Opt1	3
DATA110	Computer Network Literacy	Opt1	3
DATA301	DOS Job Control	Opt1	4
DATA308	COBOL - Advanced	Opt1	3
DATA309	COBOL on the World Wide Web	Opt1	3
DATA318	Intro to C++ Programming	Opt1	3
DATA319	Assembler Beginning	Opt1	4
DATA320	Advanced C++	Opt1	3
DATA321	Assembler Intermediate	Opt1	4
DATA327	Advanced Assembler	Opt1	4
DATA341	Introduction to Databases	Opt1	3
DATA343	Introduction to SQL	Opt1	3
DATA349	Advanced PL/SQL Program Units	Opt1	3
DATA350	Relational Database Design	Opt1	3

Total credits required to complete this certificate **27**

These credits are applicable to the AAS degree in Computer Programming

Data Entry I

The purpose of the Data Entry I certificate is to provide classroom and simulated office experience in preparation for entry-level employment for data entry operators.

Graduates of the Data Entry I program locate employment in public and private organizations and agencies of all sizes and missions. Beyond entry-level positions as operators, one may advance to department supervisor.

Required Courses

COOP220	Career-Seeking Skills	2
MGMT203	Human Relations in Business	3
OFFC312	Data Entry	3

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

Database Specialist

The purpose of the Database Specialist certificate is to add to the specialization of study at DMACC. This certificate can also assist the student to prepare for Oracle certification as an Oracle Application Developer which is desirable for positions in the database area.

Many of the courses used in this certificate curriculum are also optional courses in the Computer Programming AAS degree. This certificate will allow the student to better select the focus of study and compliment the AAS Computer Programming degree.

Required Courses

COMS111	Computers and Program Logic	3
COMS125	Business Programming - COBOL I	3
COMS181	Intro to Computer Literacy	3
DATA341	Introduction to Databases	3
DATA343	Introduction to SQL	3
DATA349	Advanced PL/SQL Program Units	3
DATA350	Relational Database Design	3

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

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

Dietary Manager Specialist

The Dietary Manager is responsible for the management of food operations in a dietary department. This includes the management of food service personnel, food/kitchen supplies and the routine nutritional aspects of food service. Working with a dietary consultant, the dietary manager assists in providing quality nutritional care services in a food service department, hospital and health care facilities. All students must attend a Dietary Manager Specialist program orientation.

Required Courses

DMAS350	Health Field	1
DMAS351	Food Preparation	1
DMAS352	Sanitation/Meal Service	2
DMAS353	Nutrition Life Cycle	1
DMAS354	Modified Diets	1
DMAS355	Food Production Management	1
DMAS356	Food Service Management	2
DMAS361	Food Prep Field Experience	1
DMAS362	Sanitation/Meal Service Field Experience	1
DMAS363	Nutrition Life Cycle Field Experience	1
DMAS364	Modified Diet/Field Experience	1
DMAS365	Food Production Field Experience	1
DMAS366	Food Service Mgmt Field Experience	1

Total credits required to complete this certificate **15**

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 the area hospitals. National Registry Certification tests will be administered at course completion in both the written and skill areas. Area ambulance units utilize EMT-B's.

Required Course

HLCR307	Emergency Medical Tech Basic	6

Programs Available

Entrepreneurship

The Entrepreneurship certificate introduces the student to creative and tested ways to start and operate a small business. Innovative marketing strategies, creative financing methods and employee development skills are emphasized in the program. Both day and evening courses are offered and all course work transfers into the one- year Entrepreneurship program.

Required Courses

BSEN303	Small Business Marketing	3
BSEN304	Small Business Start-Up	3
BSEN229	Small Business Management	3

Option Courses–Select 1 Course From Each Option

ACCT101	Principles of Accounting I	Opt1	4
ACCT301	Accounting Fundamentals	Opt1	3
BSEN302	Small Business Management Strategies	Opt2	3
BUSL310	Basic Law for the Entrepreneur	Opt2	2
ACCT351	Financial Accounting/Computers	Opt3	3
BSEN305	E-Commerce on the Web	Opt3	3

Total credits required to complete this certificate 17

Fashion

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

Required Courses

MKTG231	Fashion Analysis & Design	3
MKTG323	Visual Merchandising/Design	2
MKTG332*	Textiles	3
MKTG321	Retail Management I	3
MKTG103*	Principles of Selling	3

Total credits required to complete this certificate 14

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

Fire Specialist

The Fire Specialist certificate provides basic technical knowledge for people working in the fire protection field.

Course work covers the scientific principles that affect fire, its causes and behavior and the means of minimizing its destructive effects through design, detection, suppression and prevention.

Required Courses

FIRE241	Fire Behavior and Investigation	3
FIRE242	Property Insurance and Fraud Investigation	3
FIRE243	Building Construction	3
FIRE244	Fire Protection Systems	3
FIRE245	Hazardous Materials	3
FIRE247	Planning for Fire Protection	3
FIRE248	Emergency Scene Management	3

Total credits required to complete this certificate 21

Graphic Arts

The Graphic Arts certificate is designed for individuals with prior graphic arts experience who are looking to update their skills or are seeking advancement in the graphic arts/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 duplicators, process camera techniques, film assembly and carrier preparation, as well as offset press, advanced camera, contacting and four-color stripping.

Required Courses

GRPH410	Press I	4
GRPH412	Graphic Prepress I	4
GRPH413	Graphic Prepress II	4
GRPH420	Press II	4
GRPH421	Electronic Prepress I	4
GRPH426	Graphic Arts Design II	4

Total credits required to complete this certificate 24

Greenhouse Production

The Greenhouse Production certificate will allow students to earn recognition for work completed in the area of greenhouse production. This certificate will provide students with the opportunity to develop specific skills related to horticulture chemicals, botany and greenhouse production techniques.

Required Courses

AGRI209	Soils Laboratory	1
AGRI219	Soils & Fertilizers	3
COMH410	Intro to Greenhouse	3
COMH411	Horticulture Chemical Techniques	2
COMH450	Botany	3
COMH478	Plant Propagation I	3
COMH490	Greenhouse Production Techniques	3
MATH410	Mathematics for Technicians I	3

Total credits required to complete this certificate 21

These credits are applicable to the AAS degree in Commercial Horticulture

Health Services Management

The purpose of the Health Services Management Specialist Certificate is to provide course work to qualify individuals for mid-management positions in the health care field. Mid-managers may be responsible for budgeting, staffing, supervision, management, human resources and staff development. This is for individuals in medical offices, acute care, long-term care, health insurance and managed care.

IMPORTANT NOTE: Students are strongly advised to contact one of the staff members of Health Care Administration in Bldg. 6, Room 16A on the Ankeny Campus or call 515-964-6814 or 515-964-6262 for additional information.

Required Courses

HCAD260	Health Services Management Field Experience	3
HCAD274	Law and Ethics in Health Care	3
HCAD278	Management in Health Care	3
HCAD279	Health Care Human Resources	3
HCAD280	Health Care Delivery Systems	2

Option Courses–Select 1 Course from Option 1 and 10 Credits from Option 2

ACCT101	Principles of Accounting I	Opt1	4
ACCT301	Accounting Fundamentals	Opt1	3
COOP220	Career Seeking Skills	Opt2	2
HCAD238	Health Care Financial Management	Opt2	3
HCAD239	Information Systems in Health Care	Opt2	2
HCAD248	Quality Improvement in Health Care	Opt2	3

Programs Available

Certificates of Specialization

HCAD282	Services for Long-Term Care	Opt2	2
HCAD283	Regulatory Management	Opt2	2
HCAD285	Case Management	Opt2	2
MEDA462	Medical Terminology	Opt2	1
OFFC326	Medical Insurance	Opt2	3
SOCY105	Race, Ethnic and Gender Roles	Opt2	3
SOCY204	Social Gerontology	Opt2	4
SOCY205	Issues in Aging	Opt2	2
SPAN101	Elementary Spanish I	Opt2	4
Total credits required to complete this certificate			**27**

Information Processing Support

The Information Processing Support certificate prepares students for an entry-level position in an office emphasizing information support. This curriculum includes business English and written communications. Students receive training on computers using office software applications with an emphasis on word processing.

Required Courses

OFFC205	Business English	3
OFFC206	Business Correspondence Techniques	3
OFFC305	Word Processing Skill Development I	4
OFFC306	Word Processing Skill Development II	3
OFFC355	Computer Applications	3
OFFC356	Advanced Computer Applications	3
Total credits required to complete this certificate		**19**

These credits are also applicable to the diploma in Office Assistant and the AAS degree in Administrative Assistant.

Interior Design Consultant

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

Required Courses

MKTG102	Principles of Marketing	3
MKTG103	Principles of Selling	3
MKTG234	Interior Design Analysis	3
MKTG235	Interior Design Planning	3
MKTG323	Visual Merchandising/Design	2
MKTG332	Textiles	3
Total credits required to complete this certificate		**17**

These credits are applicable to the Fashion diploma or the AAS degree in Fashion/Design

Landscape Design

The Landscape Design certificate will allow students to earn recognition for work completed in the area of landscape design. This certificate will provide students with the opportunity to develop specific skills related to plant materials, construction techniques and design.

Required Courses

AGRI209	Soils Laboratory	1
AGRI219	Soils & Fertilizers	3
COMH440	Landscape Design I	3
COMH441	Landscape Drafting	1
COMH450	Botany	3
COMH453	Landscape Design II	2
COMH486	Construction, Safety & Maintenance	2
COMH488	Woody Plant Materials	3
COMH489	Herbaceous Plant Materials	3
Total credits required to complete this certificate		**21**

These credits are applicable to the AAS degree in Commercial Horticulture

Legal Assistant

The Legal Assistant certificate is for students with a Bachelor's Degree, Associate in Science, or Associate of Arts Degree who wish to work as a legal assistant. A legal assistant performs a variety of legal tasks and provides a broad spectrum of services for attorneys in private practice, state agencies and public service organizations. The legal assistant works with the attorney in virtually every aspect of the legal profession except giving advice or representing clients in court (the actual practice of law). To earn a Legal Assistant certificate, a student must submit proof of having earned a prior degree. Students must receive a grade of "C" or above in all LEGA course work.

Required Courses

LEGA240	Introduction to Law	3
LEGA242	Torts & Litigation I	3
LEGA246	Business & Corporate Law I	3
LEGA250	Legal Internship & Ethics	4
LEGA260	Legal Research & Writing I	3
LEGA261	Legal Research & Writing II	3

Option Courses–Select 15 Credits From Option 1

LEGA243	Torts & Litigation II	Opt1	3
LEGA244	Family Law	Opt1	3
LEGA247	Business & Corporate Law II	Opt1	3
LEGA248	Real Estate Law	Opt1	3
LEGA249	Probate Procedure	Opt1	3
LEGA251	Wills, Estate Planning & Taxation	Opt1	3
LEGA252	Administrative Practice	Opt1	3
LEGA254	Evidence: Theory & Practice	Opt1	3
LEGA256	Debtor/Creditor Law	Opt1	3
LEGA258	Computerized Legal Research	Opt1	1
LEGA259	Advanced Legal Research & Writing	Opt1	3
LEGA265	Mediation	Opt1	3
ACCT206	Income Tax	Opt1	3
COMS181	Intro to Computer Literacy	Opt1	3
CRIM104	Criminal Law	Opt1	3
CRIM105	Constitutional Law	Opt1	3
HUMS202	Interviewing/Interpersonal Relations	Opt1	3
Total credits required to complete this certificate			**34**

Long Term Care Administrator

The Long Term Care Administrator Specialist certificate is for students with prior degrees who desire eligibility to sit for Nursing Home Administrator Licensure. The student must also meet the Iowa Board of Examiners for Nursing Home Administrator equivalency requirements which includes verification of a four-year degree.

IMPORTANT NOTE: Students are strongly advised to contact one of the staff members of Health Care Administration in Bldg. 6, Room 16A on the Ankeny Campus or call 515-964-6814 or 515-964-6262 for additional information.

Required Courses

HCAD278	Management in Health Care	3
HCAD279	Health Care Human Resources	3
HCAD280	Health Care Delivery Systems	2
HCAD282	Services for Long-Term Care	2
HCAD283	Regulatory Management	2
SOCY204	Social Gerontology/Applications	4
SOCY205	Issues in Aging	2
HCAD251	Pract.: Social Services	1
HCAD252	Pract.: Dietary	1
HCAD253	Pract.: Legal Aspects/Gov't Organization	1
HCAD265	Practicum: Seminar	1
HCAD254	Pract.: Nursing	1
HCAD255	Pract.: Environmental Services	1
HCAD256	Pract: Activities/Community Resources	1
HCAD265	Practicum: Seminar	1
HCAD257	Pract: Business Administration	1
HCAD258	Pract: Administrative Organization	1
HCAD259	Pract: Human Resource Management	1
HCAD265	Practicum: Seminar	1
Total credits required to complete this certificate		**30**

Programs Available

Management

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

Required Courses

MGMT101	Supervisory Management	3
MGMT102	Introduction to Management	3
BSAD150	Intro to Business	3
BUSL101	Business Law I	3
COMS181	Intro to Computer Literacy	3

Option Courses–Select 1 Course From Each Option

BSEN305	E-commerce on the Web	Opt1	3
MGMT103	Sales Management	Opt1	3
MGMT153	Office Management	Opt1	3
MGMT241	Production Management	Opt1	3
MGMT250	Fundamentals of Purchasing Mgmt	Opt1	3
MKTG211	Business Marketing	Opt1	3
MKTG321	Retail Management I	Opt1	3
BSEN229	Small Business Management	Opt1	3
ACCT101	Principles of Accounting I	Opt2	4
ACCT301	Accounting Fundamentals	Opt2	3
ENGL117	Composition I	Opt3	3
ENGL410	Communication Skills	Opt3	3
MGMT203	Human Relations in Business	Opt4	3
PSCH101	General Psychology	Opt4	3
BSAD223	Business/Financial Math	Opt5	3
MATH115	Finite Math	Opt5	4

Total credits required to complete this certificate **30**

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

Medical Transcriptionist

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

Required Courses

OFFC349	WORD	1
OFFC221	Medical Terminology I	3
OFFC430	Medical Transcription I	3
OFFC222	Medical Terminology II	3
OFFC431	Medical Transcription II	3
OFFC320	Human Body-Health and Disease	3
OFFC223	Medical Transcription III	3

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

The majority of these credits are also applicable to the AAS degree in Medical Administrative Assistant.

Microcomputers

This certificate is designed for people who desire to learn about operating and networking systems and who have strong business computer applications skills in word processing, spreadsheets and databases. It is most appropriate for people employed in small businesses where the employer wants their employee to upgrade their business computer applications skills and assume responsibility for a network.

Required Courses

BSAD150	Intro to Business	3
COMS111	Computers and Program Logic	3
COMS125	Business COBOL I	3
COMS181	Intro to Computer Literacy	3
DATA110	Computer Network Literacy	3

Option Courses - Select a Minimum of 6 Credits

ACCT101	Principles of Accounting I	Opt1	4
ACCT102	Principles of Accounting II	Opt1	4
ACCT351	Financial Accounting/Computers	Opt1	3
ACCT352	Managerial Acct/Computers	Opt1	3
COMS126	Business Programming COBOL II	Opt1	4
DATA103	Visual BASIC Programming	Opt1	3
DATA104	Advanced Visual BASIC	Opt1	3
DATA318	C++ Programming	Opt1	3
DATA320	Advanced C++	Opt1	3
DATA341	Introduction to Databases	Opt1	3
DATA343	Introduction to SQL	Opt1	3
DATA349	Advanced PL/SQ: Program Units	Opt1	3
DATA350	Relational Database Design	Opt1	3

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

The majority of these credits are applicable to the AS degree in Accounting Information Systems.

Nurse Aide

The Nursing Assistant Specialist Certificate is designed for individuals seeking employment in any health care setting. The skills and knowledge learned will meet the requirements of many job titles from Psychology Tech to Emergency Department Tech. You will earn from $7.00-$12.00 per hour. You will be drug free and have no criminal or felony record. You will need to be flexible and be able to take direction and be a team member. A uniform is required.

Required Courses

HLCR314	Emergency Care	1
	and	
HLCR324	Nursing Assistant 120 Hours	6
	or	
	The following two courses:	
NRAO301	Nurse Aide 75 Hours	3
NRAO333	Advanced Nurse Aide	3

Option Courses–Select 1 Course From Option 1

HLCR331	Home Health Aide	Opt1	1
MEDA462	Medical Terminology	Opt1	1

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

Programs Available

Certificates of Specialization

Office Specialist

The Office Specialist certificate provides students with basic entry-level skills for office support positions. These skills include computer operations, business English, human relations and office calculators. Students who complete all courses will qualify for a variety of entry-level clerical positions.

Required Courses

BSAD223	Business/Financial Math	3
MGMT203	Human Relations in Business	3
OFFC205	Business English	3
OFFC305	Word Processing Skill Dev I	4
OFFC324	Office Calculators	1
OFFC355	Computer Applications	3

Total credits required to complete this certificate 17

These credits are applicable to the AAS degree in Administrative Assistant and the diploma in Office Assistant.

Phlebotomy

A phlebotomist draws blood from patients for diagnostic medical tests. Most phlebotomists are employed in hospitals. The program runs approximately 9 weeks and is offered fall and spring term.

Background checks for criminal history will be done and results will be shared with cooperating agencies which may prevent placement for clinical practicum. This will affect successful program completion.

NOTE: Proof of immunizations required prior to beginning of clinical rotation.

Required Course

MLTS403	Principles of Phlebotomy	2
PHLE320	Phlebotomy Clinical	2

Production Art

The purpose of the Production Art certificate is to provide training for entry-level positions as production artists in large printing and publishing companies and companies with small publications departments.

Required Courses

CART407	Production Art I	3
CART415	Production Art II	3

Total credits required to complete this certificate 6

Residential Care Facility Administrator

The purpose of the Residential Care Facility Administrator certificate is to provide course work to qualify individuals to be administrators of residential care facilities. Administrators are generally responsible for budgeting and staffing, as well as developing programs for the care and supervision of residents. Select option 1 courses, with a focus on Mentally Retarded/Developmentally Disabled Residents or option 2 courses, with a focus on Geriatric Residents.

IMPORTANT NOTE: Students are strongly advised to contact one of the staff members of Health Care Administration in Bldg. 6, Room 16A on the Ankeny Campus or call 515-964-6814 or 515-964-6262 for additional information.

Required Courses

ACCT301	Accounting Fundamentals	3
ENGL117	Composition I	3
HCAD274	Law and Ethics in Health Care	3
HCAD278	Management in Health Care	3
HCAD279	Health Care Human Resources	3

Option Courses–Select One Of The Following Options

HCAD227	Integrating Comm Serv-MH/MR/DD	Opt1	4
HCAD277	Serv Delivery Systems-MH/MR/DD	Opt1	5
PSCH104	Abnormal Psychology	Opt1	3
HCAD280	Health Care Delivery Systems	Opt2	2
HCAD282	Services for Long-Term Care	Opt2	2
PSCH101	General Psychology	Opt2	3
SOCY101	Introduction to Sociology	Opt2	3
SOCY204	Social Gerontology/Applications	Opt2	4

Total minimum credits required to complete this certificate 29

Retailing

The Retailing certificate offers skills for entering the world of retail marketing and merchandising and for those already employed who wish to move to higher levels of responsibility.

A growing number of job openings exist for those who want a career that is both challenging and rewarding.

Required Courses

MKTG321	Retail Management I	3
MKTG103*	Principles of Selling	3
MKTG323	Visual Merchandising/Design	2
MGMT407	Leadership Strategies in Business	1

Total credits required to complete this certificate 9

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

Sales

The purpose of the Sales certificate is to provide persons with knowledge of the basic principles of selling and marketing and the elements of human relations and communication required to enter the field of selling. This program is offered both during the evening and the day.

Required Courses

MKTG103*	Principles of Selling	3
MKTG102	Principles of Marketing	3
MGMT406	Relationship Strategies in Business	2
MGMT407	Leadership Strategies in Business	1

Option Courses–Select 1 Course From Each Option

ENGL117	Composition I	Opt1	3
ENGL410	Communication Skills	Opt1	3
MGMT203	Human Relations in Business	Opt2	3
PSCH101	General Psychology	Opt2	3

Total credits required to complete this certificate 15

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

Security and Safety Specialist

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

Required Courses

CRIM105	Constitutional Law	3
FIRE241	Fire Behavior and Investigation	3
FIRE244	Fire Protection Systems	3
FIRE248	Emergency Scene Management	3
SFTY302	Accident Investigation & Worker Comp.	3
SFTY310	Regulatory Safety Standards & Req.	3
CRIM273	Introduction to Security	3

Total credits required to complete this certificate 21

Programs Available

Certificates of Specialization

Small Animal Care

The Small Animal Care certificate will prepare students for a career working with animals in settings such as a pet shop, animal control agency, boarding kennel, grooming salon or a veterinarian clinic.

Students who complete this curriculum will earn a certificate of specialization. This certificate will allow students to receive a level of completion as part of their career exploration efforts. These students will be required to take additional general education courses and meet program entrance requirements to be considered for full program status.

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

   ACT scores or transferred composition course work from another institution may be submitted in lieu of the COMPASS placement exam. If you choose this option, make sure an original transcript is sent from your previous institution to the Credentials Office at Des Moines Area Community College.
3. Biology Competency Exam: All applicants must take this exam and receive a minimum score of 30. A photo identification and password is required for entrance to the exam. Your password will be mailed to you and you will need to bring it with you when you come to campus to take the exam.
4. Program Conferences: Each applicant must schedule a 30-minute conference with the Veterinary Technician program counselor, or the Chairperson of the Agriculture and Natural Resources Department. Please call 515-364-6866 to make an appointment. No walk-in conferences will be held. Applicants must bring the test scores from the Compass exam/ACT scores/copy of previous college transcript and the Biology competency exam with them to the conference.

Required Courses

AGRI201	Feeding & Animal Nutrition I	3
AGRI340	Veterinary Medical Terminology	1
AGRI341	Intro to Veterinary Pharmacology	1
AGRI342	Intro to Veterinary Technology	1
AGRI343	Veterinary Anatomy & Physiology	3
AGRI344	Anesthesia & Surgical Assistance	3
AGRI345	Veterinary Clinic Pathology I	3
AGRI349	Introduction to Animal Diseases	1
AGRI350	Clinical Mgmt of Domestic Species	2
AGRI431	Veterinary Assistant Internship	1
Total credits required to complete this certificate		**19**

Supervision

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

Required Courses

MGMT101	Supervisory Management	3
MGMT102	Introduction to Management	3

Option Courses–Select 6 Credits From Option 1 And 1 Course From Option 2 and 3

BSAD150	Intro to Business	Opt1	3
BSEN229	Small Business Management	Opt1	3
BSEN305	E-commerce on the Web	Opt1	3
MGMT103	Sales Management	Opt1	3
MGMT153	Office Management	Opt1	3
MGMT341	Business Internship I	Opt1	6
MKTG103*	Principles of Selling	Opt1	3
MKTG211	Business Marketing	Opt1	3
MGMT250	Fundamentals of Purchasing Mgmt	Opt1	3
MKTG321	Retail Management I	Opt1	3
ENGL117	Composition I	Opt2	3
ENGL410	Communication Skills	Opt2	3
MGMT203	Human Relations in Business	Opt3	3
PSCH101	General Psychology	Opt3	3
Total credits required to complete this certificate			**18**

These credits are also applicable to the diploma in Sales & Management, the AAS degree in Management and the AAS degree in Marketing.

Technical Management

The Technical Management certificate is designed for employed workers who seek skills in a manufacturing environment. The emphasis in the program is on course work which is directly related to supervisory, financial, quantitative and marketing functions which impact the manufacturing supervisor. The program is responsive to requests from industrial training directors.

Required Courses

ACCT101	Principles of Accounting I	4
ACCT102	Principles of Accounting II	4
BSAD152	Business Statistics	4
BSAD243	Quantitative Methods	4
COMS181	Intro to Computer Literacy	3
MGMT102	Introduction to Management	3
MGMT240	Principles of Managerial Finance	3
MGMT241	Production Management	3
MGMT101	Supervisory Management	3
MKTG102	Principles of Marketing	3
Total credits required to complete this certificate		**34**

Telecommunications

This certificate program prepares the student for working in Telecommunications at the entry level. The course work prepares students to work on local installations of communication services in borth business and residential settings. Training includes; installation and repair, line troubleshooting, working aloft and pole climbing.

Required Courses

ELEM451	ACDC Fundamentals	3
ELEM452	ACDC Fundamentals Lab	3
TELE410	Telecommunications I	3
TELE411	Telecommunications Experience I	3
COMS181	Intro to computer Literacy	3
OFFC329	Keyboarding I	1
TELE420	Telecommunications II	4
TELE421	Telecommunications Experience II	4
TELE422	Telecommunications Outside Plant	4
Total credits required to complete this certificate		**29**

Programs Available

Turf Maintenance

The Turf Maintenance certificate will allow students to earn recognition for work completed in the area of turf maintenance. This certificate will provide students with the opportunity to develop specific skills related to the maintenance of such turf grass areas as lawns, parks, sports fields and golf courses.

Required Courses

AGRI209	Soils Laboratory	1
AGRI219	Soils and Fertilizers	3
COMH411	Horticulture Chemical Technology	2
COMH433	Irrigation Systems	2
COMH435	Sports Turf	2
COMH437	Turf I	2
COMH455	Turf II	3
MATH410	Mathematics for Technicians I	3

Option Courses–Select 1 Course from Option 1

BIOL118	Environmental Conservation	Opt1	3
COMH450	Botany	Opt1	3

Total credits required to complete this certificate 21

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 the 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 drop in and out as long as there is space available. Emphasis is placed on skill and knowledge that is required for the student to enter employment in the welding field, or for the student's own personal gain.

Oxy-acetylene Welding

WELD473*	Oxygen-Acetylene Welding/Cutting	2

These credits are applicable to the diploma in Welding

Shielded Metal Arc Welding

WELD474*	Shielded Metal Arc Welding I	2
WELD478	Shielded Metal Arc Welding II	3
WELD479	Shielded Metal Arc Welding III	2
WELD486	Shielded Metal Arc Welding IV	3
WELD487	Shielded Metal Arc Welding V	3
WELD488	Shielded Metal Arc Welding VI	2

Total credits required for Shielded Metal Arc Welding 15

These credits are applicable to the diploma in Welding

Gas Metal Arc Welding

WELD483*	Gas Metal Arc Welding	2

These credits are applicable to the diploma in Welding

Gas Tungsten Arc Welding

WELD493	Gas Tungsten Arc Welding	2

These credits are applicable to the diploma in Welding

Blueprint Reading

WELD481*	Blueprint Reading	3

These credits are applicable to the diploma in Welding

Structural Welding

WELD497	Advanced Shielded Metal Arc Welding I	2
WELD498	Advanced Shielded Metal Arc Welding II	3

Pipe Welding

WELD499	Intro-Shielded Metal Arc Pipe Welding	3

Certificate of Completion

Transportation Institute Commercial Vehicle

Commercial Vehicle Operator Program

The Transportation Institute commercial vehicle operator program is one of approximately 50 in the U.S., which has been certified by the Professional Truck Drivers Institute of America. The 320-hour, non-credit program uses the U.S. Department of Transportation Model Curriculum. Students may complete the program in the daytime in 10 weeks or during the evenings and Saturdays in 16 weeks.

The Institute provides customized programs and services to individuals and companies including: remediation and evaluation services, advanced driver programs, Defensive Driving Course (DDC), driver/dispatcher relationships and driver retention programs. It also offers a 24-hour Train the Trainer Program that allows transportation carriers to qualify their drivers to become certified driver finishers.

RV Safety and Education Program

RV Safety and Education Program Students become confident when traveling in situations they may encounter in the RV lifestyle after receiving training in all phases of driving, maneuvering and backing a recreational vehicle. The RV program is a total of 16 hours, 8 hours in the classroom and 8 hours hands-on driving. Additional driving time and private lessons are available. The program specializes in safety, respect, patience and confidence in a variety of vehicles of all sizes from class A, B, & C motor homes, to fifth-wheel trailers to travel trailers. For students who do not own their own equipment, most varieties are available.

We also have RV (Recreation Vehicle) training and educational programs aimed at present and prospective RV drivers to provide the best information and training possible about RVs and the RV lifestyle. DMACC is the 2nd school nationwide to offer this RV training.

Features

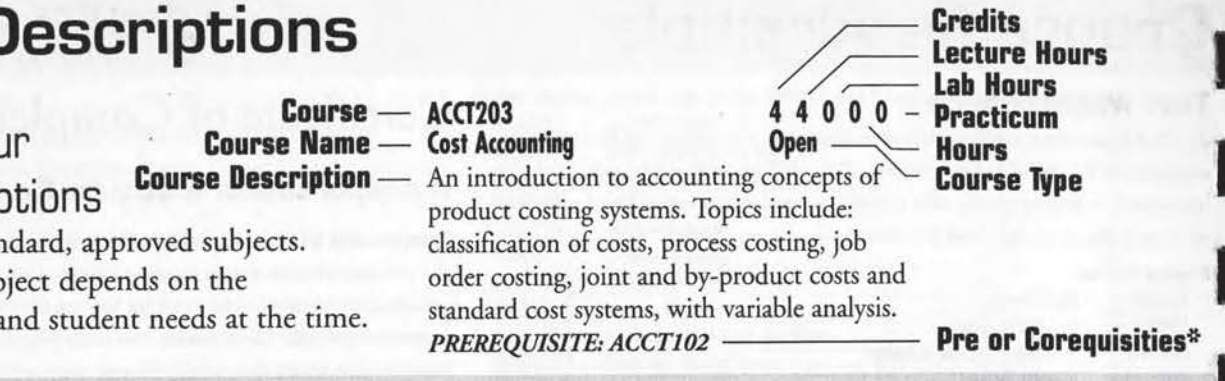
1. Placement with companies prior to beginning of training.
2. Extensive in-truck training with two students per truck ratio.
3. Student loan availability for most students.
4. Graduation with a Commercial Drivers License (CDL)
5. Earning potential - $25,000 - $35,000 first year.
6. Excellent career opportunities within the industry.

Required Courses	Contact Hours
Basic Operations	112.00
Safe Operational Practices	112.75
Advanced Operating Procedures	22.00
Vehicle Maintenance	26.00
Non-Vehicle Activities	47.25

Course Descriptions

How to read our Course Descriptions

The following are standard, approved subjects. Availability of any subject depends on the scheduling, program and student needs at the time.



Adjunct
Adjunct courses may be temporary or experimental and may be used to fulfill elective credit in programs that lead to a degree or diploma. Adjunct courses may not be used to fulfill or substitute for required or option courses in any degree or program.

General
Non-core courses identified as freshman-sophomore courses.

Open
Occupationally specific courses corresponding to courses in certain professional programs at four-year institutions.

Vocational
Occupationally specific courses

Core
Traditional liberal arts courses in the first two years of a baccalaureate degree.

Adaptor
College prep and skill building courses. Adaptor courses cannot be used to fulfill degree requirements.

(P/F)
Indicates courses taken pass/fail.

Prerequisites
Sucessful completion of a course or other criterion necessary for a student to suceed in a higher level course.

Corequisites
A course that must be taken concurrently with or prior to the course.

***An instructor may deny enrollment in or drop a student from a specific courseif the course prerequisite has not been met.**

**** Adaptor Courses cannot be used to fulfill degree requirements**

***** Adjunct Courses cannot be used to fulfill or substitute for required or option courses in any degree or diploma program**

ACCT101 4 4 0 0 0
Principles of Accounting I General
Introduces the student to the principles of accounting with emphasis placed on the users and uses of accounting information. The double-entry bookkeeping system is presented with a focus on the end result of the accounting cycle, the financial statement.

ACCT102 4 4 0 0 0
Principles of Accounting II General
A continuation of Principles of Accounting I. Introduces accounting procedures related to corporations, manufacturing and branch operations. The course also includes an introduction to capital budgeting, analysis of financial statements and decision-making by managers. ***Prerequisite: ACCT101***

ACCT103 4 4 0 0 0
Intermediate Accounting I Open
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: ACCT102

ACCT104 4 4 0 0 0
Intermediate Accounting II Open
Continuation of Intermediate Accounting I, topics include: long-term debt, investments, equity, pensions, leases, accounting changes, earnings per share and accounting for inflation. ***Prerequisite: ACCT103***

ACCT105 3 3 0 0 0
Nonprofit Accounting Open
An introduction to the accounting and reporting principles, standards and procedures applicable to federal, state and local government. Also includes nonprofit institutions such as hospitals and universities.
Prerequisite: ACCT101

ACCT203 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: ACCT102

ACCT206 3 3 0 0 0
Income Tax Open
An introduction to personal income tax. Emphasizes computation of federal and state income taxes and preparation of tax forms.
PREREQUISITES: ACCT101 or ACCT301

ACCT208 - Adjunct*** 3 2 2 0 0
Tax Assistance Institute Voc/Tech
An opportunity to participate in a Volunteer Income Tax Assistance Program by applying classroom skills to actual experience. Includes training to provide community service of free tax assistance and preparation of basic tax returns for older, handicapped and low income taxpayers. ***(P/F) Prerequisite: ACCT206***

ACCT301 3 3 0 0 0
Accounting Fundamentals Open
An introductory course in accounting fundamentals and procedures. Includes capturing and analyzing business data and financial statement preparation.

ACCT308 - Adjunct*** 3 3 0 0 0
Managerial Accounting for Non-Accts Voc/Tech
Managerial Accounting for Non-Accountants is a course designed to provide managers and supervisors with the basic skills essential for interpreting financial statements and financial performance measures. It also covers how the cost of a product or service is determined and the development and use of budgets.

ACCT309 - Adjunct*** 1 0 2 0 0
Computerized Personal Finance Voc/Tech
Hands-on instruction using Quicken. Special features include check writing, balancing statements, preparing financial reports, tracking payments and trying "what if" scenarios with retirement, investments, etc.

ACCT310 3 3 0 0 0
Internal Auditing Voc/Tech
Introduces the activities performed by auditors who function within an organization. Acquaints students with the methods, tools and techniques used by internal staff to evaluate the effectiveness and efficiency of operations. Special attention is given to internal control systems.
Prerequisite: ACCT102

ACCT312 4 4 0 0 0
Accounting Information Systems Voc/Tech
Identifies the information required by accountants as it relates to financial and managerial accounting. It provides an overview of systems design and development process. ***Prerequisite: ACCT102, COMS181***

ACCT314 - Adjunct*** 3 3 0 0 0
Business Tax Voc/Tech
This course provides an overview of the forms of business organization and the fundamentals of taxation for sole proprietorship, C corporations, S corporations, limited liability companies and partnerships. ***Prerequisite: ACCT101***

ACCT351 3 2 2 0 0
Financial Accounting/Computers Voc/Tech
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: ACCT101 or ACCT301

ACCT352 3 2 2 0 0
Excel for Accounting Principles Voc/Tech
Microcomputer operations with an emphasis on financial and managerial uses. Includes topics in spreadsheet modeling, spreadsheet commands.
Prerequisite: ACCT101, COMS181

ACCT390 - Adjunct*** 3 3 0 0 0
Auditing Voc/Tech
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: ACCT103***

ACCT395 - Adjunct*** 3 3 0 0 0
Treasury & Cash Management Voc/Tech
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.

ACCT402 4 0 0 0 16
Accounting Internship Voc/Tech
An opportunity to gain practical experience through on-the-job training in an approved business or governmental office. (P/F)
Prerequisite: Successful completion of 11 hours of ACCT courses Corequisite: ACCT404

ACCT403 3 0 0 0 12
Accounting Internship Open
An opportunity to gain practical experience through on-the-job training in an approved business or governmental office. (P/F)
Prerequisite: Successful completion of 11 hours of ACCT courses
Corequisite: ACCT404

ACCT404 1 1 0 0 0
Accounting Career Seminar Voc/Tech
Designed to provide in-depth discussion of accounting/bookkeeping/accounting technician work experiences. Prerequisite: Successful completion of 11 hours of ACCT credit courses; permission of the department and demonstrable job readiness with computer literacy.
Corequisite: ACCT403

** Adaptor Courses cannot be used to fulfill degree requirements
*** Adjunct Courses cannot be used to fulfill or substitute for required or option courses in any degree or diploma program

Course Descriptions

ACCT408 2 2 0 0 0
Accounting Professionalism Voc/Tech
Develops individual career values and explores opportunities in the accounting profession. Instructs in meeting protocol according to Roberts Rules of Order. Discusses the duties of an accounting professional to the community. Reviews office etiquette and common professional courtesy. *(P/F)*

ACCT411 3 3 0 0 0
Payroll Accounting Voc/Tech
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: ACCT101 or ACCT301*

ACCT430 4 3 2 0 0
Accounting Procedures/Mgmt Voc/Tech
A project approach to accounting systems and records management. Includes topics in receivables, payables, banking records, planning and organizing; leadership, human relations and communications. *Prerequisite: ACCT101, BSAD223, OFFC324*

AGRI201 3 3 0 0 0
Feeding & Animal Nutrition I Voc/Tech
The identification and study of feed ingredients, nutrients and additives. Determine feed requirements of various livestock classes. Ration balancing and feed formulation are computed.

AGRI202 3 2 2 0 0
Crop Scouting Voc/Tech
The course develops an understanding of the factors which affect plant growth. Plant nutrients are considered as students gain experience in identifying major and micro nutrient deficiency symptoms in plants by means of soil tests, plant tests and observations.

AGRI203 3 3 0 0 0
Feeding & Animal Nutrition II Voc/Tech
The practical application of feeding principles. An in-depth study of the various nutrients, their requirements and uses. An analysis of research feeding trials, research procedures and manufacturing terminology. *Prerequisite: AGRI201*

AGRI204 3 3 0 0 0
Animal Science Voc/Tech
An analysis of the livestock industry with emphasis on reproduction, inheritance, performance testing, selection and marketing.

AGRI206 3 3 0 0 0
Crop Management Voc/Tech
An introductory course in the general principles of crop production and management. Major areas of study are food production, crop classification, plant growth factors, seed production and variety selection.

AGRI207 3 3 0 0 0
Livestock Disease Prevention Voc/Tech
A survey of diseases of large domestic animals, including discussion of causes, transmission, prevention and control.

AGRI209 1 0 2 0 0
Soils Laboratory Voc/Tech
An introductory course in soils and nutrients. A study of the physical, chemical and biological properties of soils. Also includes the study of nutrients, land measurement and environmental concerns and soil management. *Corequisite: AGRI219*

AGRI216 3 3 0 0 0
Commodity Marketing Voc/Tech
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 economical marketing tool will be covered.

AGRI217 3 2 2 0 0
Precision Agriculture Applications Voc/Tech
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.

AGRI219 3 3 0 0 0
Soils & Fertilizers Voc/Tech
An extended course in soils and fertilizers. A study of the physical, chemical and biological properties of soils. Also includes the study of fertilizers, their composition, manufacture and use. Corequisite: AGRI209

AGRI222 3 2 2 0 0
Survey of Aquaculture Voc/Tech
A study of the ecology and management of aquaculture systems with emphasis on fish production. A focus on environmental issues relating to water quality will be implemented through laboratory exercises.

AGRI304 3 3 0 0 0
Swine Production & Management Voc/Tech
The practical application of technical information to life-cycle swine production including production systems, breeding and genetics, herd health, housing, marketing, management and nutrition. *Prerequisite: Permission of instructor or AGRI201, 204*

AGRI305 3 3 0 0 0
Beef Production & Management Voc/Tech
The practical application of technical information to life-cycle beef production with emphasis on cow-calf production and feedlot management. *Prerequisite: Permission of instructor or AGRI201, 204*

AGRI306 3 3 0 0 0
Advanced Crop Management Voc/Tech
An advanced course using the problem solving approach to crop management. Principles and practices of agronomic science are used in the discussion of management problems related to corn, soybeans, forage, small grain, sorghum and alternative crops. *Prerequisite: Permission of instructor or AGRI202, 206, 219*

AGRI322 3 3 0 0 0
Agri-Business Management Voc/Tech
A study of the role and organization of several aspects of agribusiness including financial management and control, marketing, operation and resource management in agribusiness.

AGRI323 3 3 0 0 0
Farm Management Voc/Tech
Includes management problem identification and solution using business and economic principles, enterprise and total farm budgeting, adjusting to uncertainty, investment decisions, farm business organization, farm records and business analysis.

AGRI333 3 3 0 0 0
Petroleum Products in Agriculture Voc/Tech
Designed to acquaint students with the petroleum industry and its terminology. Major areas of study will be fuels and lubricants with emphasis on applications and selection, equipment operations, storage and handling procedures and federal regulations.

AGRI340 1 1 0 0 0
Veterinary Medical Terminology Voc/Tech
This course covers the origins of common medical terms used in the veterinary field. Using analysis of the word parts, the students will be able to determine the definition of medical terminology. *Prerequisite: Instructor approval for program admission*

AGRI341 1 1 0 0 0
Intro to Veterinary Pharmacology Voc/Tech
This course covers the laws regarding medication use in the United States and discusses the basic groups of pharmaceuticals and their use in veterinary medicine. This includes dosage calculations, proper labeling, storage, inventory control, record-keeping and dispensing of medications. *Prerequisite: AGRI340*

AGRI342 1 1 0 0 0
Intro to Veterinary Technology Voc/Tech
This course introduces the basics of animal identification, husbandry, behavior, safety and health care to the student. Career opportunities in animal related fields are explored. The student will also complete the American Red Cross Animal First Aid and CPR certification. *Prerequisite: AGRI340*

AGRI343 3 2 2 0 0
Veterinary Anatomy and Physiology Voc/Tech
Beginning anatomy and physiology with veterinary clinical emphasis. Provides the basis for study of conformation, production and pathological processes of diseases of dogs, cats, horses, sheep, cattle, swine and laboratory animals. *Corequisite: AGRI340*

AGRI344 3 2 2 0 0
Anesthesia and Surgical Assistance Voc/Tech
This course is designed to introduce the student to the common surgical procedures performed in the veterinary clinic. Emphasis is placed on sanitation, patient observation, surgical preparation, assisting in anesthesia and post operative patient management. *Prerequisite: AGRI340*

AGRI345 3 2 2 0 0
Veterinary Clinic Pathology I Voc/Tech
This course covers parasite identification and testing and various sample collections, procedures and interpretation for common diagnostic testing performed in the veterinary laboratory. *Prerequisite: AGRI340*

AGRI346 3 2 2 0 0
Adv Veterinary Anatomy Physiology Voc/Tech
Studies anatomy and physiologic principles of domestic animals. Continuation of physiological principles of Animal Anatomy and Physiology. *Prerequisite: AGRI343*

AGRI347 3 2 2 0 0
Veterinary Clinical Pathology II Voc/Tech
This course is designed to further the processes learned in the introductory class with introduction to advanced procedures. *Prerequisite: AGRI345*

AGRI348 3 2 2 0 0
Veterinary Nursing Care Voc/Tech
This course is designed to provide practice for the principles covered in prerequisite classes and to introduce advanced techniques and emergency handling. *Prerequisite: AGRI344*

AGRI349 1 1 0 0 0
Introduction to Animal Diseases Voc/Tech
This course covers the disease processes, primary and contributing causes, treatments and prevention of common medical and surgical diseases in domestic animals. *Corequisite: AGRI340*

AGRI350 2 1 2 0 0
Clinical Mgmt of Domestic Species Voc/Tech
This course covers the management and husbandry of animals housed in a hospital or shelter situation. Proper kennel cleaning and disinfection, record keeping, monitoring of health parameters, nutrition, bathing, administration of common medications and diagnostic sampling. *Prerequisite: AGRI340*

AGRI351 2 1 2 0 0
Clinical Mgmt of Lab & Exotic Species Voc/Tech
This course is designed to introduce the common species, husbandry procedures and basic nutrition, restraint and handling, common diseases, diagnostic procedures and medications used in various laboratory and exotic pet settings. *Prerequisite: AGRI340*

AGRI352 1 1 0 0 0
Advanced Veterinary Pharmacology Voc/Tech
This course is designed to provide advanced knowledge in specific medication classification, usage and effects. *Prerequisite: AGRI341*

AGRI353 3 2 2 0 0
Large Animal Medicine and Surgery Voc/Tech
This course is designed to introduce common species, husbandy and management procedures, proper restraint and handling, common procedures, medication administration and surgical concerns for common species of domestic large animals. *Prerequisite: AGRI344*

Course Descriptions

AGRI354 2 2 0 0 0
Veterinary Radiology Voc/Tech
This course is designed to introduce the student to radiologic imaging. Topics include safety, patient postioning, processing of film, proper machine use and quality control.
Prerequisite: AGRI353

AGRI411 3 3 0 0 0
Agricultural Economics Voc/Tech
A study of economic principles and the application of these principles to the distribution of agricultural supplies.

AGRI421 3 3 0 0 0
Chemical Technology Voc/Tech
Common features of pests, methods of control, how pesticides work, pesticide labels, application equipment, calibration, laws and regulation governing pesticide use.

AGRI430 2 0 0 0 8
Agribusiness Internship I Voc/Tech
Students will have the opportunity to experience an agricultural career through participation in an internship experience. The internship will provide career exploration through a structured evaluation.
Prerequisite: AGRI204 or AGRI206

AGRI431 1 0 0 0 4
Veterinary Assistant Internship Voc/Tech
Students will have the opportunity to experience through participation an internship in a veterinarian related business.
Prerequisite: AGRI340, 341

AGRI432 3 0 0 0 12
Veterinary Technician Internship Voc/Tech
Internship experience within a veterinarian related business with emphasis on animal care procedures. ***Prerequisite: AGRI348, 431***

AGRI436 2 2 0 0 0
Grain Management Voc/Tech
Designed to acquaint the student with the complete cycle of grain from the farm to the country elevator. Major areas of study are the management of facilities, equipment, personnel and finances, warehouse requirements, grain grading, grain conditioning and grain inventory management.

AGRI455 2 0 0 0 8
Agribusiness Internship II Voc/Tech
Students will have the opportunity to participate in an internship within the agribusiness industry. The internship may provide experiences within the agronomic, animal science, management, sales and service sectors that affect the food, fiber and environmental sciences.
Prerequisite: AGRI430

ANTH120 3 3 0 0 0
Introduction to Anthropology Core
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.

ANTH121 3 3 0 0 0
Cultural Anthropology Core
The application of anthropological theory and perspective to the comparison of different types of cultures throughout the world and to the analysis of contemporary human problems. Using ethnographic techniques, students conduct research on selected cultural aspects of the surrounding community.

ANTH126 - Adjunct*** 3 3 0 0 0
Faces of Culture General
A television course in cultural anthropology which 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 which provides for the survival of the species.

ARCH410 2 2 0 0 0
Architectural Drafting I Voc/Tech
An introduction to drafting and related equipment, along with a preliminary look at construction drawings and building codes.

ARCH420 2 2 0 0 0
Architectural Drafting II Voc/Tech
Complete sets of residential working drawings involving plans, elevations, sections, details and schedules will be developed.
Prerequisite: ARCH410, ARCH460, CADD401

ARCH460 3 0 6 0 0
Architectural Drafting Lab I Voc/Tech
Practical application of the basic skills of drafting involving the mechanics and the necessary thought process in developing a set of residential drawings.

ARCH461 3 0 6 0 0
Architectural Drafting Lab II Voc/Tech
Practical application of architectural CAD techniques necessary to develop a set of residential drawings. ***Prerequisite: ARCH410, ARCH460, CADD401***

ARCH462 2 2 0 0 0
Architectural Drafting III Voc/Tech
Commercial building drawings will be developed in CAD. ***Prerequisite: ARCH420***

ARCH463 3 0 6 0 0
Architectural Drafting Lab III Voc/Tech
Involvement in the practical drawing of commercial buildings using architectural CAD techniques. ***Prerequisite: ARCH461***

ARCH464 2 2 0 0 0
Construction Techniques I Voc/Tech
An introduction to building materials through the Construction Specification Institutes' accounting and management systems.

ARCH465 2 2 0 0 0
Building Assemblies II Voc/Tech
This course is a continuation of ARCH473 as an introduction to building assemblies and the relationship of materials within those assemblies. This course continues the focus on the assemblage of materials and is intended to expound upon the material investigation of ARCH470 and ARCH471.
Prerequisite: ARCH473

ARCH470 2 2 0 0 0
Construction Techniques II Voc/Tech
An ongoing look into the Construction Specification Institute's system of categorizing building materials. ***Prerequisite: ARCH464***

ARCH471 3 3 0 0 0
Construction Techniques III Voc/Tech
Complete the Construction Specification Institute's uniform system of design.
Prerequisite: ARCH470

ARCH472 2 2 0 0 0
Construction Estimating Voc/Tech
An orderly process of accounting for the items involved in the construction project.

ARCH473 2 2 0 0 0
Building Assemblies I Voc/Tech
Introduction to building assemblies and the relationship of materials within those assemblies. This course focuses on the assemblage of materials and is intended to expand upon the material investigation of ARCH 464 and ARCH470.

ARCH475 2 2 0 0 0
Technical Report & Specs Voc/Tech
A look into the building codes and contracts used in architecture as well as the technical section called specifications. Study material will include aspects for certification as C.S.I. Construction Document Technologist.

ARTS101 3 3 0 0 0
Art Appreciation Core
A general survey course which explores in chronological sequence many artists, their lives, styles and media. The student will use art to recognize global cultural diversity and connect to universal human experience as expressed through art.

ARTS102 3 0 6 0 0
Fundamentals of Drawing General
Lab study of tools and techniques necessary for entry level visual arts in drawing. Emphasis on still life using gesture, contour, shape, plane, volume and value/tonal techniques. Basic drawing skills with pencil, charcoal and eraser are explored.

ARTS103 3 0 6 0 0
Life Drawing General
Drawing and painting a live model. Emphasis on structure, movement and expression.

ARTS104 3 0 6 0 0
Fundamentals of Painting General
Acrylic painting with emphasis on still life, landscape and individual composition.

ARTS105 3 2 2 0 0
Art in the Elementary School General
Designed for students in Education and Recreation to assist them with design, construction and planning of multi-art forms and materials for instructional situations.

ARTS109 3 3 0 0 0
Design: Exploring Art Media General
An introduction to basic techniques in media such as papermaking, clay, fibers and soft sculptures. Students will explore variety of traditional approaches to express a contemporary vision.

ARTS111 - Adjunct *** 3 0 6 0 0
Landscape Painting General
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.

ARTS112 - Adjunct *** 3 0 6 0 0
Introduction to Ceramics General
Comprehensive "hands-on" introductory experience working clay. The discovery "process" of finding one's unique sense of touch is stressed. Fundamental techniques demonstrated in handbuilding and wheel-thowing. Concepts in ceramic art discussed, connecting cultures, artists and contemporary objects.

ARTS113 - Adjunct *** 3 0 6 0 0
Intermediate Ceramics General
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

ARTS114 - Adjunct *** 3 0 6 0 0
Tilemaking General
Design and fabricate tiles for specific applications, while emphasizing critical process of working with clay. Transforms 2-dimensional drawings to pieces in three dimensions. Study new theories in "Visual Communication".

ARTS115 - Adjunct *** 3 0 6 0 0
Beginning Sculpture General
An introductory level experience in 3-dimensional design aimed at laying a foundational approach to understanding sculpture. Exploring and investigating some basic techniques necessary tools and the selection of materials desired to facilitate the translation of 2-dimensional concepts into physical 3-dimensional facility.

ASDN226 2 1 2 0 0
Nursing Practice II Open
Focuses on advanced nursing skills and health assessment techniques utilized with individuals, families and groups. Methods of care plan revision and nursing roles of the Registered Nurse are investigated.
Prerequisite: BIOL132, 134, ENGL117, NURS224, 225, SPCH117

ASDN227 5 3 0 6 0
Family Health Nursing Open
Provides an in-depth study of pregnancy and it's complications , the high risk infant, acute and chronic illnesses of children and young adults. The student participates in health and illness care in a variety of traditional and community-based settings. ***Prerequisite: BIOL132, 134, ENGL117, NURS224, 225, SPCH117, COREQUISITES: ASDN226***

** Adaptor Courses cannot be used to fulfill degree requirements
*** Adjunct Courses cannot be used to fulfill or substitute for required or option courses in any degree or diploma program

Course Descriptions

ASDN228 5 3 0 6 0
Adult and Older Adult Health Open
Focuses on holistic nursing care using the nursing process. Conditions affecting the health of adults and older adults and their influences on family are examined. Pathophysiology, collaborative care and the nursing roles of advocate and teacher are emphasized. The student practices in a variety of health care settings. ***Prerequisite: BIOL132, 134, ENGL117, NURS224, 225, SPCH117, COREQUISITES: ASDN226***

ASDN229 5 3 0 6 0
Mental Health Nursing Open
Discusses mental health and illness across the life-span emphasizing a holistic viewpoint. The student participates in mental health and illness care to clients in a variety of traditional and community-based settings. ***Prerequisite: BIOL132, 134, ENGL117, NURS224, 225, SPCH117, COREQUISITES: ASDN226***

ASDN230 3 1 0 6 0
Nursing Management Open
Allows the student to discuss issues then apply theoretical concepts of management with a group of clients, peers and subordinates. Communications within organizational structures, principles of conflict resolution, delegation, advocacy and collaboration with health care professionals will be emphasized. ***Prerequisite: ASDN226, 227, 228, 229, SOCY101***

ASDN231 3 1 0 6 0
Nursing Seminar Open
Professional practice is emphasized through the study of professional issues and role development. Includes exposure to research and licensure issues. This course culminates in clinical preceptor and community based experiences which assist the student to formulate a philosophy of practice. ***Prerequisite: ASDN226, 227, 228, 229, SOCY101***

ASEP312 4 3 2 0 0
Specialized Electronics Training Voc/Tech
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***

ASEP317 3 2 2 0 0
GM Shop Fund & Minor Service Voc/Tech
A study of dealership organizational structure as it relates to the technician. Use of service manuals, electronic troubleshooting manuals and service bulletins are practiced. Also provides entry level automotive task competencies. ***Prerequisite: Admission to Automotive Service Educational Program***

ASEP318 4 3 2 0 0
GM Steering/Suspension/Brakes Voc/Tech
Instruction in the theory of operation and service procedures used in the maintenance and repair of General Motors steering, suspension and brake systems.
Prerequisite: Admission to Automotive Service Educational Program

ASEP320 3 0 0 0 18
Technical Internship I Voc/Tech
The technician will work in a participating dealership. The work will be full-time approximately 40 hours per week. The tasks will be consistent with the technician's ability and previous course work. A task list will be issued to each dealer.
Prerequisite: ASEP312, 317, 318

ASEP326 3 2 2 0 0
GM Auto Air Conditioning Systems Voc/Tech
Theory of operation of General Motors air conditioning systems leading to the diagnosis, service and repair of current models of GM vehicles.
Prerequisite: ASEP312, 317

ASEP327 3 2 2 0 0
Minor Service/Repair-GM Engines Voc/Tech
Principles of operation of General Motors engines. Minor service procedures and engine component repair or replacement will be emphasized. Will also include diagnostic procedures. ***Prerequisite: ASEP317, AUTO464***

ASEP328 3 2 2 0 0
Diagnosis/Repair-GM Electrical Sys Voc/Tech
Instruction in the diagnosis, repair and service of electrical and electronic components and accessories used on current GM vehicles. ***Prerequisite: ASEP312, 317***

ASEP330 3 0 0 0 18
Technical Internship II Voc/Tech
Work experience at a participating dealership. The tasks will be consistent with the technician's ability and previous course work.
Prerequisite: ASEP320, 328

ASEP333 3 2 2 0 0
Major Service Procedures/GM Engines Voc/Tech
Evaluating, reconditioning and replacing of major components of GM engines. Instruction will also include diagnostic routines. ***Prerequisite: ASEP327***

ASEP336 3 2 2 0 0
GM Carb & Fuel Induction Sys Voc/Tech
Theory of carburetion principles and current model fuel delivery systems to include diesel fuel systems, electromechanical carburetors and gasoline fuel injection.
Prerequisite: ASEP328

ASEP337 4 3 2 0 0
GM Tune-Up Proc & Emission Con Voc/Tech
Diagnosis and service of microprocessor controlled fuel and ignition systems. Oscilloscopes, engine analyzers, digital meters and other high technology instruments will be used. ***Prerequisite: ASEP336***

ASEP340 3 0 0 0 18
Technical Internship III Voc/Tech
Work experience at a sponsoring dealership. Tasks will be consistent with the technician's ability and previous course work.
Prerequisite: ASEP330, 344, 345

ASEP344 4 2 4 0 0
GM Manual Drivetrains Voc/Tech
Provides an understanding of the principles of operation in manual power trains 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: ASEP317, AUTO464

ASEP345 4 2 4 0 0
GM Automatic Drivetrains Voc/Tech
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: ASEP317, AUTO464

ASEP350 3 0 0 0 18
Technical Internship IV Voc/Tech
Work experience at a participating dealership. Tasks will be consistent with the technician's ability and previous course work.
Prerequisite: ASEP340

ASEP354 5 3 4 0 0
Advanced GM Motors Systems Voc/Tech
Instruction in techniques and procedures required to diagnose and service current vehicles. New systems developed by GM will be included. ***Prerequisite: ASEP350***

ASST312 5 3 4 0 0
Ford Automotive Electronics Voc/Tech
A study of the electrical and electronics 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***

ASST317 3 2 2 0 0
Ford Shop Fund & Minor Service Voc/Tech
A study of dealership organizational structure as it relates to the technician. Use of service manuals, electronic troubleshooting manuals and service bulletins are practiced. Also provides entry level automotive task competencies. ***Prerequisite: Admission to Automotive Student Service Ed Training***

ASST318 6 2 8 0 0
Ford Steering/Suspension/Brakes Voc/Tech
Instruction in the theory of operation and service procedures used in the maintenance and repair of Ford Motor Company steering, suspension and brake systems.
Prerequisite: Admission to Automotive Student Service Ed Training, ASST328

ASST320 3 0 0 0 18
Technical Internship I Voc/Tech
Work experience at a sponsoring dealership. The tasks will be consistent with the technician's ability and previous course work.
Prerequisite: Admission to Automotive Student Service Ed Training, ASST312, 317

ASST326 3 2 2 0 0
Ford Auto Air Conditioning Systems Voc/Tech
Theory and operation of Ford Motor Company air conditioning systems leading to the diagnosis, service and repair of current models of vehicles.
Prerequisite: Admission to Automotive Student Service Ed Training, ASST328

ASST328 5 3 4 0 0
Diagnosis/Repair Ford Elec System Voc/Tech
Instruction in the diagnosis, repair and service of electrical and electronic components and accessories used on current Ford Motor Company vehicles.
Prerequisite: Admission to Automotive Student Service Ed Training, ASST312

ASST330 3 0 0 0 18
Technical Internship II Voc/Tech
Work experience at a participating dealership. The tasks will be consistent with the technician's ability and previous course work.
Prerequisite: Admission to Automotive Student Service Ed Training, ASST318, 320, 328

ASST333 4 2 4 0 0
Ford Engine Diagnosis/Repair Voc/Tech
Evaluating, reconditioning and replacing of major components of Ford Motor Company engines. Will include instruction in machining operations performed in Ford Motor Company dealerships.
Prerequisite: Admission to Automotive Student Service Ed Training, ASST317

ASST336 3 2 2 0 0
Ford Fuel Systems and Injection Voc/Tech
Theory of carburization principles and current model fuel delivery systems to include diesel fuel systems, feedback carburetors, gasoline fuel injection, electronic engine controls and Ford EEC specialist certification. ***Prerequisite: Admission to Automotive Student Service Ed Training; ASST328; Corequisite: ASST337***

ASST337 4 3 2 0 0
Ford Tune-Up Proc & Emission Con Voc/Tech
Diagnosis and service of microprocessor controlled fuel and ignition systems. Oscilloscopes, engine analyzers, digital meters and other high technology instruments will be used.
Prerequisite: Admission to Automotive Student Service Ed Training; ASST328; Corequisite: ASST336

ASST340 3 0 0 0 18
Technical Internship III Voc/Tech
Work experience at a participating dealership. The tasks will be consistent with the technician's ability and previous course work.
Prerequisite: Admission to Automotive Student Service Ed Training; ASST330, 326, 336, 337, PHYL401

ASST344 2 1 2 0 0
Ford Driveline and 4X4 Diag/Repair Voc/Tech
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

Course Descriptions

ASST345 2 1 2 0 0
Ford Manual Transmissions Voc/Tech
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

ASST346 4 3 2 0 0
Ford Transmissions & Transaxles Voc/Tech
Standard and automatic transmissions and transaxles including all components in front and rear drive power trains and 4-wheel drive vehicles. ***Prerequisite: Admission to Automotive Student Service Ed Training;***

ASST350 3 0 0 0 18
Technical Internship IV Voc/Tech
Work experience at a participating dealership. The tasks will be consistent with the technician's ability and previous course work.
Prerequisite: Admission to Automotive Student Service Ed Training; ASST333, 343

ASST354 5 3 4 0 0
Ford Adv Engine Controls, Elect Voc/Tech
Instruction in techniques and procedures required to diagnose and service current vehicles. New systems developed by Ford Motor Company will be included.
Prerequisite: Admission to Automotive Student Service Ed Training; ASST333, 343

AUTC403 1 1 0 0 0
Basic Shop Safety Voc/Tech
A course designed to acquaint the student with the hazards in an auto collision facility. Emphasis on EPA regulations, OSHA guidelines and personal health and safety in the shop area.

AUTC405 5 2 6 0 0
Basic Shop Operations/Metal Voc/Tech
Automobile design, the materials used in construction, collision and corrective forces and procedures for repair and services are analyzed through class and lab study.
Prerequisite: WELD468 must be taken concurrently with or prior to this course.

AUTC408 5 3 4 0 0
Basic Shop Operations/Paint Voc/Tech
This course will give the student an overall understanding of the complexities of today's auto refinishing. Developing industry standard preparation habits and spray painting skills with various chemicals will be studied.

AUTC410 2 1 2 0 0
Basic Estimating Voc/Tech
Vehicle damage estimating skills are needed to provide a written report. This report can then be used as a repair guide, a legal document, an analysis report and for business evaluation. Ability to use estimating guides and write estimates accurately will be emphasized.

AUTC412 7 3 8 0 0
Get Ready for Paint Voc/Tech
This course covers the application techniques and equipment used in auto collision repair shops for refinishing and will deal with potential problems with chemicals. Sheet metal and plastic parts repair and replacement in preparation for painting will also be studied in the lab. Shop and personal safety will be emphasized.
Prerequisite: AUTC408

AUTC413 3 2 2 0 0
Plastic Repair & Refinishing Voc/Tech
The wide variety of solid plastics, flexible panels, plastic compounds and fiberglass 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 lab.
Prerequisite: AUTC408

AUTC414 2 1 2 0 0
Collision Analysis/Measuring Voc/Tech
Unibody design and construction has created a need for methods of damage analysis, gauging, measuring and sequencing total collision repair. This course emphasizes these new technologies.

AUTC420 6 3 6 0 0
Advanced Refinishing Voc/Tech
Industry application of colors and clear coats require the latest information on repair and refinishing of today's vehicles. This course covers the latest manufacturer's preferred methods for repair using current colors and chemicals. Color matching will be emphasized. ***Prerequisite: AUTC412, 413***

AUTC421 2 2 0 0 0
Adv Estimating/Ownership/Mgt Voc/Tech
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 cost and profits will be studied. Customer and employee relations will be studied. ***Prerequisite: AUTC410***

AUTC440 5 1 8 0 0
Frame/Unibody Structural Repair Voc/Tech
This course builds upon the knowledge and skill in previous auto collision courses to prepare the student to diagnose and repair conventional frame and unibody structural components. The theory and operating principles of unibody structural components will be emphasized. Lab instruction on late model vehicles will be included.
Prerequisite: AUTC414, WELD468

AUTO464 3 2 2 0 0
Auto Measurement & Tools Voc/Tech
This course provides instruction in the correct selection and use of mechanic's tools and precision measuring devices. Shop safety will be emphasized.

AUTO466 4 2 4 0 0
Fuel Systems Voc/Tech
A course designed to acquaint the student with basic fuel system principles. Instruction will be offered in the theory, cleaning, repair and adjustment of automotive fuel systems.

AUTO469 3 1 4 0 0
Basic Automotive Electricity Voc/Tech
Provides instruction in theory and operation of automotive electrical circuits. Safety, meters and services information will be emphasized.

AUTO470 3 1 4 0 0
Advanced Automotive Electricity Voc/Tech
Provides instruction in the diagnosis, repair and service of electrical and electronic components found on current vehicles.
Prerequisite: AUTO469

AUTO472 4 2 4 0 0
Auto AC & Heating Voc/Tech
Provides instruction in the theory of operation of auto air conditioning and heating systems as well as diagnosing and servicing automotive air conditioning and heating systems.

AUTO474 3 2 2 0 0
Automotive Engine Fundamentals Voc/Tech
A course to provide instruction in the theory and operation of the four stroke automotive engine. Emphasis will be placed on cylinder head service and repair. ***Prerequisite: AUTO464***

AUTO476 6 3 6 0 0
Electronic Engine Controls Voc/Tech
This course builds upon the knowledge and skills in previous automotive courses to prepare the student to service electronically controlled vehicles. The theory and operating principles of automotive computers, sensors and control devices will be emphasized. Lab instruction on late model cars will be included. ***Prerequisite: AUTO466, 468***

AUTO478 4 2 4 0 0
Advanced Tune-Up Voc/Tech
Provides instruction in testing, diagnosis and repair of the automobile's ignition, electrical and fuel systems. Modern test equipment, procedures and technology are utilized.
Prerequisite: AUTO476

AUTO479 2 1 2 0 0
Service Management Voc/Tech
Provides instruction in customer relations, service sales, shop management and business practices in the automotive shop.

AUTO482 3 1 4 0 0
Advanced Engines Voc/Tech
Provides instruction in proper diagnosis of engine malfunctions and repair or replacement of defective components and assemblies. Diagnosis procedures, repair and adjustment will be emphasized.
Prerequisite: AUTO474

AUTO484 6 3 6 0 0
Basic Power Train Voc/Tech
Principles of operation and construction of automotive power trains. Includes instruction in the theory of hydraulic and mechanical systems used in automatic transmissions.

AUTO486 3 2 2 0 0
Basic Brakes Voc/Tech
Instruction in the theory of operation and service procedures of automotive brakes.

AUTO488 4 2 4 0 0
Basic Suspension/Alignment Voc/Tech
Instruction in the theory of operation and service procedures of automotive alignment and suspension systems.

AUTO490 6 2 8 0 0
Advanced Power Train Voc/Tech
The student will study power train and drive line systems. Proper diagnosis procedures, service and repair will be emphasized through hands-on experience. ***Prerequisite: AUTO484***

AUTO492 5 2 6 0 0
Advanced Brakes & Alignment Voc/Tech
The student will study advanced brakes and alignment theory, practice proper diagnosis, service and repair procedures through hands-on experience. ***Prerequisite: AUTO486, 488***

The following adjunct AVIA (aviation) courses are offered in a partnership with Des Moines Public Schools at their facility.

AVIA301 - Adjunct*** 2 1 2 0 0
Aircraft Materials and Processes Voc/Tech
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.

AVIA302 - Adjunct*** 2 1 2 0 0
Aircraft Drawings Voc/Tech
A course to develop understanding of aircraft drawings, symbols and system schematics. Blueprint information, graphing, charting and drawing will be topics covered as they relate to aircraft.

AVIA303 - Adjunct*** 3 1 4 0 0
Hydraulic & Pneumatic Power System Voc/Tech
This course will involve a complete study of the hydraulic and pneumatic systems contained within an aircraft. Components of each area will be covered to include identification, installation, repair, inspection, troubleshooting and replacement of the systems.

AVIA304 - Adjunct*** 5 3 4 0 0
Aircraft Structure & Repair Voc/Tech
A course for students in aviation which covers materials associated with the structure of the aircraft. Utilization of proper materials, repair, replacement, testing, finishing of metal and non-metal materials will be included in this course.

AVIA305 - Adjunct*** 1 0 2 0 0
Aircraft Welding Voc/Tech
This course covers applicable welding procedures associated with materials used to construct aircraft. Proper welding methods for various types of materials will be covered during the course.

AVIA306 - Adjunct*** 1 0 2 0 0
Engine Lubrication systems Voc/Tech
This course covers engine lubrication systems associated with aircraft. Students will study lubrication systems while performing inspections, service, troubleshooting and repair of the system. System components will be repaired and serviced according to FAA regulations.

AVIA307 - Adjunct*** 2 1 2 0 0
Engine Fuel Metering Voc/Tech
A course designed to cover the fuel metering system of aircrafts. Topics include inspection service, troubleshooting, repair, replacement of various types of fuel metering systems.

** Adaptor Courses cannot be used to fulfill degree requirements
*** Adjunct Courses cannot be used to fulfill or substitute for required or option courses in any degree or diploma program

Course Descriptions

AVIA308 - Adjunct* 2 0 4 0 0**
Airframe Fuel Systems **Voc/Tech**
This course covers fueling systems throughout the airframe of the aircraft. Topics include inspection, service, troubleshooting, repair and replacement of the system components.

AVIA309 - Adjunct* 2 1 2 0 0**
Landing Gear & Brake Systems **Voc/Tech**
This course involves a complete study of the landing gear and brake systems associated with aircraft. Areas of study include inspection, service, repair, troubleshooting and replacement of various types of landing gear and brake systems.

AVIA310 - Adjunct* ✓ 1 0 2 0 0**
Cleaning/Corrosion control **Voc/Tech**
This course encompasses cleaning and prevention of corrosion on the aircraft. Units of instruction will include identifying and selecting materials, inspecting, removing aircraft corrosion and performing aircraft cleaning.

AVIA311 - Adjunct* 1 0 2 0 0**
Induction Cooling Exhaust **Voc/Tech**
This course introduces students to the induction system and engine airflow systems of aircraft. Inspecting, troubleshooting, servicing and repairing engine ice and rain control systems will be covered. Heat exchangers, superchargers, turbine airflow and temperature control systems will also be covered with carburetors and manifolds.

AVIA312 - Adjunct* 2 1 2 0 0**
Airframe/Power Plant Inspection **Voc/Tech**
This course covers inspections related to aircraft engines and airframes. Airframe and engine conformity and airworthiness inspections will be units of instruction.

AVIA313 - Adjunct* 3 1 4 0 0**
Aircraft Assembly & Rigging **Voc/Tech**
This course will involve the study of aircraft components to include the following: Aircraft wing configuration flight theory, landing gear, aircraft maneuvers, structure alignments, assembly components, rigging, primary flight control surfaces, secondary flight control surfaces and aircraft jacking.

AVIA314 - Adjunct* ✓ 1 0 2 0 0**
Weight & Balances **Voc/Tech**
The student will be given instruction concerning aircraft specifications, aircraft weight and balance records, reading scales, recording weights, nomenclature and algebraic signs.

AVIA315 - Adjunct* 1 1 0 0 0**
Weather & Warning systems **Voc/Tech**
This course will cover systems associated with positioning, warning and weather control. Topics covered will include: inspection, servicing, configuration, electrical brakes, antiskid systems, landing gear indicators and warning systems and airframe ice and rain control systems.

AVIA316 - Adjunct* 1 0 2 0 0**
Cabin Control systems **Voc/Tech**
This course covers heating, cooling, pressurization, air cycling and oxygen systems.

AVIA317 - Adjunct* 4 2 4 0 0**
Aircraft Electrical Systems **Voc/Tech**
Electrical systems of aircraft will be covered in this course. Areas of study will include servicing of wire, controls, switches, indicators, protective devices, AC/DC electrical systems, constant speed and integrated speed drive generators, crimping, wiring inspection, repairing pins and sockets of aircraft connectors.

AVIA318 - Adjunct* 3 1 4 0 0**
Aircraft Ignition & Starting **Voc/Tech**
This course will provide a foundation in aircraft ignition systems and aircraft starting systems. Units will cover the magneto, ignition harness, reciprocating ignition systems and turbine ignition systems.
Prerequisite: AVIA 317

AVIA319 - Adjunct* 4 2 4 0 0**
Aircraft Turbine Engines **Voc/Tech**
Course covers turbine engine overhaul, repair of turbine engines, installation of turbine engines, troubleshooting of turbine engines.

AVIA320 - Adjunct* 2 0 4 0 0**
Engine Electrical Systems **Voc/Tech**
This course is a study of electrical systems of the aircraft engine. Units to be covered include troubleshooting, wiring, controls, switches, indicators, protective devices and component repair.

AVIA321 - Adjunct* 8 2 12 0 0**
Aircraft Engines Reciprocating **Voc/Tech**
Aircraft engines which are reciprocating will be covered extensively. Units of instruction will include inspection and repairing of a radial engine, overhauling a reciprocating engine, service and repair of a reciprocating engine, engine installations, troubleshooting and removing reciprocating engines.

AVIA322 - Adjunct* 2 1 2 0 0**
Communication & Navigation Systems
Voc/Tech
Basic units will involve study of autopilot systems, servos system, approach coupling systems, navigation systems, electronic communication systems, antenna systems, static pressure systems, flight instrument systems and all position indicating systems.

AVIA323 - Adjunct* 1 1 0 0 0**
Fluid Lines & Fittings **Voc/Tech**
Aircraft fluid lines and fittings will be covered in this course. Units of instruction will include rigid and flexible lines, fittings and their fabrication and installation.

AVIA324 - Adjunct* ✓ 2 1 2 0 0**
Regulations & Publications **Voc/Tech**
Aircraft maintenance forms and records will be units of instruction. Additional units will include manual utilization. FAA regulations, airworthiness directives and mechanic privileges and limitations.

AVIA325 - Adjunct* 1 0 2 0 0**
Instruments Fire Protection **Voc/Tech**
This course will cover aircraft instrument systems, engine fire protection systems and smoke and carbon monoxide detection systems.

AVIA326- Adjunct* 3 1 4 0 0**
Aircraft Propellers **Voc/Tech**
Aircraft propellers will be the topic of the course. Units will include repair, types of propellers, governing systems, installation, removal, troubleshooting, repairing, synchronizing, lubricating, ice control systems and control system components.

AVIA327 - Adjunct* 1 0 2 0 0**
Ground Operations and Servicing **Voc/Tech**
This course will cover aircraft ground operation and servicing. Units of instruction will include fuel selection, ground operation, servicing and securing aircraft.

BIOL111 1 1 0 0 0**
Opportunities in Biology **General**
An exploration of careers and advanced educational opportunities in the biological sciences at the local, state and national levels.

BIOL118 3 3 0 0 0**
Environmental Conservation **Core**
This course combines the basic principles of ecology with current environmental issues. Includes energy, land use, pesticides and pollution. Wildlife, fisheries, forestry, soil and water conservation practices are emphasized. Designed for the non-science major.

BIOL119 1 0 2 0 0**
Environmental Conservation Lab **Core**
Lab supplements discussion course BIOL 118. Lab includes measurement of soil nutrients and water pollutants. Selected field trips deal with soil conservation, wildlife management, wastewater treatment and other aspects of environmental conservation.
Prerequisite: Enrollment in or prior completion of BIOL118 or equivalent

BIOL126 3 2 2 0 0**
Field Biology **Core**
Field and laboratory studies of native plants and animals of Iowa. Emphasis is placed on ecological relationships. Selected field trips are conducted to forest, prairie, marsh and riparian habitats in the local area.

BIOL127 3 2 2 0 0**
Human Biology **Core**
A study of biology which emphasizes the human body. Topics such as the cell, basic chemistry, basic genetics and human ecology are included. Designed for the non-science and inadequately prepared health science major.

BIOL132 4 3 2 0 0**
Health Science Microbiology **Open**
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 high school chemistry be taken prior to this course.
Prerequisite: H.S. biology or equivalent

BIOL133 3 2 2 0 0**
Health Science Anatomy **Open**
Offers the student basic concepts in human anatomical structure with relation to body functions. The course covers all major body systems with emphasis on structure. The accompanying lab will reinforce lecture with cat dissection.
Prerequisite: H.S. biology and chemistry or equivalent

BIOL134 3 2 2 0 0**
Health Science Physiology **Open**
Detailed human physiology of the nervous, circulatory, respiratory, digestive, urinary and endocrine systems. Designed for the health science major.
Prerequisite: BIOL133 OR 154 or equivalent

BIOL140 3 2 2 0 0**
Introductory Biology **General**
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 experience.

BIOL141 4 3 2 0 0**
Principles of Biology I **Core**
First semester of biology for majors. Topics covered include: chemistry of life, cells, bioenergetics, genetics, evolution, viruses, prokaryotes and protists.
Prerequisite: H.S. biology and H.S. chemistry or equivalent

BIOL142 4 3 2 0 0**
Principles of Biology II **Core**
Second semester of biology for majors. Topics covered include: fungi, plants, animals and ecology. It is recommended that BIOL141 be taken prior to this course. ***Prerequisite: H.S. biology and H.S. chemistry or equivalent***

BIOL144 5 3 4 0 0**
General Zoology **Core**
A progressive study of the animal kingdom. Topics emphasize the anatomy, physiology, development, classification, evolution and ecology of representative animals of each phylum. ***Prerequisite: BIOL141 or equivalent***

BIOL147 3 2 2 0 0**
Introduction to Botany **Core**
Course covers structure, functions and development of plants. Study of morphology and taxonomy of representative species of algae, fungi, bryophytes and the vascular plants, with emphasis on the local flora. Includes study of plant ecology.
Prerequisite: BIOL141 or equivalent

BIOL149 4 2 4 0 0**
General Microbiology **Core**
A general microbiology course with laboratory designed for the science major. Emphasis is placed on microbial morphology, physiology and genetics as well as virology and basic immunology. ***Prerequisite: one semester of any college-level biology course***

Course Descriptions

BIOL150 1 0 2 0 0
Ecology Field Experience General
This course involves an extended field trip to study unique natural ecosystems. Topics may include field studies of forest, prairie, wetland and wildlife ecology. May be taken twice for credit with permission of instructor.

BIOL154 5 3 4 0 0
General Anatomy & Physiology Core
A classic integration of human anatomy and physiology at the cellular level and organ/system level. Includes cat dissection.
Prerequisite: H.S. biology and H.S. chemistry or equivalent

BIOL155 3 3 0 0 0
Ecology of Iowa General
Surveys the major landforms of Iowa including the Mississippi River Valley, northern prairie lakes region, loess hills and southern hills area. Landforms are emphasized from the standpoint of climate, soils, geology, water resources, forestry, wildlife and environmental concerns. One Saturday field trip.

BIOL161 5 2 6 0 0
Cell and Molecular Biology I Open
This is the first semester of Cell and Molecular Biology for Biotechnology program majors. Topics covered include: cell structure and function, DNA and RNA structure and function; characterization, manipulation and cloning of DNA; tissue culture and monoclonal antibodies; and applications of biotechnology for agriculture and human therapeutics. Laboratory methods and instrumentation will be emphasized. It is recommended that BIOL149 and CHEM132 be taken prior to this course.
Prerequisite: MATH121 and BIOL165 or equivalent

BIOL162 5 2 6 0 0
Cell and Molecular Biology Open
Cell and Molecular Biology for Biotechnology majors. Topics covered include: immunochemistry; recombinant DNA methods and principles; the human genome project; protein analysis and characterization; and chromatography principles and methods.
Prerequisite: BIOL140, 141, 142, 149

BIOL163 1 1 0 0 0
Topics in Biotechnology Open
An exploration of recent advancements in biotechnology as well as current practices in research and development, manufacturing, quality control/quality assurance and safety.
Prerequisite: BIOL162

BIOL165 3 3 0 0 0
Genetics Open
An introductory genetics course for Biology and Biotechnology majors. Topics covered include: DNA and chromosome structure and function; Mendelian genetics; molecular genetics in eucaryotes, prokaryotes and viruses; recombinant DNA technology; gene expression; and the genetic basis of immunology. ***Prerequisite: BIOL141 or BIOL149***

BIOL167 3 0 0 0 12
Biotechnology Internship Open
This internship is the final requirement for completion of the Biotechnology AS degree requirements. It will be conducted in cooperation with potential employers. During this period, students will be expected to demonstrate their technical skills and practicum competencies in a professional manner, showing progressive independence, greater efficiency and confidence.
Prerequisite: permission of instructor

BIOL170- Adjunct* 3 3 0 0 0
Living with Health General
Encourages a proactive stance toward maintaining health. Encompasses the physical, emotional, social, intellectual and spiritual areas of health. Case studies are interwoven with commentaries by health and medical experts.

BIOL260 3 3 0 0 0
Biology of Aging General
This course is designed for individuals planning to work with the elderly population. The course describes changes that occur in body systems due to the normal aging process as well as some of the most common dysfunctions and diseases associated with aging. Furthermore, environmental factors, effects of diet and exercise in the aging process will be discussed.

BLDG451 5 5 0 0 0
Materials/Construction Theory Voc/Tech
An introduction to the materials used in the construction industry and the methods involved in the application of these building materials.

BLDG452 7 0 15 0 0
Construction Techniques Voc/Tech
A practical "hands-on" introductory experience that covers the construction process including rough and finish carpentry.

BLDG453 1 0 2 0 0
Care/Use of Hand/Power Tools Voc/Tech
Proper care, use and selection of hand and power tools with an emphasis on maintenance and safety.

BLDG455 1 0 2 0 0
Construction Blueprint Reading Voc/Tech
Fundamentals of blueprint reading designed to allow the student to translate plans into practical job experiences.

BLDG456 1 0 2 0 0
Materials Takeoff Voc/Tech
A study of the techniques needed to create a materials list by reading a blueprint. Prerequisite: BLDG455 should be taken concurrently with or prior to this course

BLDG461 4 1 6 0 0
Concrete Systems & Forming Voc/Tech
An introduction to concrete as a material; concrete design, placement and finish. Identification and application of forming systems will be studied in the classroom and applied in the lab. ***Prerequisite: BLDG453***

BLDG462 2 1 2 0 0
Construction Drafting & Design Voc/Tech
An introduction to the fundamentals of design and basic drafting methods. Includes the preparation of the blueprint used to construct the student built project.
Prerequisite: BLDG455

BLDG464 3 0 7 0 0
Interior Trim Practices Voc/Tech
Advanced lab experience that emphasizes complex finish skills. The student will be able to demonstrate the skills and work habits necessary to complete tasks in a safe manner and to adapt previously learned skills to complete more complex building tasks.
Prerequisite: BLDG452

BLDG480 5 0 10 0 0
Const. Procedure/Application I Voc/Tech
This course includes footings, drainage, foundation, basement insulation and decking. (5 week session)
Prerequisite: BLDG451, 461, 464

BLDG481 5 0 10 0 0
Const Procedure/Application II Voc/Tech
Course includes exterior wall construction, interior wall construction, ceiling joist framing, rafter framing, exterior trim, window installation and roofing. (5 week session) ***Prerequisite: BLDG480***

BLDG482 5 0 10 0 0
Const Procedure/Application III Voc/Tech
Course includes concrete flatwork, insulation, drywall application, cabinet work and interior trim. (5 week session)
Prerequisite: BLDG481

BLDM325 1 1 0 0 0
Boiler Room Maintenance Voc/Tech
Boiler accessories, fittings, controls, water treatment and fundamentals for beginners.

BLDM326 2 2 0 0 0
Steam Plant Operations Voc/Tech
High-pressure steam boilers, operation, controls, burning equipment instruments.
Prerequisite: BLDM325

BLDM329 2 2 0 0 0
Basic Plumbing Voc/Tech
Plumbing, plumbing components, plumbing codes and reading blueprints.

BLDM330 3 2 2 0 0
Industrial Plumbing and Pipefitting Voc/Tech
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.

BPQI320 3 3 0 0 0
Train the Trainer Voc/Tech
This course provides students with the ability to design and perform adult training sessions for a company or business. Emphasis is placed on how to train the adult learner for maximum training retention.

BPQI400 3 3 0 0 0
Total Quality Management Voc/Tech
The basis of this course is to provide an understanding of the principles and concepts of continuous improvement and the ability to apply them to an organization. Team concepts and the tools of SPC are also discussed.

BPQI401 3 3 0 0 0
Intro to Statistical Process Control Voc/Tech
Introduction to the concepts of variability and statistical process control. The student will develop the ability to utilize the basic SPC tools, monitor and interpret charts and exercise statistical methods for continuous improvement.

BPQI402 3 3 0 0 0
Applications of Statistical Methods Voc/Tech
An in-depth study in applying the concepts of BPQI401. Additional areas of concentration include sampling plan theory, FMEA study, alpha and beta calculations, reliability values and applying these concepts in case studies.
Prerequisite: BPQI401

BPQI403 3 3 0 0 0
Practices - Continuous Improvement Voc/Tech
Course provides understanding of the theories, methods and concepts of continuous improvement. Includes detailed, in-depth study of current theories and practices used in business and provides the student with the knowledge to implement these techniques.
Prerequisite: BPQI400

BPQI407 3 3 0 0 0
Teams & Teamwork Voc/Tech
Study of the concepts of teams, teamwork, participation and work teams. The participant will develop the knowledge and ability to work in and develop a team and team environment.
Prerequisite: BPQI400, 401

BPQI408 3 3 0 0 0
Intro to Quality Control Management Voc/Tech
This course provides the student with an in-depth knowledge of the skills, tools and management techniques unique to supervising and managing a quality function within an organization.
Prerequisite: BPQI401, 403

BPQI411 1 1 0 0 0
Measuring Devices, SPC Voc/Tech
An introduction to quality-control measuring devices, their use and application of data in Statistical Process Control.

BPQI412 2 2 0 0 0
Controlling Mfg. Business Costs Voc/Tech
The purpose of this course is to provide an understanding of the principles and concepts of production and work costs, the cost impact of shop floor activities and the various contributions company employees have on costs and profitability. Emphasis is placed on the effect individuals have on costs on a day to day basis.

** Adaptor Courses cannot be used to fulfill degree requirements
*** Adjunct Courses cannot be used to fulfill or substitute for required or option courses in any degree or diploma program

Course Descriptions

BPQI420 3 3 0 0 0
PM & Diagnosing Mech & Elec Sys Voc/Tech
Provide understanding in the concepts and methods of preventative maintenance. Includes the development of a maintenance and documentation system. Provide fundamental troubleshooting methods and concepts.

BSAD125 2 2 0 0 0
Statistical Business Applications Open
This is the second course in the statistics sequence. Course content includes application and interpretation of probability and statistics as applied to business situations by using sampling, confidence intervals, control charges, simple linear regression analysis, multiple regression analysis, correction analysis, data analysis, time series analysis, hypothesis testing and computer analysis. Same content as MATH125, credit will not be granted for both BSAD125 and MATH125.
Prerequisite: BSAD152 or MATH121

BSAD150 3 3 0 0 0
Intro to Business General
An overview of the ever-changing world of business. Provides information in the areas of ownership, management, marketing, insurance, economic systems and finance as well as the role of government.

BSAD151 3 3 0 0 0
Personal Finance Open
This course emphasizes family financial planning including financial statements, budgeting, taxes, risk management and retirement.

BSAD152 4 4 0 0 0
Business Statistics Core
Tabular and graphical presentation, measures of central tendency and variability, standard elementary procedures involving the binomial, normal, student's t's, chi-squares and f distributions, correlation, regression, analysis of variance and several nonparametric procedures. Same content as MATH121, credit will not be granted credit for both BSAD152 and MATH121.
Prerequisite: 2 years of H.S. algebra or MATH094 or dept permission

BSAD201 3 3 0 0 0
Principles of Banking Open
This course surveys the banking functions. It provides a comprehensive introduction to the diversified services offered by the banking industry today.

BSAD223 3 3 0 0 0
Business/Financial Math Open
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.

BSAD224 3 3 0 0 0
Introduction To Investments Open
Provides basic information to familiarize students with various investments including securities, options, commodities, tax shelters and other investment alternatives. Topics include analyzing investment opportunities, review of risks and returns, averages and indexes and analyzing securities.

BSAD225 3 3 0 0 0
Principles of Insurance Open
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.

BSAD226 3 3 0 0 0
Principles of Real Estate Open
Fundamental principles, economics, law, working concepts and terminology. Focuses on real estate law and assists those preparing for the apprentice salesperson examination.

BSAD243 4 4 0 0 0
Quantitative Methods General
An introduction to management research methods which are used in business. Topics include probability, break-even analysis, inventory control, statistics and transportation models. ***Prerequisite: MATH094***

BSAD265 1 1 0 0 0
Investing in Financial Assets Open
This course explores personal investment in financial assets. Investing in stocks, bonds and mutual funds is the focus of investigation. Concepts, techniques and strategies related to realizing financial goals with these types of assets are considered.

BSAD266 1 1 0 0 0
Investing in Real Assets Open
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.

BSAD267 1 1 0 0 0
Estate Planning Open
The goal of this course is to establish a desirable and efficient dissolution of one's assets and liabilities at death. Course includes identifying goals for estate planning, both pre death and postmortem. Estate tax and gift tax issues are examined.

BSAD268 1 1 0 0 0
Long Range Financial Planning Open
This course is designed to increase awareness of the need for identifying a desired retirement life-style 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. Health care and housing issues are examined.

BSEN229 3 3 0 0 0
Small Business Management Open
Examines introductory business applications and strategies needed to start and operate a small business. Topics include: entrepreneurship preparation, idea feasibility, business plan content, introductory marketing, management and finance concepts for small business.

BSEN301 2 1 2 0 0
Sm Business Computerized Acct Voc/Tech
Provides introductory computer applications for a small business accounting system. Topics include: invoicing, billing, payroll, financial statements, inventory management, time tracking, job costing and customized reporting. ***Prerequisite: Basic computer skills; ACCT301 or ACCT101***

BSEN302 3 3 0 0 0
Small Business Management Strat Voc/Tech
Emphasizes human resource concepts and their applications to small business operations. Leadership development, management styles and decision making strategies are stressed.

BSEN303 3 3 0 0 0
Small Business Marketing Voc/Tech
Discussions and focus is on marketing applications. Workshops and strategies such as: market research, product development, pricing, distribution, promotion, marketing campaigns and budgets.

BSEN304 3 3 0 0 0
Small Business Start-Up Voc/Tech
This course includes information, examples, forms and activities needed for business start-up and for development of a successful business operation. Topics include: market research and assessment; naming your business; finding a location; determining asset needs and forecasting sales; identifying job tasks and determining human resource needs; and writing a business plan.

BSEN305 3 3 0 0 0
E-Commerce on the Web Voc/Tech
This course will introduce the student to the basic elements of electronic commerce. It will focus on business and technical issues faced by a company that enters into the e-commerce marketplace. Topics include products, advertising, resource requirements, third party options, technical and operational issues.

BSEN306 3 2 2 0 0
E-Commerce Website I Voc/Tech
This course introduces the student to basic concepts, languages and tools used in the development of an e-commerce website. Student will identify effective design concepts and characteristics of successful websites. They will use current tools and techniques to design and create e-commerce website.
Prerequisite: COMS181 or OFFC355

BSEN307 3 3 0 0 0
E-Commerce Website II Voc/Tech
Introduces Dynamic HTML, cascading style sheets and XML, work with advanced features of Frontpage and will introduce another website development tool.
Prerequisite: BSEN306

BSEP405 4 2 4 0 0
Basic GM Shop Operations/Metal Voc/Tech
Automobile design, the materials in construction, collision and corrective forces and procedures for repair and services are analyzed through class and lab studies on GM vehicles. ***COREQUISITES: AUTC403, HLCR314, WELD468***

BSEP408 3 2 2 0 0
Basic GM Shop Operations/Paint Voc/Tech
Course will give an overall understanding of complexities of todays auto refinishing. Industry-standard preparation habits and spray painting skills with various chemicals used to refinish GM vehicles will be studied.
Prerequisite: AUTC403

BSEP412 4 2 4 0 0
GM Refinishing Techniques Voc/Tech
Course covers application techniques and equipment used in today's auto collision repair shops and deals with potential problems with chemicals when refinishing GM vehicles. Shop and personal safety emphasized. ***Prerequisite: BSEP408***

BSEP413 2 1 2 0 0
GM Plastic Repair/Refinishing Voc/Tech
This course covers the wide variety of solid plastics, flexible panels, plastic compounds and fiberglass reinforced plastic panels now used in manufacturing GM vehicles. Repair, replacement and refinishing of the substrates will be studied in the classroom and lab.

BSEP420 5 2 6 0 0
Advanced GM Refinishing Voc/Tech
This course covers the latest preferred methods for repair and refinishing using current colors and chemicals. Color matching, mixing and blending will be emphasized. ***Prerequisite: BSEP413***

BSEP421 2 2 0 0 0
Adv. GM Estimating/Managership Voc/Tech
This course covers estimating skills, customer and employee relations and service selling techniques for business ownership and management. Labor, parts, material cost and profits will be studied. Hand and computer estimates will be written.
Prerequisite: AUTC410

BSEP440 5 2 6 0 0
GM Unibody Structural Repair Voc/Tech
This course builds upon the knowledge and skills developed in previous auto collision courses to prepare the student to diagnose and repair unibody structural components. The theory and operating principles of unibody structural components will be emphasized. Lab instruction on late model GM vehicles will be included.
Prerequisite: AUTC414, BSEP405, WELD468

BSEP450 3 0 0 0 18
Internship I Voc/Tech
Work experience at a participating dealership or body shop.
Prerequisite: AUTC403, 410, BSEP405, 408, HLCR314, UPHL433, WELD468

BSEP460 3 0 0 0 18
Internship II Voc/Tech
Work experience at a participating dealership or body shop. ***Prerequisite: BSEP412, 413***

Course Descriptions

BSEP470 3 0 0 0 18
Internship III Voc/Tech
Work experience at a participating dealership or body shop. ***Prerequisite: ASEP420, 421***

BSEP472 4 3 2 0 0
A/C & Heating Systems Voc/Tech
This course 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.

BSEP480 3 0 0 0 18
Internship IV Voc/Tech
Work experience in a participating dealership or body shop.
Prerequisite: AUTC414, BSEP440

BUSL101 3 3 0 0 0
Business Law I General
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.

BUSL102 3 3 0 0 0
Business Law II General
Provides an overview of negotiable instruments, debtor/creditor law (collecting judgments,) secured transactions, agency relationships and selecting the right business formation. ***Prerequisite: BUSL101***

BUSL301 - Adjunct*** 3 3 0 0 0
Legal Aspects of Management Voc/Tech
Provides an overview of the history, structure and principles of our legal environment with special emphasis on managerial issues such as product liability, discrimination law, employment law and environmental law.

BUSL310 2 2 0 0 0
Basic Law for the Entrepreneur Voc/Tech
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.

BUSL312 3 3 0 0 0
Law of Purchasing & Sales Voc/Tech
This course covers U.C.C. Article 2, Sales of Goods: relationship of agents and employers, creation of sales-purchase contracts and the performance and remedies of buyer and seller. ***Prerequisite: BUSL101***

BUSL345 - Adjunct*** 1 0 2 0 0
Legal Study Tour Voc/Tech
The student will participate in a supervised study tour in which time will be spent touring a government center to view how the government runs, including the history of this country to current legal policies and procedures. ***Prerequisite: BUSL101***

CAAP312 4 2 4 0 0
Chrysler Electrical/Electronics Voc/Tech
A study of the electrical and electronics systems used in Chrysler vehicles. The instruction will include fundamentals of electricity, magnetism, series, parallel, series-parallel circuits, service information, wire repair, diodes, transistors and microprocessors.
Prerequisite: Admission to CAAP (Chrysler Automotive Apprenticeship Program)

CAAP317 4 3 2 0 0
Shop Fundamentals & Minor Service Voc/Tech
A study of dealership organizational structure as it relates to the technician. Use of service manuals, electronic troubleshooting manuals and service bulletins are practiced. Also provides entry level maintenance related to automotive task competencies.
Prerequisite: Admission to CAAP (Chrysler Automotive Apprenticeship Program)

CAAP318 4 3 2 0 0
Basic Brakes Voc/Tech
Instruction in the theory of operation and service procedures of Chrysler brakes.
Prerequisite: Admission to CAAP (Chrysler Automotive Apprenticeship Program)

CAAP320 3 0 0 0 18
Technical Internship I Voc/Tech
The technician will work in a participating dealership. The work will be full-time approximately 40 hours per week. The tasks will be consistent with the technicians ability and previous course work. A task list will be issued to each dealer. CAAP328 and CAAP329 are required the same semester.

CAAP328 4 3 2 0 0
Chrysler Electrical Systems Repair Voc/Tech
Instruction in the diagnosis, repair and service of electrical and electronic components and accessories used on current Chrysler vehicles.
Prerequisite: CAAP312, MATH410

CAAP329 3 1 4 0 0
Chrysler Steering & Suspension Voc/Tech
Instruction in the theory of operation and service procedures of Chrysler steering and suspension systems.
Prerequisite: CAAP317, CAAP318

CAAP330 3 0 0 0 18
Technical Internship II Voc/Tech
Work experience at a participating dealership. The tasks will be consistent with the technicians ability and previous course work.
Prerequisite: CAAP328, 329

CAAP335 5 3 4 0 0
Service/Repair Chrysler Engines Voc/Tech
Principles and operation of Chrysler engines. Service procedures and engine component repair or replacement will be emphasized. Diagnosis of engine problems will also be covered. ***Prerequisite: CAAP317***

CAAP336 3 1 4 0 0
Chrysler Fuel systems Voc/Tech
A course designed to acquaint the student with basic fuel system principles. Instruction will be offered in the theory, service, repair and adjustment of automotive fuel systems.
Prerequisite: CAAP328

CAAP340 3 0 0 0 18
Technical Internship III Voc/Tech
Work experience at a sponsoring dealership. The tasks will be consistent with the technicians ability and previous course work.
Prerequisite: CAAP335

CAAP346 5 3 4 0 0
Chrysler Engine Performance Voc/Tech
Diagnosis and service of microprocessor controlled fuel and injection systems. Oscilloscopes, engine analyzers, digital meters and other high technology instruments will be used.
Prerequisite: CAAP335, 336

CAAP347 3 1 4 0 0
Chrysler Heating and A/C Voc/Tech
Theory and operation of Chrysler air conditioning systems leading to the diagnosis, service and repair of current models of Chrysler vehicles. ***Prerequisite: CAAP312, 317***

CAAP350 3 0 0 0 18
Technical Internship IV Voc/Tech
Work experience at a participating dealership. Tasks will be consistent with the technicians ability and previous course work.
Prerequisite: CAAP340

CAAP354 4 2 4 0 0
Chrysler Manual Drivetrains Voc/Tech
Provides an understanding of the principles of operation in manual drivetrains including manual transmissions, transaxles, front and rear differentials, driveshafts and transfer cases. Proper diagnosis, service and repair procedures of these systems are studied and practiced. ***Prerequisite: CAAP340***

CAAP355 4 2 4 0 0
Chrysler Automatic Drivetrains Voc/Tech
Provides an understanding of the principles of operation in automatic transmissions and transaxles including electronic controls. Proper diagnosis, service and repair procedures of these systems are studied and practiced. ***Prerequisite: CAAP317, 346***

CAAP356 5 3 4 0 0
Advanced Chrysler Systems Voc/Tech
Instruction in techniques and procedures required to diagnose and service current vehicles. New systems developed by Chrysler will be included. ***Prerequisite: CAAP346***

CAAP360 2 0 0 0 12
Technical Internship V Voc/Tech
Work experience at a participating dealership. Tasks will be consistent with the technicians ability and previous course work.
Prerequisite: CAAP350

CADD401 3 2 2 0 0
Intro to Computer Aided Drafting Voc/Tech
This course will introduce the student to computer-aided drafting and design. Basic computer hardware, software and operating systems will be discussed. Basic two-dimensional CADD drawing creation and editing techniques will be covered. Drawings will be created and plotted.
Prerequisite: Basic computer literacy

CADD402 3 2 2 0 0
Intermediate CADD-Mechanical Voc/Tech
This course will introduce the student to advanced computer-aided drafting and design applications. Program customization, file manipulation/translation and library creation/usage will be covered. Three-dimensional concepts will be discussed.
Prerequisite: CADD401

CADD403 3 2 2 0 0
Intermediate CADD-Architectural Voc/Tech
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: CADD401***

CADD404 3 2 2 0 0
Computer Aided Design/Analysis Voc/Tech
This course will introduce the student to analysis of simple structures. Basic statics will be taught. Analysis will be taught and then verified using analysis software in conjunction with CAD. ***Prerequisite: CADD402***

CADD405 3 2 2 0 0
Introduction to CAD/CAM Voc/Tech
The objectives of this course will be to apply Computer Aided Design software and Computer Aided Manufacturing software for the purpose of generating computer assisted part programs for computer numerically controlled (CNC) machine tools .

CADD410 - Adjunct*** 3 2 2 0 0
Introduction to Multimedia Voc/Tech
Basic three dimensional concepts and applications are covered. Rendering, animating and application of basic color manipulation are discussed and used.
Prerequisite: CADD401

CADT405 3 2 2 0 0
Principles of Computer Operations Voc/Tech
Basic computer operating systems will be examined. System commands and file management will be addressed. Computer hardware/software relationships and their compatibilities and conflicts will be taught.

CADT410 6 4 4 0 0
CAD Graphics I Voc/Tech
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: Basic computer skills

CADT411 6 4 4 0 0
CAD Graphics II Voc/Tech
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: CADT410, MATH410

CADT412 6 4 4 0 0
Computer-Aided Drafting Appl. I Voc/Tech
Mechanical components and processes that are used in product design will be covered. Geometric dimensioning and tolerancing will be taught. Preparation of welding drawings will be presented with the emphasis on proper usage of American Welding Society symbols. Precision bending of sheet metal will be covered.
Prerequisite: CADT411, MATH411

** Adaptor Courses cannot be used to fulfill degree requirements
*** Adjunct Courses cannot be used to fulfill or substitute for required or option courses in any degree or diploma program

Course Descriptions

CHEM151 4 3 3 0 0
General/Inorganic Chemistry I Core
A thorough treatment of general chemistry including atomic structure, stoichiometry, chemical bonding, states of matter, solutions, acids and bases, reaction rates, equilibrium, thermodynamics and electrochemistry. This course is intended for science, engineering, pre-vet, pre-med, pre-dental and pre-optometry majors.
Prerequisite: 1 yr. H.S. chem or CHEM 131 & 2 yrs. H.S. algebra or MATH094

CHEM152 4 3 3 0 0
General/Inorganic Chemistry II Core
A continuation of General and Inorganic Chemistry I.
Prerequisite: CHEM151 or equivalent

CHEM161 5 3 4 0 0
Organic Chemistry I Core
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: CHEM132 or 152 or 1 year college level general chemistry.

CHEM162 5 3 4 0 0
Organic Chemistry II Core
A continuation of Organic Chemistry I.
Prerequisite: CHEM161 or equivalent

CHIN101 4 4 0 0 0
Elementary Chinese I Core
Development of the basic skills of understanding, speaking, reading and writing Chinese. Grammar analysis, classroom conversational practice and some exploration of the Chinese culture.

CHIN102 4 4 0 0 0
Elementary Chinese II Core
Continued practice of the four basic skills and grammar analysis. Introduction of short prose selections with conversational emphasis. ***Prerequisite: CHIN101 or instructor permission***

CHIN103 4 4 0 0 0
Intermediate Chinese I Core
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: CHIN102 or instructor permission***

CHIN104 4 4 0 0 0
Intermediate Chinese II Core
Continued review of grammatical constructions using chinese cultural materials. Reading, writing and conversation will be emphasized in the context of cultural issues and current events. ***Prerequisite: CHIN103 or instructor permission***

CHLD110 3 3 0 0 0
Early Child Development Open
Course covers typical and atypical development of children from birth through eight years of age in the areas of physical/motor, language/cognitive and social/emotional growth. Emphasis is placed on the effects of interactions between child, family and society within a variety of cultural contexts.

CHLD210 1 1 0 0 0
Intro to Early Childhood Education Open
Course prepares students for employment in the field of early childhood education. State of Iowa child care center licensing/day care home registration requirements are reviewed. Basic job skills are discussed. Training requirements for universal precautions/infectious disease control and mandatory reporting of child abuse are met.

CHLD211 2 2 0 0 0
Guidance Techniques - Young Children Open
Course covers various philosophies of and techniques for the application of developmentally and individually appropriate guidance for typically and atypically developing young children.

CHLD212 1 1 0 0 0
Assess & Planning for Young Children Open
Course presents students with individually and developmentally appropriate assessment and planning skills for the care and early education of children in a variety of inclusive settings. Curriculum planning approached through the use of emergent curriculum concepts, thematic approaches, webbing, curriculum strands and individual education plans and individual family service plans.

CHLD213 2 2 0 0 0
Group Experience for EC Programs Open
Topics include assessment, planning and presentation of individually and developmentally appropriate small and large group activities for an inclusive program for preschool age children. Areas of focus include language, music, movement and literature.

CHLD214 3 3 0 0 0
Curriculum for Preschool Children Open
Planning of developmentally and individually appropriate activities for children 3 through 5 years of age. Planning of activities to enhance development in the curricular areas of art, sensory, dramatic play, science, math, literacy, motor and cognitive skills.

CHLD215 3 3 0 0 0
Child Health, Safety & Nutrition Open
Provision of a safe and healthy environment for young children in a group setting. Specifically covered are nutrition analysis, menu planning, indoor and outdoor safety principles and assessments, health assessments and policies and the care of children with chronic health problems.

CHLD216 2 2 0 0 0
Infant & Toddler Care & Education Open
Course focuses on best practices for care and education of children birth through 2 years of age in an integrated setting. Health and safety issues as well as presentation of developmentally appropriate activities are covered.

CHLD217 2 2 0 0 0
Professional Relationships Open
Course designed to give students an overview of expected professional behaviors and responsibilities as a member of an early childhood team. Focus on relationships with parents , communication skills with parents and co-workers, job-seeking skills, job performance and professional associations and educational opportunities.

CHLD220 3 3 0 0 0
Administration Programs-Young Child Open
Course covers basic principles involved in setting up and administering an early childhood program. Emphasis placed on licensing regulations, bookkeeping, insurance, enrollment and record keeping. Designed for second year students and persons interested in becoming a center director.

CHLD240 1 1 0 0 0
Emergency Care Open
Cardiopulmonary resuscitation according to Iowa Heart Guidelines. Childhood diseases, immunization laws and environmental safety for children are discussed. Designed for day care personnel. Certificate for first aid and CPR awarded upon successful completion. Course may be repeated for a maximum of 3 credits.

CHLD250- Adjunct* ** 1 1 0 0 0
Parenting Today Open
Course covers a wide variety of parenting topics through class discussion and reading from current literature. Topics included are child development principles, guidance, developmentally appropriate activities and expectations, health, safety and nutrition principles.

CHLD364 1 1 0 0 0
Activities-School-age Children Open
Course focuses on ideas for working with children ages 6-12 years. Includes a variety of activities that are designed to enhance children's day after school.

CHLD410 3 0 0 9 0
Student Participation I Open
Participation with children in the inclusive day care center on campus under the supervision of a lead teacher. Students have limited responsibilities for curriculum planning. Daily student -teacher conferences are held. ***Prerequisite: enrollment in or completion of a minimum of 8 credits of early childhood education or permission of instructor.***

CHLD411 3 0 0 9 0
Student Participation II Open
A continuation of Student Participation I in which students assume full responsibility for assessment, planning, lead teaching and parent communications in the inclusive day care center on campus under the supervision of a lead teacher. ***Prerequisite: completion of 10 credits in early childhood education including CHLD410 (minimum of a 2.0 in CHLD 410) or permission of instructor.***

CHLD420 2 0 0 0 8
Early Childhood Education Practicum Open
Placement in a community-based program for typically or atypically developing young children in an inclusive setting. Emphasis is on the development of competencies necessary for employment in a similar setting. ***Prerequisite: completion of 10 credits in Early Childhood Education courses with a minimum of a 2.0 GPA or permission of instructor.***

CHLD421 3 0 0 0 12
Early Childhood Ed Associate Practicum Open
Placement for the associate degree student in a community-based program for typically and atypically developing young children in an inclusive setting. The practicum is designed to further build competencies necessary for employment and to develop competencies in the area of program administration. ***Prerequisite: cumulative GPA of 2.0 in all early childhood courses , enrollment in or completion of CHLD220. Prerequisite: CHLD420***

CIM-404 2 1 2 0 0
Robotics Voc/Tech
Course provides an introduction to robotic fundamentals. The student will examine parameters of robot operation and program robots for various applications.

CIM-413 2 1 2 0 0
Introduction to FMS Cell Voc/Tech
This course introduces the student to the aspects of a flexible manufacturing and robotic cell operation. It will familiarize the student with cell setup, configuration, programming and troubleshooting. The course work includes labs on setting up and running various robotic equipment. ***Prerequisite: HTPC358 & 359 or instructor permission***

CIM-420 - Adjunct* ** 3 3 0 0 0
Systems and Technology Voc/Tech
This course covers topics related to the implementation of management systems and technologies designed to enhance the competitive position of a firm. It will address the topics of overall corporate strategy, infrastructure considerations, role of quality and the interface of production of control systems. This is also an APICS certification review course.

CIM-421 - Adjunct* ** 3 3 0 0 0
Motor Control Voc/Tech
Troubleshoot electro-mechanical motor controls, gain an understanding of ladder diagrams. Students should have a general knowledge of electricity to take this course.

COMH410 3 2 2 0 0
Introduction to Greenhouse Voc/Tech
An introduction to greenhouse structures, heating and environmental control systems and watering. Winter and spring commercial pot plants, cut flowers and bedding plant crops will be explored vocationally in the college greenhouses.
Prerequisite: COMH450, AGRI209, 219

COMH411 2 2 0 0 0
Horticulture Chemical Techniques Voc/Tech
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.

Course Descriptions

CART463 3 2 2 0 0
Electronic Photo Editing Voc/Tech
Introduction to using Adobe Photoshop. The student will learn how to electronically merge and edit color images such as scanning, color separation, combining photos, using channels and working with type will be covered.
Prerequisite: DKTP401

CDEV100 and CDEV101 (listed below) are wonderful opportunities to assist with transition to college. These courses provide numerous strategies to create success in and out of the classroom.

CDEV100 1 1 0 0 0
Orientation to College Open
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.

CDEV101 2 2 0 0 0
Study Strategies Open
Provides students with study/reading strategies for independent learning and academic success. An examination of college policies and procedures is also included.

CDEV110 1 1 0 0 0
Career Planning Open
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.

CET-315 3 3 0 0 0
Fundamentals of Civil Engineering Voc/Tech
Introduces concepts of the civil engineering technician career. Topics include civil engineering technician disciplines and career structures.; construction and civil engineering industry; introduction to basic engineering principles; layout of civil plans; introduction to design methods; standards and equipment used in design and manual drafting.

CET-320 3 3 0 0 0
Survey I Voc/Tech
This course will develop a working knowledge of surveying fundamentals. Topics will include an introduction to: surveying instruments and equipment; measurement of distances and angles; determining elevation; note keeping, traversing, triangulation, mapping, researching of monuments and benchmarks, cross sections and earthwork; introduction to right of way and property plats. ***Prerequisite: CET-315 or department approval***

CET-325 4 3 2 0 0
Survey II Voc/Tech
A continuation of Survey I. Topics will include: control surveys; topographic survey, construction survey, coordinate systems (i.e. state plane); spheres; watersheds; aerial photography; photogrammetry; legal descriptions; right of way; electronic data collection and global positioning will be utilized; data downloading and editing. Legal principles of land boundaries, public domain survey systems. ***Prerequisite: CET-320 or department approval***

CET-330 4 4 0 0 0
Highway Design I Voc/Tech
This course will develop a working knowledge of civil design plans and design principles. Topics will include: design criteria and standards; typical roadway sections; traffic data; cross sections; earthworks; survey data, historical project information, bid items, design manuals, geometric design, hydrology, staging, records management, vertical profile design, environmental project information. GEOPAK will be utilized.
Prerequisite: CET-315 or department approval

CET-340 3 3 0 0 0
Construction I Voc/Tech
This course will develop a working knowledge of construction inspection fundamentals. Topics will include introduction to: construction reviews, pre-construction planning, permits process, embankment construction, drainage solutions, stabilization methods, equipment used in construction, placement work, paving procedures, estimating of time and materials.
Prerequisite: CET-315 or department approval

CET-350 4 3 2 0 0
Materials I Voc/Tech
Students will develop a working knowledge of soils and materials used in the construction industry. Topics will include: soil types, foundations and aggregates; subsurface explorations; engineering property of soils and aggregates, such as moisture content, compaction, permeability; soils plan creation; soil borings; concrete properties; concrete mixes; asphalt properties; sampling methods (J); testing of materials; testing equipment; calibration of equipment. ***Prerequisite: CET-315or department approval***

CET-360 3 3 0 0 0
Soils and Foundations Voc/Tech
This course will develop a working knowledge of soil mechanics and soil relationship to roadway construction. Topics include: definitions, types, properties, classifications and distributions of soil. This course will examine how to transfer soils mechanics principles to roadway construction. The application of differing soil type and properties and how soils materials are incorporated into the design will be presented.
Prerequisite: CET-315 or department approval

CET-380 3 3 0 0 0
Statics Voc/Tech
Designed to develop and present basic structural concepts. Emphasis is placed on the use of tree-body diagrams in understanding the forces acting on a structural member. Topics presented will be demonstrated in model form to reinforce the ideas through visual images. ***Prerequisite: MATH411 or department approval***

CET-390 4 4 0 0 0
Automated Design I Voc/Tech
This course will introduce the student to Micro Station CAD software. Basic two-dimensional CAD drawings will be taught. Drawings will be created and plotted. Drawing formats, geometric construction and lettering will be taught on computer-aided drafting (CAD) software. Drafting standards will be covered. Sketching and fundamentals of orthographic projection are stressed.
Prerequisite: CET-315 or department approval

CET-405 5 0 0 0 20
Field Coop Voc/Tech
Practical experience through on-the-job training in an approved civil engineering technician setting. Tasks will be consistent with student's career objectives, skills and knowledge. ***Prerequisite: Successful completion of 32 credit hours of CET- credit courses and/or departmental approval***

CET-406 2 0 0 0 8
Advanced Field Coop Voc/Tech
Practical experience through on-the-job training in an approved civil engineering technician setting. Tasks will be consistent with student's career objectives, skills and knowledge. ***Prerequisite: CET-405***

CET-407 2 2 0 0 0
Field Orientation Voc/Tech
This course 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 project to observe construction procedures
Prerequisite: Written permission from CET faculty to substitute this course for CET-405

CET-422 4 3 2 0 0
Survey III Voc/Tech
This course illustrates the application of survey concepts to a highway survey. Topics will include: legal description research, route surveying, horizontal and vertical curve layout, closed and open loop survey, bench level circuits; subdivision surveying, construction surveying; electronic data collection and global positioning will be utilized.
Prerequisite: CET-325 or department approval

CET-430 4 4 0 0 0
Highway Design II Voc/Tech
Application of design concepts and standards to a highway design project. A complete project design is required with a written and oral presentation. The finished project will be created utilizing GEOPAK that includes: determining design criteria; determining horizontal and vertical alignment layout; intersection and interchange design, selection of typical, standard notes and design standards; hydrology; generating and analyzing cross sections; determining right of way needs; earthwork to include quantities, a mass diagram and mass ordinates; detailed material list and cost estimates (preliminary and final). The presentation will include a three-dimensional drive through of the project.
Prerequisite: CET-330 or department approval

CET-440 3 3 0 0 0
Construction II Voc/Tech
This course will involve the definition, interpretation and utilization of drawings, specifications, agreements, bidding forms, general considerations, bonds, subcontracts, shop drawings, material approvals and related documents, record keeping and materials measurement, as built plans.
Prerequisite: CET-340 or department approval

CET-450 3 2 2 0 0
Materials II Voc/Tech
This course will develop a working knowledg of soils and materials used in the constructior industry. Topics will include: soil types; aggregates; subsurface explorations, engineering property of soils and aggregates such as moisture content, compaction, permeability; soils plan creation; soil borings; concrete properties; concrete mixes; asphalt properties; sampling methods; testing of materials; testing equipment; calibration of equipment. ***Prerequisite: CET-350 or department approval***

CET-470 3 3 0 0 0
Structural Design and Construction Voc/Tech
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, bearing plates, open web steel joists, steel roof decks, concrete structures, mixes, placement, precast and pre-stressed. ***Prerequisite: CET-315 or department approval***

CET-490 4 4 0 0 0
Automated Design II Voc/Tech
This course will introduce the student to intermediate MicroStation CAD commands. Advanced two-dimensional CAD drawing and editing techniques will be taught. Basic three-dimensional applications and editing will be introduced. Drawings will be created and plotted. GEOPAK fundamentals will be taught to include: project manager, horizontal alignment, vertical alignment, point manipulation, chains, existing cross section creation, proposed cross section creation, quantity outputs and criteria. ***Prerequisite: CET-390 or department approval***

CHEM120 3 2 2 0 0
Survey of Chemistry Core
An introduction to chemical topics with little mathematics. Topics include energy, food chemistry, air and water pollution, agricultural chemicals, detergents, and drugs. For students who need one semester of laboratory science.

CHEM131 4 3 2 0 0
Introduction to General Chemistry Core
A study of the concepts of general chemistry including atomic structure, bonding, reactions, stoichiometry, gas laws, solutions, acids and bases, equilibrium, nuclear chemistry and an introduction to organic chemistry. Problem solving is emphasized. For non-science majors and students in health related programs.
Prerequisite: 1 year H.S. algebra or MATH092

CHEM132 4 3 2 0 0
Intro to Organic and Biochemistry Core
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: CHEM131 or equivalent

** Adaptor Courses cannot be used to fulfill degree requirements
*** Adjunct Courses cannot be used to fulfill or substitute for required or option courses in any degree or diploma program

Course Descriptions

CHEM151 4 3 3 0 0
General/Inorganic Chemistry I Core
A thorough treatment of general chemistry including atomic structure, stoichiometry, chemical bonding, states of matter, solutions, acids and bases, reaction rates, equilibrium, thermodynamics and electrochemistry. This course is intended for science, engineering, pre-vet, pre-med, pre-dental and pre-optometry majors.
Prerequisite: 1 yr. H.S. chem or CHEM 131 & 2 yrs. H.S. algebra or MATH094

CHEM152 4 3 3 0 0
General/Inorganic Chemistry II Core
A continuation of General and Inorganic Chemistry I.
Prerequisite: CHEM151 or equivalent

CHEM161 5 3 4 0 0
Organic Chemistry I Core
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: CHEM132 or 152 or 1 year college level general chemistry.

CHEM162 5 3 4 0 0
Organic Chemistry II Core
A continuation of Organic Chemistry I.
Prerequisite: CHEM161 or equivalent

CHIN101 4 4 0 0 0
Elementary Chinese I Core
Development of the basic skills of understanding, speaking, reading and writing Chinese. Grammar analysis, classroom conversational practice and some exploration of the Chinese culture.

CHIN102 4 4 0 0 0
Elementary Chinese II Core
Continued practice of the four basic skills and grammar analysis. Introduction of short prose selections with conversational emphasis. ***Prerequisite: CHIN101 or instructor permission***

CHIN103 4 4 0 0 0
Intermediate Chinese I Core
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: CHIN102 or instructor permission***

CHIN104 4 4 0 0 0
Intermediate Chinese II Core
Continued review of grammatical constructions using chinese cultural materials. Reading, writing and conversation will be emphasized in the context of cultural issues and current events. ***Prerequisite: CHIN103 or instructor permission***

CHLD110 3 3 0 0 0
Early Child Development Open
Course covers typical and atypical development of children from birth through eight years of age in the areas of physical/motor, language/cognitive and social/emotional growth. Emphasis is placed on the effects of interactions between child, family and society within a variety of cultural contexts.

CHLD210 1 1 0 0 0
Intro to Early Childhood Education Open
Course prepares students for employment in the field of early childhood education. State of Iowa child care center licensing/day care home registration requirements are reviewed. Basic job skills are discussed. Training requirements for universal precautions/infectious disease control and mandatory reporting of child abuse are met.

CHLD211 2 2 0 0 0
Guidance Techniques - Young Children Open
Course covers various philosophies of and techniques for the application of developmentally and individually appropriate guidance for typically and atypically developing young children.

CHLD212 1 1 0 0 0
Assess & Planning for Young Children Open
Course presents students with individually and developmentally appropriate assessment and planning skills for the care and early education of children in a variety of inclusive settings. Curriculum planning approached through the use of emergent curriculum concepts, thematic approaches, webbing, curriculum strands and individual education plans and individual family service plans.

CHLD213 2 2 0 0 0
Group Experience for EC Programs Open
Topics include assessment, planning and presentation of individually and developmentally appropriate small and large group activities for an inclusive program for preschool age children. Areas of focus include language, music, movement and literature.

CHLD214 3 3 0 0 0
Curriculum for Preschool Children Open
Planning of developmentally and individually appropriate activities for children 3 through 5 years of age. Planning of activities to enhance development in the curricular areas of art, sensory, dramatic play, science, math, literacy, motor and cognitive skills.

CHLD215 3 3 0 0 0
Child Health, Safety & Nutrition Open
Provision of a safe and healthy environment for young children in a group setting. Specifically covered are nutrition analysis, menu planning, indoor and outdoor safety principles and assessments, health assessments and policies and the care of children with chronic health problems.

CHLD216 2 2 0 0 0
Infant & Toddler Care & Education Open
Course focuses on best practices for care and education of children birth through 2 years of age in an integrated setting. Health and safety issues as well as presentation of developmentally appropriate activities are covered.

CHLD217 2 2 0 0 0
Professional Relationships Open
Course designed to give students an overview of expected professional behaviors and responsibilities as a member of an early childhood team. Focus on relationships with parents , communication skills with parents and co-workers, job-seeking skills, job performance and professional associations and educational opportunities.

CHLD220 3 3 0 0 0
Administration Programs-Young Child Open
Course covers basic principles involved in setting up and administering an early childhood program. Emphasis placed on licensing regulations, bookkeeping, insurance, enrollment and record keeping. Designed for second year students and persons interested in becoming a center director.

CHLD240 1 1 0 0 0
Emergency Care Open
Cardiopulmonary resuscitation according to Iowa Heart Guidelines. Childhood diseases, immunization laws and environmental safety for children are discussed. Designed for day care personnel. Certificate for first aid and CPR awarded upon successful completion. Course may be repeated for a maximum of 3 credits.

CHLD250- Adjunct*** 1 1 0 0 0
Parenting Today Open
Course covers a wide variety of parenting topics through class discussion and reading from current literature. Topics included are child development principles, guidance, developmentally appropriate activities and expectations, health, safety and nutrition principles.

CHLD364 1 1 0 0 0
Activities-School-age Children Open
Course focuses on ideas for working with children ages 6-12 years. Includes a variety of activities that are designed to enhance children's day after school.

CHLD410 3 0 0 9 0
Student Participation I Open
Participation with children in the inclusive day care center on campus under the supervision of a lead teacher. Students have limited responsibilities for curriculum planning. Daily student -teacher conferences are held. ***Prerequisite: enrollment in or completion of a minimum of 8 credits of early childhood education or permission of instructor.***

CHLD411 3 0 0 9 0
Student Participation II Open
A continuation of Student Participation I in which students assume full responsibility for assessment, planning, lead teaching and parent communications in the inclusive day care center on campus under the supervision of a lead teacher. ***Prerequisite: completion of 10 credits in early childhood education including CHLD410 (minimum of a 2.0 in CHLD 410) or permission of instructor.***

CHLD420 2 0 0 0 8
Early Childhood Education Practicum Open
Placement in a community-based program for typically or atypically developing young children in an inclusive setting. Emphasis is on the development of competencies necessary for employment in a similar setting. ***Prerequisite: completion of 10 credits in Early Childhood Education courses with a minimum of a 2.0 GPA or permission of instructor.***

CHLD421 3 0 0 0 12
Early Childhood Ed Associate Practicum Open
Placement for the associate degree student in a community-based program for typically and atypically developing young children in an inclusive setting. The practicum is designed to further build competencies necessary for employment and to develop competencies in the area of program administration. ***Prerequisite: cumulative GPA of 2.0 in all early childhood courses , enrollment in or completion of CHLD220. Prerequisite: CHLD420***

CIM-404 2 1 2 0 0
Robotics Voc/Tech
Course provides an introduction to robotic fundamentals. The student will examine parameters of robot operation and program robots for various applications.

CIM-413 2 1 2 0 0
Introduction to FMS Cell Voc/Tech
This course introduces the student to the aspects of a flexible manufacturing and robotic cell operation. It will familiarize the student with cell setup, configuration, programming and troubleshooting. The course work includes labs on setting up and running various robotic equipment. ***Prerequisite: HTPC358 & 359 or instructor permission***

CIM-420 - Adjunct*** 3 3 0 0 0
Systems and Technology Voc/Tech
This course covers topics related to the implementation of management systems and technologies designed to enhance the competitive position of a firm. It will address the topics of overall corporate strategy, infrastructure considerations, role of quality and the interface of production of control systems. This is also an APICS certification review course.

CIM-421 - Adjunct*** 3 3 0 0 0
Motor Control Voc/Tech
Troubleshoot electro-mechanical motor controls, gain an understanding of ladder diagrams. Students should have a general knowledge of electricity to take this course.

COMH410 3 2 2 0 0
Introduction to Greenhouse Voc/Tech
An introduction to greenhouse structures, heating and environmental control systems and watering. Winter and spring commercial pot plants, cut flowers and bedding plant crops will be explored vocationally in the college greenhouses.
Prerequisite: COMH450, AGRI209, 219

COMH411 2 2 0 0 0
Horticulture Chemical Techniques Voc/Tech
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.

** Adaptor Courses cannot be used to fulfill degree requirements
*** Adjunct Courses cannot be used to fulfill or substitute for required or option courses in any degree or diploma program

Course Descriptions

COMH433 2 1 2 0 0
Irrigation Systems Voc/Tech
A study of the design, installation, use, maintenance and repair of the different types of irrigation systems used in the production of a wide variety of horticulture crops. Irrigation system components, materials and estimates of installation, maintenance and operation costs will be addressed.
Prerequisite: AGRI209, 219, COMH437

COMH435 2 1 2 0 0
Sports Turf Voc/Tech
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, Pre-competition practices of field layout along with post-competition practices of repair and field recovery will be discussed.
Prerequisite: AGRI209, 219, COMH437

COMH437 2 2 0 0 0
Turf I Voc/Tech
The study of soil and turf relationships as 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: COMH450, AGRI209, 219

COMH440 3 1 4 0 0
Landscape Design I Voc/Tech
Fundamentals of landscape design for homes presented. Introduction to principles of landscaping as they apply to residential landscaping. Student is given opportunity to draw basic residential landscape plans.
Prerequisite: The following courses should be completed or be currently enrolled: COMH441, 488

COMH441 1 1 0 0 0
Landscape Drafting Voc/Tech
Introduction to landscape drafting and associated drafting equipment and materials.
Corequisite: COMH488

COMH450 3 3 0 0 0
Botany Voc/Tech
A course designed to introduce the student to the principles of botany that are basic to plant life. Topics covered include plant cell chemistry, cell structure, functions, photosynthesis, transpiration.

COMH452 3 2 2 0 0
Arboriculture Voc/Tech
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: COMH450, AGRI209, 219

COMH453 2 1 2 0 0
Landscape Design II Voc/Tech
Course will include design of residential, commercial, public areas and annual and perennial flower beds. Use of landscape construction materials in design and materials and labor estimates will be developed.
Prerequisite: The following courses should be completed or be currently enrolled: COMH440, 441, 488. Corequisite: COMH489

COMH454 2 0 0 0 10
Horticulture Internship I Voc/Tech
Experience in a business setting related to the student's career objective. Taken over a five week period. (P/F)
Prerequisite: COMH410, 437, 488

COMH455 3 2 2 0 0
Turf II Voc/Tech
Turf management practices on golf and recreation areas with practical experience in maintaining turf on outdoor campus facilities.
Prerequisite: COMH437

COMH457 3 2 2 0 0
Fruit & Vegetable Science Voc/Tech
A study of tree fruits, small fruits and vegetable culture, including varietal selection, planting, pruning, fertilizing, disease and insect control programs.
Prerequisite: COMH450, AGRI209, 219

COMH458 2 2 0 0 0
Insects & Diseases Voc/Tech
Identification of diseases and insects which frequently infest horticultural crops and plant materials. Structures, functions and life cycles of those pests will be studied with environmental conditions favoring development. Chemical, organic, biological and mechanical control methods will be presented. A collection will aid I.D. process.

COMH469 3 3 0 0 0
Garden Center Management Voc/Tech
Display, promotion and merchandising in the modern garden center will be stressed. Problems of distribution functions of marketing and their costs will be studied. Management's role in organizing a business and financial planning will be discussed.

COMH478 3 2 2 0 0
Plant Propagation I Voc/Tech
An introduction to plant propagation with emphasis on grafting, herbaceous and hardwood cuttings and greenhouse and nursery seeds. Propagation schedules, equipment, structures and growth regulators will be discussed.
Prerequisite: COMH450, AGRI209, 219

COMH479 3 2 2 0 0
Nursery Production I Voc/Tech
Introduces the student to site selection, equipment and supplies with an introduction to field production, harvesting and marketing. Basic nursery and landscape skills will be developed on and off campus.
Prerequisite: COMH450, AGRI209, 219

COMH483 1 0 2 0 0
Plant Propagation II Voc/Tech
Summer methods of plant propagation including softwood and semi-hardwood cuttings, budding, layering, divisions and an overview of apical meristem culture.
Prerequisite: COMH478

COMH485 1 0 2 0 0
Floral Design II Voc/Tech
An advanced class in commercial floral design, flower shop organization and management. Advanced wedding work, funeral work and commercial flower arrangements will be taught.
Prerequisite: COMH497

COMH486 2 1 2 0 0
Construction, Safety & Maintenance Voc/Tech
A practical course in the proper care and use of hand and power tools and larger equipment, utilized by the horticulture industry. Familiararity of equipment use will be gained from construction projects on campus.

COMH488 3 1 4 0 0
Woody Plant Materials Voc/Tech
The identification, morphology, landscape use and culture of native and non-native woody plants of the upper midwest. First 10 weeks emphasis is on deciduous plants, last 5 weeks emphasis is on evergreens. ***Corequisite: COMH441***

COMH489 3 2 2 0 0
Herbaceous Plant Materials Voc/Tech
The identification, morphology, landscape use and culture of native and non-native plants of the upper midwest. Emphasis on early mid-season perennials and annual.
Prerequisite: The following courses should be completed or be currently enrolled: COMH488, Corequisite: COMH453

COMH490 3 2 2 0 0
Greenhouse Prod Techniques Voc/Tech
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: COMH410

COMH497 1 0 2 0 0
Floral Design I Voc/Tech
Construction and mechanics of merchandising flowers and plants at retail.

COMH498 2 0 0 0 10
Horticulture Internship II Voc/Tech
A final 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 five week period. ***(P/F) Prerequisite: COMH454***

COMS111 3 3 0 0 0
Computers & Program Logic Open
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 solutions.

COMS112 3 3 0 0 0
Computers & Programming II Open
A block structured language will be used to introduce commonly used data structures. Programs using these data structures will be developed, written, tested and debugged.
Prerequisite: COMS111

COMS125 3 3 0 0 0
Business Programming COBOL I Open
Introduces the programming language COBOL. Topics include move, logical testing, control & page breaks, totals and others. Emphasis is given to business applications.

COMS126 4 4 0 0 0
Business Programming COBOL II Open
Introduces advanced COBOL programming techniques. Emphasis is given to the SORT verb, multiple level tables and ISAM file access techniques.
Prerequisite: COMS125

COMS160 3 3 0 0 0
Computational Structures Open
Relates mathematics as a tool and language to the computer. A block structured language will be used to acquaint students with application areas in computer science.
Prerequisite: COMS112, MATH129

COMS172 2 2 0 0 0
Computer Programming-FORTRAN Open
For students desiring an introductory background in the programming language of FORTRAN. Included are FORTRAN structures, i/d statements, arrays, subscripting, control statements, data storage and retrieval.
Prerequisite: MATH129, COMS111

COMS174 3 3 0 0 0
Applied Programming I Pascal Open
Introduction to structured programming using a blocked structured language. Emphasis will be on an algorithmic approach to program development. Programs will be developed, written, tested and debugged.
Prerequisite: MATH115, 123

COMS176 4 4 0 0 0
Applied Programming II Open
Data structures as related to computer programming will be emphasized. Programs using these data structures will be developed, written, tested and debugged. The programs written will also be business application oriented. ***Prerequisite: COMS174***

COMS181 3 2 2 0 0
Intro to Computer Literacy Open
Presents the basic concepts of computers and the effect that computers are having and will continue to have, in the future. Incorporates theory as well as hands-on practice. Includes an introduction to Windows, Word, Excel, Access and the Internet.

COMS301 3 3 0 0 0
Java Programming Voc/Tech
Students will learn the basic features of the Java programming language and explore the concepts of object-oriented programming, event handling, user interface programming and graphics techniques. Students will gain practical experience creating and modifying Java applications and applets and embedding Java applets in web pages.
Prerequisite: COMS111 or equivalent

COMS302 3 3 0 0 0
Advanced Java Voc/Tech
Students will learn server side features of the Java programming language and explore the concepts of enterprise development. Gain practical experience creating and modifying Java servlets. Java Server Pages (JSP) and Enterprise Java Beans (EJB). Database connectivity will also be examined.
Prerequisite: DATA310/COMS111

** Adaptor Courses cannot be used to fulfill degree requirements
*** Adjunct Courses cannot be used to fulfill or substitute for required or option courses in any degree or diploma program

Course Descriptions

COMS303 3 3 0 0 0
E-Commerce Scripting Languages Voc/Tech
This course focuses on current website programming languages such as Javascript, VB Script and CGI-Perl. Make web pages interactive, add special functions and special handling. Cookies and shopping carts will be created. ***Prerequisite: BSEN306 or DATA110***

COOP212 1 1 0 0 0
Coop Career Seminar Voc/Tech
Examination of topics relevant to the internship experience, sharing workplace problems encountered and the solutions found to those problems. This course may be repeated for a maximum of 4 credits. ***Corequisite: COOP221 or 222 or 223 or 224 or 225 or 226***

COOP220 2 2 0 0 0
Career-Seeking Skills Voc/Tech
Covers all aspects of professional job placement procedures including career goal setting, developing prospective employer lists, resume writing, job application forms, employment tests, personal appearance, interviewing and follow-up.

COOP221 1 0 0 0 4
Coop Career Experience Voc/Tech
Practical experience through on-the-job training in an approved business setting. Tasks will be consistent with student's career objectives, skills and knowledge.
(P/F) Corequisite: COOP212

COOP222 2 0 0 0 8
Coop Career Experience Voc/Tech
Practical experience through on-the-job training in an approved business setting. Tasks will be consistent with student's career objectives, skills and knowledge.
(P/F) Corequisite: COOP212

COOP223 3 0 0 0 12
Coop Career Experience Voc/Tech
Practical experience through on-the-job training in an approved business setting. Tasks will be consistent with student's career objectives, skills and knowledge.
(P/F) Corequisite: COOP212

COOP224 4 0 0 0 16
Coop Career Experience Voc/Tech
Practical experience through on-the-job training in an approved business setting. Tasks will be consistent with student's career objectives, skills and knowledge.
(P/F) Corequisite: COOP212

COOP225 5 0 0 0 20
Coop Career Experience Voc/Tech
Practical experience through on-the-job training in an approved business setting. Tasks will be consistent with student's career objectives, skills and knowledge..
(P/F) Corequisite: COOP212

COOP226 6 0 0 0 24
Coop Career Experience Voc/Tech
Practical experience through on-the-job training in an approved business setting. Tasks will be consistent with student's career objectives, skills and knowledge.
(P/F) Corequisite: COOP212

COOP301 1 1 0 0 0
Building a Professional Portfolio Voc/Tech
This course provides the writing and research skills necessary to compile a professional portfolio highlighting abilities, experiences and accomplishments. The portfolio will include a resume, reference letters, certificates, sample demonstrations of work performance, documentation that shows knowledge of subject area and other applicable items.

CRIM101 3 3 0 0 0
Intro to Criminal Justice General
An in-depth examination of the three components of the criminal justice system and the roles they play in society.

CRIM103 3 3 0 0 0
Community Relations Open
Examination of the role of criminal justice personnel in a democratic society; emphasis on ethical uses of discretion, analysis of officer stress and the popular perceptions of the criminal justice system.

CRIM104 3 3 0 0 0
Criminal Law General
An examination of the elements of offenses and the procedural safeguards in the criminal process.

CRIM105 3 3 0 0 0
Constitutional Law General
A study of the application of constitutional principles to social and political questions including the powers of the national government versus state government through focus on the incorporation issue, examination of the evolution of civil liberties guarantees.

CRIM106 3 3 0 0 0
Juvenile Law General
The social and legal aspects of juvenile delinquency, examination of procedures, legislation, juvenile court and prevention programs.

CRIM107 3 3 0 0 0
Theories of Interviewing Open
The process of gathering information from others: the interviewee, the setting, types of questions, non verbal communication, deception and theories of communication.

CRIM110 3 3 0 0 0
Penology Open
Social organization and goals of correctional programs. Principles of institutional corrections and the social structure within institutions. Examination of non-institutional alternatives include probation and parole.

CRIM211 3 3 0 0 0
Correctional Treatment Open
Institutional options for preventing recidivism. Introduction to therapeutic techniques. Comparison of punishment, freudian treatments and behavior modification systems. Student presentation required.

CRIM212 3 3 0 0 0
Correctional Law Open
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.

CRIM214 3 3 0 0 0
Criminal Investigation I Open
Rudiments of criminal investigation: techniques, principles, problems, sources of information and evidentiary processes.

CRIM235 3 2 2 0 0
Survey/Criminal Justice Agencies Open
Study of the criminal justice system through an examination of actual agencies, focusing on theoretical versus real roles and functions of the agencies. Includes on-site visits.
Prerequisite: 24 hours of CRIM courses or instructor permission

CRIM236 3 0 0 0 12
Internship Open
Involves one-hundred fifty hours of active internship for students in an agency other than one in which they may be employed. Synthesis paper required.
(P/F) Prerequisite: 24 hrs of CRIM courses with minimum grade of C in each, CRIM235

CRIM255 3 3 0 0 0
Criminal Investigation II Open
An in-depth study of investigative techniques as applied to specific offenses. Court room presentation will also be emphasized.

CRIM273 3 3 0 0 0
Introduction to Security Open
Fundamental principles and practices of physical security, internal security, defense systems and fire safety are discussed in detail. Specific problems in hospital, transportation, retail and computer security are analyzed.

CRIM275 3 3 0 0 0
Scientific Investigation Open
An introduction to investigative techniques which stresses the identification and examination of physical evidence from the time of its discovery until a final disposition by the courts.

CRIM285 3 3 0 0 0
Criminal Justice Ethics Open
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 difficult ethical decisions they are likely to face in their daily routines.

CRIM410 - Adjunct*** 3 3 0 0 0
Orientation to Public Safety Voc/Tech
An introduction to the three areas of public safety; law enforcement, corrections and firefighting. This course covers the internal organization culture, the changing external culture and public safety work requirements. The course involves observing and riding with police officers, community corrections officers, visiting a correctional facility and touring a firefighter's work area.

CSCO340 4 2 4 0 0
CISCO Networking III Voc/Tech
CISCO training includes learning the basics of setting up, configuring and maintaining a switch, bridge and router. Additional areas cover layer 1, 2 & 3 network design, IP addressing scheme, VLANS, IPX compatibility, access lists, TCS and TBC design. ***Prerequisite: ITNA320***

CSCO350 4 2 4 0 0
CISCO Networking IV Voc/Tech
CISCO training involves WAN design, point-to-point protocol, ISDN, frame relay and network management. Part of this course is involved with extensive review of semester one through semester four material in preparation for the CCNA.
Prerequisite: CSCO340

CULA349 3 0 6 0 0
International Cuisine Lab II Voc/Tech
Application of gourmet cooking through actual quantity preparation of eight course international dinners. Four evening gourmet dinners will be prepared and served during the semester. ***Prerequisite: CULA446, 456***

CULA365 2 0 4 0 0
Advanced Baking/Buffet Decorating Voc/Tech
Advanced principles and procedures of producing baked goods, decorative work and display pieces. ***Prerequisite: CULA340, 386***

CULA386 2 0 4 0 0
Garde Manger Voc/Tech
Application of techniques used in preparation of hot and cold hors d'oeuvres, decorative food displays and ice carvings. Emphasis is placed on aspics, galantines and buffet presentations. ***Prerequisite: HRMT316, 320***

CULA446 3 0 6 0 0
International Cuisine Lab I Voc/Tech
Application of gourmet cooking through actual quantity preparation of eight course international dinners. Four evening gourmet dinners will be prepared and served during the semester. ***Prerequisite: HRMT326, 328 Corequisite: CULA456***

CULA451 4 0 8 0 0
Culinary Cuisine Lab Voc/Tech
Preparation of intricate and difficult classical cuisine dishes. Students will rotate through the cooking stations of the traditional brigade kitchen and then prepare food for service to the public. A la carte preparation is emphasized.
Prerequisite: HRMT357 Corequisite: CULA452

CULA452 2 2 0 0 0
Advanced Culinary Cuisine Voc/Tech
Discussion of the more intricate and difficult cooking principles and techniques of classical cuisine and planning for advanced culinary cuisine.
Prerequisite: HRMT357 Corequisite: CULA451

CULA456 2 2 0 0 0
International Cuisine Voc/Tech
Students research and plan international dinners. Emphasis is on menu and production planning for eight course gourmet dinners. The lecture will also focus on the pronunciation and definition of French terms. ***Prerequisite: HRMT326, 328 Corequisite: CULA446***

Course Descriptions

DATA102 3 3 0 0 0
New Literacy/Intro to Computers Voc/Tech
A television course giving a comprehensive introduction to computer principles and presenting a broad overview of data processing concepts.

DATA103 3 3 0 0 0
Visual BASIC programming Voc/Tech
An elementary course in the use of the visual BASIC programming language. The various commands will be presented; and students design, code and test several programs.
Prerequisite: COMS111 or equivalent

DATA104 3 3 0 0 0
Advanced Visual BASIC General
"Applications" approach developed around data file programming. Manipulation of string variables, data entry, formats, error checking routines and database files.
Prerequisite: DATA103

DATA106 3 2 2 0 0
Microcomputers in Business General
This course provides the person already familiar with microcomputer usage, additional skill development in the areas of the operating system (DOS/Windows), word processing, spreadsheets and database management software. Course features extensive hands-on usage combined with lecture and discussion. ***Prerequisite: COMS181***

DATA110 3 2 2 0 0
Computer Network Literacy Voc/Tech
This course is an introduction to basic concepts and terminology in computer networks and data communications. Topics include data communications equipment and media network basics and the Internet. Student will develop a personal web page.
Prerequisite: COMS181

DATA231 3 3 0 0 0
RPG/II General
Study of basic steps of programming. Students design, code and debug various problems written in report program generator language. ***Prerequisite: COMS181***

DATA301 4 3 2 0 0
DOS Job Control Voc/Tech
Provides an individual with a working knowledge of disk operating systems/virtual storage extended (DOS/VSE) job control language. ***Prerequisite: COMS125***

DATA306 4 3 2 0 0
COBOL - Intermediate Voc/Tech
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: COMS125***

DATA308 3 2 2 0 0
COBOL - Advanced Voc/Tech
ANS COBOL involving advanced editing programs, table processing, VSAM file process, programs linkage and report writer.
Prerequisite: DATA301 and 306

DATA309 3 3 0 0 0
COBOL on the World Wide Web Voc/Tech
Apply COBOL to the WWW using Net Express. Topics include CGI programs, data access on the server, GUI development for HTML based sites.
Prerequisite: COMS125

DATA318 3 3 0 0 0
C++ Programming Voc/Tech
Students will examine the structure of typical C++ programs, explore the concepts of object oriented programming and design eight small to medium sized programs in C++.
Prerequisite: COMS111

DATA319 4 3 2 0 0
Assembler - Beginning Voc/Tech
An introductory course in the syntax rules of assembler language programming. Business problems are analyzed and programmed.
Prerequisite: COMS125

DATA320 3 3 0 0 0
Advanced C++ Voc/Tech
Review and extend the concepts of class hierarchies, encapsulation, inheritance and polymorphism. Explore class libraries, templates, streamable classes and exception handling. Develop code for both DOS and windows applications. ***Prerequisite: DATA318***

DATA321 4 3 2 0 0
Assembler - Intermediate Voc/Tech
An intermediate course in the concepts and techniques of using assembler language, including machine language and table processing. ***Prerequisite: DATA319, 301***

DATA327 4 4 0 0 0
Assembler - Advanced Voc/Tech
An advanced course in the more complex concepts of assembler type instructions, including VSAM and macro processing with inter-program linkage. ***Prerequisite: DATA321.***

DATA334 6 4 4 0 0
Applications Programming Voc/Tech
Individual projects are assigned which require the student to apply the programming knowledge gained in prerequisite courses to the design and implementation of assigned business applications. ***Prerequisite: DATA352***

DATA335 1 0 2 0 0
Excel-An Introduction Voc/Tech
Orientation to Excel. Topics include spreadsheet layout and terminology, charting, enhancing a worksheet and chart. Designed for beginning users of Excel.

DATA341 3 3 0 0 0
Introduction to Databases Voc/Tech
This course provides a comprehensive foundation that enables students to understand and use commercially available relational DBMS products effectively.
Prerequisite: COMS181, COMS111, COMS125

DATA343 3 2 2 0 0
Introduction to SQL Voc/Tech
This course is an introduction to SQL as a database programming language to those already familiar with basic relational database concepts. Students will write executable SQL statements to create and maintain database objects. ***Prerequisite: DATA341***

DATA345 1 0 2 0 0
Spreadsheets Voc/Tech
Orientation to P.C. spreadsheets. Topics include spreadsheet layout, totals, report generation.

DATA346 2 1 2 0 0
Advanced Spreadsheets Voc/Tech
Advanced topic within spreadsheets, including macros, graphics and menu driven systems. ***Prerequisite: DATA345***

DATA349 3 2 2 0 0
Advanced PC/ SQL Program Units Voc/Tech
An advanced study of P.C. database concentrating on programs that are menu driven; screen generation and file manipulation. ***Prerequisite: DATA330***

DATA350 3 3 0 0 0
Relational Database Design Voc/Tech
Students learn a systematic approach to database development using entity-relationship models, normalization and relational database design. Students will use this approach to identify and define business information requirements, create entity-relationship models and transform the requirements into an initial database design.
Prerequisite: DATA341

DATA352 4 4 0 0 0
Telecommunications/CICS Prog Voc/Tech
Provides theory and working knowledge of telecommunication programming. Students will code programs using CICS.
Prerequisite: DATA308, 321

DATA382 4 4 0 0 0
Systems Analysis Voc/Tech
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: COMS181, COMS125

DENA302 4 4 0 0 0
Dental Science I Voc/Tech
Introduction to the various sciences necessary for the dental assistant. Microbiology and oral pathology are covered.
Prerequisite: DENA304 must be taken concurrently with or prior to this course

DENA304 2 2 0 0 0
Dental Anatomy Voc/Tech
The study of head, neck and dental anatomy is combined to give the student background information for application in dental assisting courses.

DENA305 2 1 2 0 0
Dental Radiography II Voc/Tech
A continuation of Dental Radiography I. Weekly seminars for basic interpretation of radiographs and laboratory experience to develop student competence in making oral radiographic surveys. ***Prerequisite: DENA302, 304, 320, DENH257***

DENA309 1 1 0 0 0
Dental Assisting Seminar Voc/Tech
Discussion and problem solving from clinical practice. Provides an awareness of types of office situations and discussion of clinical aspects of dental assisting and dentistry. Oral reports and weekly evaluations are required.
Prerequisite: DENA302, 304, 320, 325, DENH201, 257 Corequisite: DENA310

DENA310 3 0 0 0 12
Dental Assisting Clinical Voc/Tech
Application of knowledge and skills as students rotate through dental offices, clinics and hospital clinics. General and speciality practices are included in rotations.
Prerequisite: Current CPR certification DENA302, 304, 320, 325, DENH201, 257 Corequisite: DENA309

DENA312 2 2 0 0 0
Dental Science II Voc/Tech
A continuation of Dental Science I. Emphasis on effects of drugs and emergency procedures.
Prerequisite: CPR certification DENA302, 304

DENA316 1 1 0 0 0
Ethics & Clinical Seminar Voc/Tech
Continuation of DENA 309. 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: DENA318***

DENA318 4 0 0 0 16
Dental Assisting Clinical II Voc/Tech
Continuation of DENA310.
Corequisite: DENA316

DENA320 6 4 4 0 0
Preclinical Dental Assisting Voc/Tech
Basic concepts of chairside assisting are covered with emphasis on the role of the team in delivery systems. Terminology, instruments, equipment and basic procedures are covered.
Prerequisite: DENA302, 304, 325 and DENH201 must be taken concurrently with or prior to this course

DENA322 5 3 4 0 0
Clinical Dental Assisting Voc/Tech
A continuation of Preclinical Dental Assisting (DENA 320) with emphasis on operative dentistry, dental specialties and advanced functions. The laboratory phase develops students' competencies in clinical assisting.
Prerequisite: DENA302, 304, 320, 325, DENH201, 257

DENA323 2 2 0 0 0
Dental Business Office Procedure Voc/Tech
Covers the business aspects of the dental office: patient relations, appointment book management, financial records, telephone communications, credits and collections, dental insurance, tax records, supply and inventory systems.
Prerequisite: 35 wpm keyboard skills and computer literacy

DENA325 1 0 2 0 0
Dental Materials Lab Voc/Tech
Through laboratory experience the student learns techniques in preparation and utilization of dental materials.
Prerequisite: DENA304

DENH201 2 2 0 0 0
Dental Materials Open
A study of materials utilized in the practice of dentistry. Properties of dental materials and ADA requirements are presented.
Corequisite: DENA304 and DENA325 or DENH230 and DENH203

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Course Descriptions

DENH203 1 0 2 0 0
Dental Materials Lab Open
Through laboratory experience the student learns techniques in preparation and utilization of dental materials.
Corequisite: DENH201

DENH208 2 2 0 0 0
Principles of Dental Hygiene Open
Basic principles of clinical dental hygiene are introduced. The etiology of deposits and their effect on oral tissue and the theory and techniques of instrumentation in removal of deposits are emphasized in the practicum portion. *Prerequisite: BIOL154, CHEM131 Corequisite: DENH209*

DENH209 3 0 6 0 0
Principles of Dental Hygiene Practicum Open
See DENH208.
Prerequisite: BIOL154, CHEM131 Corequisite: DENH208

DENH210 2 2 0 0 0
Oral Histology & Embryology Open
General and oral histology beginning with a consideration of cytology, which is followed by a study of the fundamentals of oral embryology and the normal microscopic anatomy of oral tissues.
Prerequisite: BIOL154

DENH227 3 2 2 0 0
Dental Health Education Open
An introduction to the principles of instruction in health care. The course will include developing, presenting and evaluating dental health education programs for public schools and community groups.
Prerequisite: DENH208, 209

DENH228 2 2 0 0 0
Dental Hygiene I Open
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: DENH208, 209 Corequisite: DENH229*

DENH229 4 0 8 0 0
Dental Hygiene I Practicum Open
See DENH228.
Prerequisite: DENH208, 209 COREQUISITES: DENH228, 259

DENH230 4 4 0 0 0
Dental Anatomy Open
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: BIOL154

DENH240 4 4 0 0 0
Nutrition/Preventative Dentistry Open
Lecture-discussion course relating the nutrients and their effects on general and oral health throughout the life cycle. An introduction to the principles of counseling and instruction in preventive dentistry necessary to maintain optimum oral health.
Prerequisite: BIOL154, CHEM132

DENH241 1 1 0 0 0
Nutrition/Dental Counseling Open
A combined teaching, learning and practice course emphasizing the identification and analysis of diet as it relates to dental health. Students will evaluate caries and periodontal disease risk levels and perform counseling and instruction in elements of nutrition as they relate to the prevention of dental disease.
Prerequisite: BIOL154, CHEM132, HRMT334

DENH257 3 2 2 0 0
Dental Radiography I Open
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: DENA304 and DENA320 or DENH230

DENH259 2 1 2 0 0
Dental Radiography II Open
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: DENH257 Corequisite: DENH229

DENH278 2 2 0 0 0
Dental Hygiene II Open
A continuation of clinical practices. Further instruction and application in techniques for a complete oral prophylaxis and Phase I therapy. Topics include smoking cessation, intraoral photography, sonic scaling and air polishing. *Prerequisite: DENH228, 229 Corequisite: DENH279*

DENH279 2 0 0 6 0
Dental Hygiene II Practicum Open
See DENH278.
Prerequisite: DENH228, 229 Corequisite: DENH278

DENH280 2 2 0 0 0
Periodontology Open
The clinical characteristics, histopathology, etiology and treatment of periodontal diseases are presented. Special emphasis is placed on the role of the dental hygienist in the prevention and management of periodontal diseases. *Prerequisite: DENH210, 228, 229 Corequisite: DENH279*

DENH281 5 0 0 15 0
Dental Hygiene III Practicum Open
See DENH288.
Prerequisite: DENH278, 279 Corequisite: DENH288

DENH282 3 3 0 0 0
Dental Pharmacology Open
The study of drugs and their action on living tissue including their use as an aid in the diagnosis and treatment and prevention of disease or to control or improve any physiological or pathological condition.
Prerequisite: CHEM132, DENH230, 228, 229

DENH288 2 2 0 0 0
Dental Hygiene III Open
A continuation of clinical practices. Topics include dental hygiene care for individuals with special needs, care planning, third party payment applications, substance abuse and dependent adult abuse. *Prerequisite: DENH278, 279 Corequisite: DENH281*

DENH290 3 2 2 0 0
Community Dentistry Open
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: DENH227*

DENH291 5 0 0 15 0
Dental Hygiene IV Practicum Open
See DENH298.
Prerequisite: DENH281, 288 Corequisite: DENH298

DENH293 3 3 0 0 0
General & Oral Pathology Open
Basic concepts of disease process and the oral manifestations of inflammation, degenerative changes, neoplasms and developmental anomalies of the oral cavity.
Prerequisite: BIOL154, DENH210, 230

DENH298 2 2 0 0 0
Dental Hygiene IV Open
A continuation of clinical practices. Legal, ethical and management aspects of the dental care system are considered. Career alternatives and job seeking skills are demonstrated. *Prerequisite: DENH281, 288 Corequisite: DENH291*

DEVS072** 3 3 0 0 0
Thinking Skills Adaptor
To increase awareness of thinking as a skill which can be improved. Students will develop the ability to identify and improve the use of basic patterns of cognition. Activities will include personal, academic and career applications.

DIEM400 4 4 0 0 0
Basic Diemaking Voc/Tech
Introduction to diemaking principles covering die sets, die components, cutting and forming applications and material utilization. Experienced individuals may contact the instructor to gain admittance to this course.
Prerequisite: TOOL491; Corequisite: DIEM401

DIEM401 6 0 12 0 0
Basic Diemaking Lab Voc/Tech
Introducing the student to basic diemaking procedures as they construct a blank die, piercing die and a forming die.
Prerequisite: TOOL490 or equivalent Corequisite: DIEM400

DIEM402 2 0 4 0 0
Advanced Blueprint Reading Voc/Tech
An interpretation of progressive die blueprints, jig and fixture blueprints including assembly drawings, plan and section views and detailing.
Prerequisite: TOOL481 or equivalent Corequisite: CADD401

DIEM403 3 1 4 0 0
Progressive Die Design Voc/Tech
Hands-on drafting experience in the design, drawing and detailing of a progressive die using Computer Aided Design (CAD).
Prerequisite: DIEM402

DIEM404 4 4 0 0 0
Advanced Diemaking Voc/Tech
Complex die making procedures, including CAM actuated dies and exposure to cost estimating and quoting.
Prerequisite: DIEM400

DIEM405 6 0 12 0 0
Advanced Diemaking Lab Voc/Tech
Constructing a more complex stamping die, including a progressive die that has been partially designed and detailed by the student.
Prerequisite: DIEM401, DIEM404 must be taken concurrently with or prior to this course

DIEM407 3 2 2 0 0
Plastic Moldmaking Voc/Tech
The student is presented with the basic fundamental of plastic mold construction and molding processes. Experienced individuals may contact the instructor to gain admittance to this course.
Prerequisite: DIEM400 & DIEM401

DIEM413 3 2 2 0 0
Electrical Discharge Machining Voc/Tech
Operation of both conventional and wire EDM machines. Construction of EDM electrodes.

DISL401 6 1 10 0 0
Diesel Engines I Voc/Tech
Instruction provided in the technical and non-technical aspects of diesel engines. This information will give the students the basic understanding needed to continue in the Diesel Mechanic program.

DISL402 6 1 10 0 0
Diesel Engines II Voc/Tech
Instruction in diagnosing problems and the nature of repairs needed. Information on preventative measures to eliminate failures.
Prerequisite: DISL401

DISL404 6 2 8 0 0
Power Trains I Voc/Tech
Class and lab activities in the design and operation of drive train components including clutches, manual transmissions, drive lines, rear axles and wheel bearings.

DISL405 5 1 8 0 0
Power Trains II Voc/Tech
Instruction will include the basics of automatic transmissions, power shift transmissions, final drives and hydrostat drives. Experienced individuals may contact the instructor to gain admittance to this course. *Prerequisite: DISL404, 406*

DISL406 5 1 8 0 0
Hydraulics & Brakes Voc/Tech
The study of basic mobile hydraulics. Introduces principles, components, fluid systems and circuits of hydraulic systems. Vehicle braking includes study of hydraulic and air brake systems.

Course Descriptions

DISL407 6 1 10 0 0
Diesel Fuel Systems Voc/Tech
The student will be introduced to basic fuel systems principles and operational theory of some commonly used systems as well as general repair and diagnostic procedures. Experienced individuals may contact the instructor to gain admittance to this course.
Prerequisite: DISL402

DISL408 5 1 8 0 0
Basic Electricity Voc/Tech
An introduction to basic electricity and electronic principles that apply to diesel powered equipment. Systems and components covered include starting, charging, lighting and accessories.

DISL409 5 2 6 0 0
Diesel Electronics Voc/Tech
A study of electronic fundamentals, lab work with electronic components and testing equipment. Diesel engines which are computer controlled are used in lab to demonstrate applications of electronics on diesel power which meet demands of the future. Experienced individuals may contact the instructor to gain admittance to this course. ***Prerequisite: DISL408***

DISL417 5 1 8 0 0
Heavy Equipment Repair Voc/Tech
Instruction in the repair and service of equipment relating to the heavy equipment industry. This includes all phases normally done in a general repair shop. Instruction is given under structured lab and field conditions. Experienced individuals may contact the instructor to gain admittance to this course. ***Prerequisite: DISL402, 404, 406, 408***

DISL418 5 1 8 0 0
Truck Repair Voc/Tech
Instruction in the repair and service of equipment relating to the trucking industry. This includes all phases normally done in a general repair shop. Instruction is given under structured lab and field conditions. Experienced individuals may contact the instructor to gain admittance to this course.
Prerequisite: DISL402, 404, 406, 408

DISL420 3 1 4 0 0
Air Conditioning Voc/Tech
A course on basic air conditioning theory and design. Emphasis will be placed on various system controls and on service operations.

DISL428 5 1 8 0 0
Operation & Maintenance Voc/Tech
Instruction in the proper methods of maintaining all equipment. Safety will be emphasized.

DISL430 4 2 4 0 0
Caterpillar Fuel Systems Voc/Tech
The student will be introduced to basic Caterpillar fuel system principles and theory for mechanical and electronic engines. General repair and diagnostic procedures will also be covered. Experienced individuals may contact the instructor to gain admittance to this course.
Prerequisite: DISL402, 404, 406, 408

DISL431 2 1 2 0 0
Caterpillar Failure Analysis Voc/Tech
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: DISL402, 404, 406

DISL432 2 1 2 0 0
Caterpillar LS/PC - Hydraulics Voc/Tech
This course will cover the design and theory of LS/PC hydraulic systems. This course will cover the function, operation and diagnosis of LS/PC hydraulics. Experienced individuals may contact the instructor to gain admittance to this course. ***Prerequisite: DISL406, 408***

DISL433 2 2 0 0 0
Caterpillar Service Information Sys Voc/Tech
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.

DISL434 4 0 0 0 16
Caterpillar Internship Voc/Tech
Work experience at a local Caterpillar dealership. The work experience will be compatible with the students ability and previous course work.
Prerequisite: DISL402, 404, 406, 408

DISL435 2 0 4 0 0
Caterpillar Multi-Media Voc/Tech
The student will complete Caterpillar computerized tests and review modules.
Prerequisite: DISL402, 404, 406, 408

DISL470 4 1 6 0 0
Advanced Electricity Voc/Tech
The electrical circuitry on diesel powered equipment is covered. Included are troubleshooting, diagnosing and repair procedures. Experienced individuals may contact the instructor to gain admittance to this course. ***Prerequisite: DISL408***

DKTP401 3 1 4 0 0
Intro To Desktop Publishing Voc/Tech
Course introduces student to operating system of the Macintosh computer. Industry standard electronic layout program is used to introduce the student to the field of electronic desktop publishing.

DMAS350 1 1 0 0 0
Health Field Voc/Tech
Roles of dietary personnel in health facilities, state and federal guidelines. Explore managerial aspects within facilities.

DMAS351 1 0 2 0 0
Food Preparation Voc/Tech
Basic principles and development of techniques as they apply to preparation of each food group, criterion for evaluating product quality, laboratory experience.

DMAS352 2 2 0 0 0
Sanitation/Meal Service Voc/Tech
Methods of efficiently serving safe, pleasing food. An awareness of sanitation will be created for all areas of food service.

DMAS353 1 1 0 0 0
Nutrition Life Cycle Voc/Tech
An in-depth study (social, physiological and psychological need) of residents from infancy to geriatric. Explore the therapeutic role of food.

DMAS354 1 1 0 0 0
Modified Diets Voc/Tech
Assessment of special diets, using approved diet manual, a review of food guidelines and hints for making modified diets more appetizing.

DMAS355 1 1 0 0 0
Food Production Management Voc/Tech
Total production needs, equipment layout, work methods, food storage, food preparation, service, sanitation and use of computers in food service.

DMAS356 2 2 0 0 0
Food Service Management Voc/Tech
The management functions required to organize and maintain an efficient quality dietary department are developed.

DMAS361 1 0 0 0 4
Food Prep Field Experience Voc/Tech
Application and evaluation of food preparation in health care facility. Practical experience in selected health care facility supervised by a registered dietitian. (P/F)

DMAS362 1 0 0 0 4
Sanitation/Meal Service Field Exp Voc/Tech
Application/evaluation of sanitation and meal service in health care facility. Practical experience in selected health care facility supervised by a registered dietitian. (P/F)

DMAS363 1 0 0 0 4
Nutrition Life Cycle Field Experience Voc/Tech
Application/evaluation of nutritional aspects in health care facility. Practical experience in selected health care facility supervised by a registered dietitian. (P/F)

DMAS364 1 0 0 0 4
Modified Diet/Field Experience Voc/Tech
Application/evaluation of modified diets in health care facility. Practical experience in selected health care facility supervised by a registered dietitian. (P/F)

DMAS365 1 0 0 0 4
Food Production Field Experience Voc/Tech
Application/evaluation of food production in health care facility. Practical experience in selected health care facility supervised by a registered dietitian. (P/F)

DMAS366 1 0 0 0 4
Food Service Mgmt Field Experience Voc/Tech
Application/evaluation of food service management in health care facility. Practical experience in selected health care facility supervised by a registered dietitian. (P/F)

DRAM110 3 3 0 0 0
Introduction to Theatre Core
A survey of the elements and techniques of theatre with emphasis on acting, directing and playwriting. Attendance at dramatic production encouraged.

DRAM111 3 3 0 0 0
Techniques of Acting General
Training of the body, voice and mind as acting instruments. Course includes acting exercises, scene analysis and performance.

DRAM113 3 3 0 0 0
Creative Drama School/Rec General
Elements of improvisational acting. Students will learn approaches for participating in as well as leading creative drama activities.

DRAM114 2 0 4 0 0
Theatre Production General
Practical experience in acting, directing and stage design. Students will be involved in all stages of production, from auditions to final performance. May be repeated for up to eight semester hours of credit.

DRAM115 3 0 6 0 0
Theatre Production General
See DRAM114

DRAM116 4 0 8 0 0
Theatre Production General
See DRAM114

ECON101 3 3 0 0 0
Principles of Macroeconomics Core
This course is an introduction to basic macroeconomic concepts and principles. It deals with the problems of resource allocation, supply and demand, national income, employment, price levels, fiscal and monetary policy, money and banking systems and elements of global finance. ECON101 is not a prerequisite for ECON102.

ECON102 3 3 0 0 0
Principles of Microeconomics Core
This course covers a survey of demand and supply conditions, cost structure, market structure and how these elements affect individual households, business firms, government and global trade. ECON101 is not a prerequisite for ECON102.

EDCR101 3 3 0 0 0
Intro to Education Open
Presents a broad overview of the field of education including foundations of American education, roles of teachers and students, history and philosophy and curriculum. Students will complete a 40 hour practicum at the elementary, middle, or high school level. Recommended for students who plan to major in education.

EDCR107-Adjunct* ** 1 1 0 0 0
Issues in Education: Theory/Practice Open
Presents a broad overview of the field of education including foundations of American education, roles of teachers and students, history and philosophy and curriculum. Students will complete a 40 hour practicum at the elementary, middle, or high school level. Recommended for students who plan to major in education.

EDCR165 3 3 0 0 0
Education of Exceptional Learners Open
A survey of exceptional learners in the classroom will be explored. History, philosophy, current issues, trends and mainstreaming will be discussed.

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Course Descriptions

EDCR207 2 0 0 0 8
Internship Teaching Experiences Open
Provides opportunity to assist in the school as a teacher aide or to assess one's potential and interest in teaching as a career.
Prerequisite: EDCR101

ELEM325 3 3 0 0 0
General Electricity Voc/Tech
For beginners, theory, controlling electricity, voltage, amps, resistance, wattage, series and parallel circuits, DC and AC, batteries, electric lighting, generators and motors.

ELEM450 3 3 0 0 0
Related Math Voc/Tech
Mathematics related to basic electronics. It includes basic algebra, right triangle trigonometry, scientific notation, with applications to DC and AC circuitry.

ELEM451 3 3 0 0 0
DC & AC Fundamentals Voc/Tech
An introductory course in DC and AC fundamentals. Subject matter includes Ohm's law, series and parallel circuits and measuring instruments.

ELEM452 3 0 6 0 0
DC & AC Fundamentals Lab Voc/Tech
This laboratory will enable the student to analyze basic L-C-R circuitry. Basic test equipment usage will also be presented.
Prerequisite: ELEM451 must be taken concurrently with or prior to this course.

ELEM462 3 3 0 0 0
Digital Electronics Voc/Tech
An introduction to the principles of basic TTL and CMOS digital circuits. Included are basic gates, counters, registers and multiplexer configurations.

ELEM463 3 0 6 0 0
Digital Electronics Lab Voc/Tech
This laboratory consists of experiments on basic TTL and CMOS circuits. Included are gates, counters, registers and multiplexer configurations. ***Prerequisite: ELEM462 must be taken concurrently with or prior to this course.***

ELHT313 3 3 0 0 0
Technical Math I Voc/Tech
Introduction to mathematical skills needed by electronics technician with emphasis on algebra and its application to electronics. Topics include algebra, conversion of units, powers of 10, using electronic calculators and solving equations.

ELHT314 5 5 0 0 0
Circuit Analysis I Voc/Tech
An analytical introduction to direct and alternating current fundamentals essential in all phases of electricity and electronics. Topics covered include , Ohm's law, Kirchoff's law, Thevenin-Norton and Superposition theorems, impedance, resonance, series and parallel circuits, resistors, capacitors, inductors, batteries and meters. ***Corequisite: ELHT316***

ELHT315 3 1 4 0 0
Fabrication Techniques Voc/Tech
Rendering of isometric and orthographic projection drawings. Also soldering techniques, fabrication of sheet metal enclosures, production of printed circuit boards using photographic and etching methods.

ELHT316 3 0 6 0 0
Circuit Analysis I Lab Voc/Tech
Basic experiments in AC & 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: ELHT314

ELHT323 3 3 0 0 0
Technical Math II Voc/Tech
Continuation of Technical Math I. Topics include exponents, radicals, quadratic equations, simultaneous equations, trigonometry, graphing, phasor algebra and logarithms.

ELHT324 3 3 0 0 0
Computer Programming Voc/Tech
Basic programming techniques such as writing algorithms, drawing of flow charts and developing programs that include loops and subroutines.

ELHT330 2 2 0 0 0
Digital Circuits Voc/Tech
An analysis of those circuits which form basic building blocks for a digital system to include logical gates, such as OR, NOR and and NAND, storage registers and counters.
Corequisite: ELHT362

ELHT331 3 3 0 0 0
Circuit Analysis II Voc/Tech
Deals with principles and electrical properties of semi-conductor diodes, transistors, integrated circuits and integrated circuit amplifiers complete with mathematical analysis of equivalent circuits and their evaluation.
Prerequisite: ELHT314, 316; Corequisite: ELHT363

ELHT332 3 3 0 0 0
Digital Electronics Voc/Tech
An analysis of those circuits which form basic building blocks for a digital system, to include logical gates, such as OR, NOR and and NAND, storage registers, counters and microprocessors.
Corequisite: ELHT364

ELHT340 3 3 0 0 0
Microprocessors Voc/Tech
This course covers two major areas of microcomputers and microprocessors. The first is an investigation of the specific architecture of microprocessors and fundamental microcomputer hardware. The second area is software and studies specific assembly language instructions for common routines and program structures. ***Prerequisite: ELHT330, 362, Corequisite: ELHT341***

ELHT341 5 0 10 0 0
Microprocessors Lab Voc/Tech
Includes experiments which 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.
Prerequisite: ELHT330, 362, Corequisite: ELHT340

ELHT345 2 2 0 0 0
Operating Systems Voc/Tech
An introduction to the disk operating system and Windows. Objectives are to enable the user to load and execute programs, maintain an orderly system of files on the disk and to coordinate input or output devices.

ELHT346 3 3 0 0 0
Microcomputer Operating Systems Voc/Tech
This course is a user's introduction to the Windows, MS, DOS and UNIX Operating Systems. Objectives are to enable the user to load and execute programs, create and modify files and maintain an orderly file system.

ELHT362 2 0 4 0 0
Digital Circuits Lab Voc/Tech
Laboratory evaluation of small-scale integrated circuits and medium-scale integrated circuits. In addition to basic and/or gates, it includes decoders, encoders, counters and multiplexers.
Corequisite: ELHT330

ELHT363 3 0 6 0 0
Circuit Analysis II Lab Voc/Tech
Analysis of solid state circuitry. Includes transistor and integrated circuit experiments. Linear amplifiers and active filters are evaluated. ***Prerequisite: ELHT314, 316; Corequisite: ELHT331***

ELHT364 3 0 6 0 0
Digital Electronics Lab Voc/Tech
Laboratory evaluation of small-scale integrated circuits and medium-scale integrated circuits. In addition to basic and/or gates, it includes comparators, decoders, encoders, counters, multiplexers and microprocessors. ***Corequisite: ELHT332***

ENGL082*- Adjunct***** 3 2 2 0 0
ESL Listening/Conversation Skills I Adaptor
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.

ENGL083*- Adjunct***** 3 2 2 0 0
ESL Listening/Conversation Skills II Adaptor
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.

ENGL084** 3 2 2 0 0
Communicative Grammar for ESL Adaptor
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.
Prerequisite: Minimum scores on the TOEFL or Michigan Test.

ENGL085** 3 2 2 0 0
Read English as a Second Language Adaptor
This course is designed for nonnative 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 students' level of comprehension. ***Prerequisite: Minimum scores on the TOEFL or Michigan Test.***

ENGL089 Adjunct ***** 3 3 0 0 0
Introduction to Writing Skills-ESL Adaptor
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.

ENGL090** 3 3 0 0 0
College Preparatory Writing I Adaptor
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 ENGL091 and ENGL117.

ENGL091** 3 3 0 0 0
College Preparatory Writing II Adaptor
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 ENGL090 or meet that course's objectives. Preparation for ENGL117.

ENGL117 3 3 0 0 0
Composition I Core
Designed to help students read and write effectively. Exploration of the relationship of audience to writer and material. Emphasis on developing concrete detail to support main ideas. ***Prerequisite: Satisfactory writing skills***

ENGL118 3 3 0 0 0
Composition II Core
Expository and persuasive writing developed through critical reading. The course explores structure, style, research and documentation.
Prerequisite: ENGL117

ENGL119 3 3 0 0 0
Technical & Business Writing Core
A study of technical/business communication with emphasis on writing in the workplace. Course material includes written and oral communication to a variety of audiences in different situations. There will be special focus on individual career goals.
Prerequisite: ENGL117

ENGL121 3 3 0 0 0
Creative Writing General
An introduction to the techniques of writing poetry and fiction. Students will read the works of professional writers and apply the principles of imaginative writing to their own work.

ENGL124 - Adjunct *** 3 3 0 0 0
Fiction Writing General
A course devoted to the advanced study and writing of fiction, emphasizing the development of narrative techniques and an expanded understanding of contemporary fiction writers and their work.

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Course Descriptions

ENGL125 - Adjunct* 3 3 0 0 0
Poetry Writing General
A course devoted to the advanced study and writing of poetry, emphasizing the development of poetic techniques and an expanded understanding of contemporary poets and their work.

ENGL410 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.

ENGR155 2 2 0 0 0
Engineering Computations Open
This course includes the organization, solution and presentation of engineering problems. Topics include S.I. units and selected engineering topics.
Prerequisite: MATH123 must be taken concurrently with or prior to this course.

ENGR160 2 2 0 0 0
Engineering FORTRAN Open
The FORTRAN language in batch and interactive modes with an emphasis on solutions to engineering problems.
Prerequisite: MATH123 must be taken concurrently with or prior to this course.

ENGR161 2 2 0 0 0
Engineering C/C++ Open
Learn to solve engineering problems by computer using the C/C++ language. Emphasis is placed on program logic, organization and numerical methods.
Prerequisite: MATH123 must be taken concurrently with or prior to this course.

ENGR165 4 2 4 0 0
Engr Graphics/Conceptual Design Open
An integration of conceptual design, engineering graphics and computer aided design. This course includes orthographic projection applied to three dimensional geometry and engineering drawing. Instrument and free hand application to an open ended project that includes a formal engineering report.
Prerequisite: MATH123 must be taken concurrently with or prior to this course.

ENGR175 3 3 0 0 0
Engineering Statics Open
This course includes the vector and scalar analysis of coplanar and non-coplanar force systems, equilibrium concepts, friction, centroids, moments and products of inertia. Mohr's circle, radius of gyration, internal forces, shear and bending moment diagram.
Prerequisite: PHYL121; Corequisite: MATH130 must be taken concurrently with or prior to this course

ESST376 2 2 0 0 0
Electro-Mechanical Systems Voc/Tech
The basic theories, concepts and principles of electromechanical devices such as relays, contactors and DC/AC motors will be covered, as well as the basic principles of mechanical relationships including gears, pulleys, belt drives, wheel and axle, inclined plane, screw, wedge and levers. Pneumatic devices such as compressors, motors, valves and actuators are covered. Basic sensors will also be covered. ***Prerequisite: ELHT331, 363 Corequisite: ESST377***

ESST377 2 0 4 0 0
Electro-Mechanical Systems Lab Voc/Tech
Application of the basic theories, concepts and principles of electromechanical devices. Projects are applications of principles used in business machines, security systems and medical 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. ***Prerequisite: ELHT331, 363 Corequisite: ESST376***

ESST378 2 2 0 0 0
Basic Imaging Devices Voc/Tech
Analysis of various imaging systems, including laser printers, copiers, fax machines, scanners and accessories such as document feeders and sorters, monitors, cameras, LCD displays. ***Prerequisite: ELHT331, 363 Corequisite: ESST379***

ESST379 2 0 4 0 0
Basic Imaging Devices Lab Voc/Tech
Experience in troubleshooting, service and repair of copiers, laser printers, fax machines, scanners and peripherals, monitors, cameras, LCD displays. ***Prerequisite: ELHT331, 363 Corequisite: ESST378***

ESST380 4 4 0 0 0
Communications Systems Voc/Tech
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: ELHT331, 363 Corequisite: ESST381***

ESST381 4 0 8 0 0
Communications Systems Lab Voc/Tech
Laboratory experiments in radio, television, satellite and microwave systems including the construction and alignment of a broadcast radio receiver. ***Prerequisite: ELHT331, 363 Corequisite: ESST380***

ESST382 2 2 0 0 0
Security Systems Voc/Tech
Analysis of video monitoring systems, fire and intruder alarm systems, climate control systems. ***Prerequisite: ESST376, 377 Corequisite: ESST383***

ESST383 2 0 4 0 0
Security Systems Lab Voc/Tech
Installation, maintenance and troubleshooting of various security systems. ***Prerequisite: ESST376, 377 Corequisite: ESST382***

ESST384 2 2 0 0 0
Medical Electronics Systems Voc/Tech
This course trains the student in electrical safety testing and the repair, calibration and preventative maintenance of patient monitoring equipment such as ECG, blood pressure, defibrillators, ICU, CCU central station monitoring systems and the respiratory instrumentation. Included will be a self-paced study of medical terminology.
Prerequisite: ESST376, 377 Corequisite: ESST385

ESST385 2 0 4 0 0
Medical Electronics Systems Lab Voc/Tech
Repair calibration and preventative maintenance of critical care, diagnostic, life support equipment in a "hands-on" environment. ***Prerequisite: ESST376, 377 Corequisite: ESST384***

ESST386 2 2 0 0 0
Systems Troubleshooting Voc/Tech
A study of electronic systems troubleshooting theory, methods and techniques.
Prerequisite: ESST378, 379, 380, 381, 382, 383 Corequisite: ESST387

ESST387 5 0 10 0 0
Systems Troubleshooting Lab Voc/Tech
A "hands-on" experience troubleshooting and repairing a variety of electronic equipment such as copiers, security monitors and cameras, radio, televisions and satellite systems. ***Prerequisite: ESST378, 379, 380, 381, 382, 383 Corequisite: ESST386***

ESST388 5 0 0 0 20
Internship Voc/Tech
A semi-structured experience in the student's chosen field working as an intern with a sponsoring organization. Student has the opportunity to network with professionals and employers in his field. Student will write a resume suitable for employment applications. ***Prerequisite: ESST378, 379, 380, 381, 382, 383***

EXSP145 2 2 0 0 0
First Aid General
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.

EXSP220 2 2 0 0 0
Physical Fitness & Conditioning Open
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.

EXSP221 2 2 0 0 0
Leadership Tech for Fitness Programs Open
This course covers the development of exercise leadership skills for a variety of activities. Includes the planning and promotion, as well as the teaching techniques for developing fitness in others using a variety of exercise modalities. Aerobics, weight training and aquatic fitness are included.
Prerequisite: EXSP220

EXSP250 3 3 0 0 0
Intro to Exercise Physiology Open
This course is designed to introduce students to the basic concepts of exercise physiology. Students will study the control of body movements and how normal body functions are altered and subsequently restored in response to the stress of exercise.
Prerequisite: BIOL154

FIRE241 3 3 0 0 0
Fire Behavior & Investigation Open
Covers the behavior of fire in confined structures and the methods used to determine point of origin, cause and travel of fire within a structure.

FIRE242 3 3 0 0 0
Property Insurance-Fraud Investigation Open
Covers principles of property insurance and investigation of incendiary fires with an emphasis on the investigation of the insurance fire fraud.

FIRE243 3 3 0 0 0
Building Construction Open
Study of building materials, components and design features with regard to their reactions under fire conditions. Course also includes interpretation of Life Safety Code and its application to proposed and existing structures. ***Prerequisite: FIRE241***

FIRE244 3 3 0 0 0
Fire Protection Systems Open
An examination of devices and systems installed and utilized to support the fire service in the detection and suppression of fire. ***Prerequisite: FIRE241***

FIRE245 3 3 0 0 0
Hazardous Materials Open
This course concentrates on principles of response planning for incidents involving the manufacture, transportation, storage and use of hazardous materials, with the objective of minimizing harm to people, property and the environment. ***Prerequisite: CHEM131, FIRE241 or SFTY301***

FIRE247 3 3 0 0 0
Planning for Fire Protection Open
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.

FIRE248 3 3 0 0 0
Emergency Scene Management Open
Covers emergencies and incident command systems to maintain control in emergencies of fire suppression, mass casualty and hazardous materials. Information, logistics, press, finance, other areas are addressed in incident command system.

FREN101 4 4 0 0 0
Elementary French I Core
An introduction to the basic skills in understanding, speaking, reading and writing French. Grammar analysis, classroom conversational practice and some exploration of French culture.

FREN102 4 4 0 0 0
Elementary French II Core
Continued practice of the four basic skills and grammar analysis begun in French 101. Introduction to short prose selections with conversational emphasis. ***Prerequisite: FREN101 or permission of instructor***

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Course Descriptions

FREN103 4 4 0 0 0
Intermediate French I Core
Review of essential grammatical constructions emphasizing major areas of difficulty for English speakers. Use of cultural and literary materials to develop conversational skills. ***Prerequisite: FREN102 or permission of instructor***

FREN104 4 4 0 0 0
Intermediate French II Core
Continued review of grammatical constructions using cultural materials. Reading, writing and conversation will be emphasized in the context of cultural issues and current events. ***Prerequisite: FREN103 or permission of instructor***

GEOG141 3 3 0 0 0
Intro to Geography Core
Course utilizes basic concepts of cultural geography (area, landscape, ecology, diffusion and integration) in a systematic examination of the contemporary world. Course is intended to provide elementary acquaintance with field of geography.

GEOG147 3 3 0 0 0
Developed World Core
This course systematically surveys the peoples, cultures, resources and problems of the cultural realms commonly designated as the developed world (Anglo-America, Europe, Russia, Japan and Australia).

GEOG148 3 3 0 0 0
Third World Core
This course systematically surveys the peoples, cultures, resources and problems of the cultural realms commonly designated as the Third World (Latin America, Black Africa, the Islamic World, India and China).

GERM101 4 4 0 0 0
Elementary German I Core
Development of the basic skills of understanding, speaking and writing German. Grammar analysis, classroom conversational practice and some exploration of the German culture.

GERM102 4 4 0 0 0
Elementary German II Core
Continued practice of the four basic skills and grammar analysis. Introduction of short prose selections with conversational emphasis.
Prerequisite: GERM101 or instructor permission

GERM103 4 4 0 0 0
Intermediate German I Core
Review of essential grammatical constructions emphasizing major areas of difficulty for English speakers. Use of German cultural and literary materials to develop conversational skills. ***Prerequisite: GERM102 or instructor permission***

GERM104 4 4 0 0 0
Intermediate German II Core
Continued review of grammatical constructions using German cultural materials. Reading, writing and conversation will be emphasized in the context of cultural issues and current events.
Prerequisite: GERM103 or instructor permission

GLOS199 2 2 0 0 0
Japan: The Changing Tradition General
Focuses on history and changing cultural traditions of Japan's modern era and the brief period during which Japan has developed its own distinctive urbanized, industrialized and democratic society.

GRPH400 4 2 4 0 0
Graphic Arts Orientation Voc/Tech
A prerequisite for all graphic arts courses as an introduction to graphic arts technology, terminology and related graphic areas. Course will involve lecture and lab work in offset printing, prepress and bindery.

GRPH401 3 3 0 0 0
Methods of Graphic Arts Voc/Tech
Introduction to the various chemicals used in the graphic arts industry. Safety, environmental concerns and basic chemistry and physics from pH to how silver reacts to light.

GRPH406 4 2 4 0 0
Graphic Arts Design I Voc/Tech
Introduces the beginning student to the basic fundamentals and techniques in preparing camera ready artwork for production. The function and purpose of design will be studied closely as will basic principles of design.

GRPH410 4 2 4 0 0
Press I Voc/Tech
Introduction to basic offset principles and practices. This course will involve the student in small press operations covering ink and water balance, single side and two side printing. ***Prerequisite: GRPH400, 401***

GRPH412 4 2 4 0 0
Graphic Prepress I Voc/Tech
Introduction to conventional prepress techniques. Students will receive hands on training in basic process camera, film assembly and contacting techniques. This course will involve the student in spot color, work and turn and step and repeat film assembly. Contacting and various plates and platemaking techniques will also be studied. ***Prerequisite: GRPH400, 401***

GRPH413 4 2 4 0 0
Graphic Prepress II Voc/Tech
A continuation of Graphic Prepress I, students will study more advanced film assembly, plate making and proofing techniques. This hands-on workshop environment will focus on multi-colored, multi-page projects.
Prerequisite: GRPH400, 401, 412

GRPH416 3 1 4 0 0
Desktop Publishing II Voc/Tech
This intermediate level desktop publishing course will stress creation of complex multiple page documents using Quark Xpress software. Typesetting and graphic formats relative to page layout, importing and exporting files. ***Prerequisite: DKTP40 1***

GRPH420 4 2 4 0 0
Press II Voc/Tech
A specialization course in offset lithography. The student will do advance press work in two, three and process color printing. This class will also cover all bindery operation from folding, cutting and stitching.
Prerequisite: GRPH410, 412, 413

GRPH421 4 2 4 0 0
Electronic Prepress I Voc/Tech
This course is an introduction to electronic prepress. Students will study desktop publishing and electronic prepress systems and procedures and learn to operate electronic prepress equipment. Color science, calibration techniques, digital scanning and halftone imaging will also be studied.
Prerequisite: GRPH400, 401, DKTP401

GRPH425 4 2 4 0 0
Electronic Image Control Voc/Tech
This introductory course will acquaint the student with electronic scanning and prepress technologies. Industry standard software will be used with special emphasis on how it handles color prepress technology.
Prerequisite: DKTP401, GRPH416

GRPH426 4 2 4 0 0
Graphic Arts Design II Voc/Tech
Continuation of Graphic Arts Design I. This course will develop advanced skills in layout and design. Students will explore various techniques used for multiple color layouts, new advances in equipment used for page and product layout. ***Prerequisite: GRPH406***

GRPH431 4 2 4 0 0
Electronic Prepress II Voc/Tech
This course is a continuation of electronic Prepress I. Students will study more in-depth principles of electronic prepress including digital workflows, file analysis and repair and digital scanning techniques. Students learn to operate electronic prepress equipment in a workshop setting. ***Prerequisite: GRPH 421***

GRPH454 4 2 4 0 0
Graphic Arts Production Methods Voc/Tech
A management based course designed to actively involve the student in all phases of the graphic arts production process.
Prerequisite: GRPH410, 412, 413

GRPH456 3 3 0 0 0
Cost Estimating Voc/Tech
This course is designed to give the student an overview of information on processes used in estimating production costs, budgets for departments within company.
Prerequisite: GRPH410, 412, 413

HACR451 5 2 6 0 0
Fundamentals of Refrigeration Voc/Tech
This course consists of the principles of refrigeration, domestic systems and equipment.

HACR452 3 1 4 0 0
Trade Skills I Voc/Tech
This course covers all types of soldering and brazing used in the heating, air conditioning, refrigeration industry.

HACR453 5 2 6 0 0
Electricity Voc/Tech
A study of basic electricity principles including Ohm's law, series and parallel circuits as applied to HVAC and refrigeration. Course also includes hands-on practice with training boards in the lab.

HACR454 5 2 6 0 0
Residential Heating & AC Voc/Tech
Residential heating and cooling basics. Study of installation and service procedures through class and lab practices. ***Prerequisite: HACR451***

HACR455 5 2 6 0 0
Electrical Controls & Circuits Voc/Tech
The application of control circuits used 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: HACR453***

HACR456 3 1 4 0 0
Trade Skills II Voc/Tech
This course covers all types of sheet metal fabrications pertaining to the HVAC profession. ***Prerequisite: HACR452***

HACR457 5 2 6 0 0
Applied Heating & AC Voc/Tech
This course covers installation and troubleshooting techniques dealing with residential heating and cooling systems.
Prerequisite: HACR454

HACR458 4 0 0 0 16
HVAC Internship Voc/Tech
On the job training for Heating, Air Conditioning, Refrigeration Technology program students who have a "C" average or better in the program. ***Prerequisite: Valid driver's license; Prerequisite: HACR454, 455, 456***

HACR459 5 2 6 0 0
Advanced Heating & AC Voc/Tech
This course covers installation, advanced troubleshooting, maintaining and repairing of geo-thermal heat pumps, gas, fuel oil and electric heating systems.
Prerequisite: HACR457

HACR461 3 2 2 0 0
Air Distribution Voc/Tech
This course involves the study of fans, blowers and dampers; the design of duct systems for proper air delivery; and allows for final system balancing; includes lab practice.
Prerequisite: HACR457

HACR462 5 2 6 0 0
Commercial HVAC & Refrigeration Voc/Tech
This course covers basic commercial refrigeration systems, components and their use, applications, methods of installation, maintenance, diagnosis and repairs.
Prerequisite: HACR459, 461

HACR463 2 1 2 0 0
Computer Load Calculations Voc/Tech
Course is designed to deliver instruction in the area of heating/cooling load calculations, air flow and air supply/return layout. Extensive use of computers and CAD systems will be incorporated to enhance student productivity. ***Prerequisite: HACR461***

HACR464 5 2 6 0 0
Environmental Controls Voc/Tech
This course covers basic understanding of building environmental and energy management systems, computerized (DDC), pneumatic and electro-mechanical controls.
Prerequisite: HACR451, 455, 461 Corequisite: HACR462

HACR465 3 2 2 0 0
Blueprint Reading Voc/Tech
A study of blueprint reading related to the HVAC/R trade. Drafting symbols and terminonology will be covered, along with skills needed to make simple scaled drawings.

Course Descriptions

HCAD227 4 4 0 0 0
Integrating Comm Service-MH/MR/DD Open
Emphasis will be placed on physical, psychosocial and cultural dynamics of mental health, mental retardation and developmental disabilities and the various perspectives that may be encountered. Special attention will be given to the integration of community based services.

HCAD238 3 3 0 0 0
Health Care Financial Management Open
Emphasis on financial practices in the long-term care facility, health care facilities and health care organizations. Cost and labor hour controls, third party payment, evaluation of profit/loss and fiscal reports will be addressed.
Prerequisite: ACCT301 or ACCT101

HCAD239 2 1 2 0 0
Information Systems in Health Care Open
Emphasis will be on the analysis of health care information needs and the development of methods to meet these needs. Fundamental components of health care computer systems will be addressed including administrative application, specialized information systems and patient rights issues.
Prerequisite: Computer literacy, including word processing, data management and spreadsheet analysis.

HCAD241 - Adjunct* 2 2 0 0 0
Assisted Living Structure and Org Open
An introduction to the assisted living facility mission, tenant care issues, management, staffing and organization. Includes topics in legislative changes and updates, governance, funding, grant writing and licensure exam preparation.

HCAD248 - Adjunct* 3 3 0 0 0
Quality Improvement in Health Care Open
The basis for this course is to provide an understanding of TQM and the principles and concepts of continuing quality improvement in health care organizations. Team concepts, the basic tools of quality improvement and implementation strategies are included.

HCAD251 1 0 0 0 4
Practicum: Social Services Open
Focus on the social services in the long-term care facility. Emphasis on residents needs, services and rights.

HCAD252 1 0 0 0 4
Practicum: Dietary Open
Focus on the dietary department in the long-term care facility. Food ordering, inventory processes, food preparation, serving and staffing patterns are explored.

HCAD253 1 0 0 0 4
Practicum: Legal Aspects/Gov't Organ Open
Emphasis on the legal aspects and government organizations affecting long-term care facilities.

HCAD254 1 0 0 0 4
Practicum: Nursing Open
Nursing services in the long-term care facility. The relationship of nursing services to administration.

HCAD255 1 0 0 0 4
Practicum: Environmental Services Open
Emphasis on the administrator's responsibilities in the housekeeping, laundry and maintenance departments.

HCAD256 1 0 0 0 4
Pract: Activities/Community Resources Open
Activity and volunteer programs in the long-term care facility. The use of community resources will be explored.

HCAD257 1 0 0 0 4
Practicum: Business Administration Open
Emphasis on business practices in the long-term care facility.

HCAD258 1 0 0 0 4
Practicum: Administrative Organization Open
Emphasis on concepts and practices involved in the administration of a long-term care facility.

HCAD259 1 0 0 0 4
Pract: Human Resource Management Open
Emphasis on theories and practices in human resource management in the long-term care facility.

HCAD260 - Adjunct* 3 0 0 0 12
Health Services Management Field Exp. Open
An opportunity to gain in-depth knowledge and apply theoretical principles in a supervised work experience. This will require instructor approval of the health care organization, clinic, or agency. The emphasis is placed on management principles, human resources, customer service and interfacing with other health services.
Prerequisite: HCAD274, 278, 279, 280

HCAD265 1 1 0 0 0
Practicum: Seminar Open
Practicum experience and problems will be discussed. Additional information and topics relating to long-term care will be addressed. Classes will be held in a variety of long-term care facilities. (Must be taken 3 times for a total of 3 credits.)

HCAD270 - Adjunct* 2 2 0 0 0
Law & Long Term Care Open
A study of law as it relates to the long-term care industry. Topics include labor law, liability, licensure, certification, resident rights, reimbursement and living wills.

HCAD274 3 3 0 0 0
Law & Ethics in Health Care Open
An introduction to law and ethics and how they relate to the health care industry. A study of case law, court structure and procedures, torts, litigation, contracts and record keeping. Additional topics include decision making power, health care fraud, individual rights and other ethical concerns in health care.

HCAD277 5 5 0 0 0
Service Delivery Systems-MH/MR/DD Open
Provides a comprehensive overview of MH/MR/DD resident needs and presents an interdisciplinary approach to developing, implementing and evaluating services. Reviews behavior modification techniques and addresses future trends.

HCAD278 3 3 0 0 0
Management in Health Care Open
Relates fundamental management principles in the health care setting. Focuses on management processes and organizational behavior in health care organizations, facilities and services.

HCAD279 3 3 0 0 0
Health Care Human Resources Open
Study of the policies, procedures and the processes in human resources planning. This would include securing, developing and maintaining human resources, labor laws and employee/management rights.

HCAD280 2 2 0 0 0
Health Care Delivery Systems Open
This correspondence course provides a comprehensive overview of the delivery systems and services. Includes studies in accessing and financing health care services and evaluating the delivery of care.

HCAD282 2 2 0 0 0
Services for Long-Term Care Open
Relates physical, psychological and sociological needs of residents to services provided in a long-term care setting. Includes services in a therapeutic environment: nursing, dietary, environmental, activities and social services enhanced by quality assurance.

HCAD283 2 2 0 0 0
Regulatory Management Open
Emphasis on the changing dynamics of health care and the regulatory system. Special attention will focus on the federal and state regulations which govern the industry. This will include the agencies which originate, implement and monitor the regulations.

HCAD285 2 2 0 0 0
Case Management Open
Emphasis will include the purpose and types of case management, the key terms used and the role of restructuring for effective outcomes of care and efficient use of resources.

HCAD290 - Adjunct* 4 4 0 0 0
Social Services-Long-Term Care Open
This course is designed to prepare individuals to serve effectively as social services designees in long-term care facilities. Provides the students a basic background understanding of terminology, services, skills, client populations, agencies, resources, legal and ethical responsibilities and rues and regulations.

HCAD291 - Adjunct* 3 3 0 0 0
Activities in Long-Term Care Open
This course is designed to prepare persons to work as activity coordinators in long-term care facilities. The course includes the knowledges and skills necessary to determine facility and resident needs and plan an activity program that will meet these needs. The course has been approved by the Iowa Dept. of Health.

HCAD292 - Adjunct* 4 4 0 0 0
Activities in Long-Term Care Open
This course is designed to prepare persons to work as activity coordinators in long-term care facilities. The course includes the knowledges and skills necessary to determine facility and resident needs and plan an activity program that will meet these needs. The course has been approved by the Iowa Dept. of Health.

HCAD293 - Adjunct* 3 3 0 0 0
Job Coaching Open
Covers issues related to working as a job coach with adults who have disabilities in supported employment settings. Students will complete independent projects.
Prerequisite: One year of experience working with people with disabilities.

HCAD294 - Adjunct* 3 0 0 0 12
Job Coaching Field Experience Open
Places the student in a supported employment setting working as a job coach. Students develop specific objectives related to program competencies. Biweekly seminars are held to assess progress and student experiences. ***Prerequisite: One year of experience working with people with disabilities.***

HCAD295 - Adjunct* 3 3 0 0 0
Death and Dying Open
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 emphases upon appropriate resolution and adjustment.

HCAD300 - Adjunct* 1 1 0 0 0
Systems Overview Open
This introduction includes the philosophy of community services, outcome-based standards, client exceptions, the professional ethics of structuring services around consumer choices, attitude advocacy funding and state regulations.

HCAD301 - Adjunct* 1 1 0 0 0
Accessing Community Support Open
This course includes procedures for collecting and recording data used in baselining and in measuring progress toward outcomes, helping consumers access the service system and organizing an agency for change around consumer needs.

HCAD302 - Adjunct* 1 1 0 0 0
Health and Safety Open
This course examines Right-to-Know, fire safety, universal precautions, dental, handwahing, adult abuse issues, disaster preparedness, body mechanics, vital sign measuring, nutrition and physical accommodations.

HCAD303 - Adjunct* 1 1 0 0 0
The Helping Relationship Open
This introduction includes exploration of self-awareness, values clarification, feelings, role modeling, communication skills, verbal and non-verbal behaviors, problem analysis and therapeutic techniques.

HIST121 4 4 0 0 0
Western Civ Beg to 1715 Core
The student surveys the great civilizations from Greece and Rome through the rise of Christianity, to Europe in the Middle Ages, the Renaissance and Reformation, the modern state, the new science and the secular outlook, parliamentary government in England and political absolutism in France and eastern Europe.

** Adaptor Courses cannot be used to fulfill degree requirements
*** Adjunct Courses cannot be used to fulfill or substitute for required or option courses in any degree or diploma program

Course Descriptions

HIST122 4 4 0 0 0
Western Civ 1715 to Present Core
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 post-war developments.

HIST124 4 4 0 0 0
American History 1492 To 1877 Core
A survey of main themes of American history from 1492 to 1877 with emphasis on the political, social, economic, religious and intellectual aspects of the pre-settlement, Colonial, Revolutionary, Antebellum Civil War and Reconstruction eras.

HIST125 4 4 0 0 0
American History 1877 To Present Core
A survey of main themes of American history from 1877 to the present with emphasis on political, social , economic, religious and intellectual aspects of the Gilded Age, the Progressive Era, WWI, the Roaring Twenties, the Great Depression, WWII and post WWII era.

HIST126 3 3 0 0 0
Iowa History General
A broad survey of Iowa history from Indian cultures and pioneer farming through modern agriculture, gradual social changes and long-term political trends.

HIST128-Adjunct*** 3 3 0 0 0
Pacific Century General
The Pacific Century explores the tumultuous history of East and Southeast Asia since 1700. The geography, culture, economics, politics, modernization, Western intervention and social and political transformation are emphasized.

HIST139 3 3 0 0 0
African-American History General
A survey of the history of the African-American community with emphasis on the role of individuals, institutions and ideas in the development of the community from its origins in West Africa to the present.

HIST161-Adjunct*** 3 3 0 0 0
The Civil War General
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.

HLCR301-Adjunct*** 5 4 0 3 0
Limited Radiography Voc/Tech
IBN#22 State required course for people employed in a clinic to take chest and extremities, sinus or spines x-rays.

HLCR307 6 4 4 0 0
Emergency Medical Tech Basic Voc/Tech
Prepares rescue personnel for the role and responsibilities of an EMT-B. Includes specific patient assessment and emergency treatment procedures. Students should be 18 years of age prior to course completion. State Health Department Certification Exam after successful course completion.

HLCR308 3 2 2 0 0
First Responder Voc/Tech
A 60 hour emergency care course which emphasizes life threatening emergencies, wounds, fractures, medical and environmental emergencies and other emergency situations as outlined by the U.S. Department of Transportation.

HLCR310- Adjunct*** 2 1 2 0 0
First Responder Voc/Tech
For people first at th scene of an accident. Emphasis is on patient assessment/emergency care.

HLCR311- Adjunct*** 1 1 0 0 0
Sign Language-Health Workers Voc/Tech
This course is designed to give insights into the deaf culture, the causes of hearing impairment and the use of basic elements of sign language to assist in the care of the hearing impaired client.

HLCR312- Adjunct*** 1 1 0 0 0
Graying of America Voc/Tech
This course is to prepare health care workers to proactively respond to the changing demographics that are occurring in America and to be aware of the services provided. IBN#22 1.5 CEUs

HLCR313- Adjunct*** 2 2 0 0 0
Maximizing Health and Wellness Voc/Tech
This course will define and discuss physical, emotional, psychological and spiritual concepts of health and high level wellness. Participants will explore alternative ways of living, primarily through self-responsibility, to increase their own level of wellness in an ongoing process so they may be role models for clients. IBN#22 3 CEUs

HLCR314 1 1 0 0 0
Emergency Care Voc/Tech
Learn to perform care for medical emergencies: fractures, burns, resuscitation, basic CPR (Cardio-Pulmonary Resuscitation, American Heart Level II standards)

HLCR316- Adjunct*** 1 1 0 0 0
Home Health Nursing Voc/Tech
This course is designed to give guidance and vision on practice to those nurses choosing to work in home health. IBN#22 1.5 CEUs

HLCR319- Adjunct*** 1 1 0 0 0
Oncology Nursing Voc/Tech
This course is designed to provide an overview of contemporary oncology nursing. Cancer pathophysiology and epidemiology will serve as a foundation for cancer nursing practice. The focus will be on practical information that will assist nurses to assess, diagnose, plan, implement and evaluate nursing management of the cancer patient and family. IBN#22 1.5 CEUs

HLCR320- Adjunct*** 2 2 0 0 0
Alternative/Holistic Health Voc/Tech
Introduction to alternative and holistic health care. It is divided into mind/body interventions and professional health care systems. It will introduce the student to alternative modalities available in the community in order to assist patients in making informed choices. IBN#22 3 CEUs

HLCR321- Adjunct*** 1 1 0 0 0
Supervision/Delegation for RNs Voc/Tech
This course is designed to assist the nurse in developing the knowledge and skill to effect quality care of patients through others. IBN#22 1.5 CEUs

HLCR322 - Adjunct*** 1 1 0 0 0
Survey of Health Careers Voc/Tech
This course introduces both the variety and requirements for health care careers. Basic core knowledge and professional expectations common to all health careers are explored. Workplace safety and an overview of the health system and current trends are also covered.

HLCR323- Adjunct*** 1 0 2 0 0
IA Law Enforcement Emergency Care Voc/Tech
Designed to help Iowa Law Enforcement personnel gain the knowledge, skills and attitudes necessary to be a competent, productive and valuable member of the emergency Medical Service team.

HLCR324 - Adjunct*** 6 5 0 3 0
Nursing Assistant 120 Hours Voc/Tech
Learn skills to seek employment in a hospital, doctor's office, long-term care facility, home health agency or human service organization.

HLCR326 - Adjunct*** 3 0 0 9 0
EMT Intermediate Voc/Tech
Clinical/field experience for the EMT Intermediate which emphasizes the skills, knowledge and theory acquired in HLCR 325, EMT Theory. ***Prerequisite: HLCR 325 and current certification in EMT Basic.***

HLCR331 - Adjunct*** 1 1 0 0 0
Home Care Aide Voc/Tech
This training provides practical skills for individuals who are interested in providing in-home services to people who are ill or disabled. The training prepares the home care aide to carry out both homemaking and personal care responsibilities with confidence and competency, under appropriate supervision. ***Prerequisite: NRAO301 or HLCR324***

HLCR332 - Adjunct*** 6 4 4 0 0
EMT Iowa Paramedic I Voc/Tech
An advanced care EMT training program developed by US Dept. of Transportation and approved by the Iowa State Dept. of Public Health. 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 Health Care Provider CPR.

HLCR333 - Adjunct*** 7 5 4 0 0
EMT Iowa Paramedic II Voc/Tech
Continuation of EMT Paramedic I with emphasis on respiratory emergencies, diabetic and allergic reactions, poisonings, environmental, OB/GYN, neonatal and pediatric emergencies.
Prerequisite: Successful completion of HLCR332 and current certification by State of Iowa as EMT Basic or EMT Intermediate. Current CPR Health Care Provider course completion.

HLCR334 - Adjunct*** 6 0 0 18 0
EMT Iowa Paramedic III Voc/Tech
Clinical and field experience which emphasizes skills., knowledge and theory acquired in HLCR332 and HLCR333.
Prerequisite: Successful completion of HLCR333 and current certification by State of Iowa as EMT Basic or EMT Intermediate. Current CPR Health Care Provider course completion.

HLCR335 - Adjunct*** 4 2 2 3 0
EMT Intermediate Voc/Tech
An advanced EMT training program developed by the Iowa Dept. of Public Health, Bureau of EMS, which covers techniques of emergency medical care within the scope of responsibilities of the Iowa EMT Intermediate. ***Prerequisite: Current certification by State of Iowa as EMT Basic, high school diploma or GED and evidence of successful completion of recognized health care provider CPR.***

HLSC202 - Adjunct*** 3 3 0 0 0
Introduction to Health Careers Voc/Tech
Students will discover the many options available, including roles and responsibilities, in health career options. This course is designed to provide the student with the information necessary to make their health career choice.

HNRS100 2 2 0 0 0
Honors Seminar General
Discussion seminar whose topics will include a range of subjects determined by students' interest. Students will write in preparation for and response to in-class discussions. May be repeated up to eight semester hours. Admission is by permission of instructor only.

HRMT315 2 2 0 0 0
Sanitation & Equipment Voc/Tech
Principles and methods of sanitation safety and equipment. Equipment selection and facilities planning. Also includes preventive maintenance.

HRMT316 3 3 0 0 0
Food Preparation I Voc/Tech
Introduces the student to the scientific principles used in food preparation. Involves preparation procedures and techniques to be used with fruits, vegetables, starch products, cheese, eggs, meat, poultry and fish. Establishes criteria needed to produce a standard product. ***Corequisite: HRMT320***

HRMT319 1 0 2 0 0
Sanitation & Equipment Lab Voc/Tech
The lab consists of sanitation practices. The student will carry out the practice of table service for international cuisine dinners and apply sanitation measures. ***(P/F)***

HRMT320 3 0 6 0 0
Food Preparation I Lab Voc/Tech
Preparation of small servings of salads, starch, cheese, egg, meat, poultry and fish products using the techniques studied in lecture. Oral and written evaluation of each product.
Corequisite: HRMT316

Course Descriptions

HRMT321 2 0 4 0 0
Dining Room Fundamentals Voc/Tech
A dining room service course in an actual restaurant experience with emphasis on using sound management techniques and quality customer service.

HRMT326 2 2 0 0 0
Food Preparation II Voc/Tech
The study of the principles and procedures of quantity food production as they apply to salads, soups, vegetables, entries and desserts. Emphasis is on organization and recipe standardization. ***Prerequisite: HRMT316, 320***

HRMT328 2 0 4 0 0
Food Preparation II Lab Voc/Tech
The production of quick breads, desserts, salads, vegetables, soups and main entries to be sold to the public. Time is spent on an individual recipe production project.
Prerequisite: HRMT316, 320

HRMT330 2 2 0 0 0
Intro to Hospitality Industry Voc/Tech
Course introduces students to the broad world of hospitality while preparing them for careers in the field. Discussed will be the three primary areas of hospitality - food and beverage, lodging and tourism, along with an introduction to business basics.

HRMT334 3 3 0 0 0
Human Nutrition General
Understanding and implementing present day knowledge of nutrition; the use of food for health and satisfaction of the individual and the family.

HRMT335 2 2 0 0 0
Restaurant Management Voc/Tech
Students will plan menus and meal service in actual restaurant experience. Emphasis is on using sound management techniques for producing high quality food and service to the public. ***Prerequisite: HRMT326, 328***

HRMT347 3 0 0 0 12
Work Experience Voc/Tech
An approved program of experience in one of the many hospitality areas: restaurant, hospital, club, school food service, hotel, or motel. ***(P/F)***

HRMT348 2 2 0 0 0
Food Service Purchasing Voc/Tech
Principles and methods of food purchasing with emphasis on specifications and grading of various food products. Includes financial procedures and controls used in the food service industry.

HRMT350 2 2 0 0 0
Nutrition Voc/Tech
An overview of nutrition-related topics including the psychology of eating and evaluation of food intake.

HRMT351 2 2 0 0 0
Menu Planning Voc/Tech
Course applies the principles of menu planning & layout to the development of menus for a variety of types of facilities and service.

HRMT357 3 0 6 0 0
Culinary Skill Development Voc/Tech
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: HRMT326, 328

HRMT364 2 2 0 0 0
Hotel Administration Voc/Tech
A management course which introduces the student to advanced studies of property management, catering, sales, legal aspects, security and maintenance of all departments of the hotel.

HRMT366 5 0 0 0 20
Hotel Services Internship Voc/Tech
An approved program of work experience in one of the many hotel/motel properties in the area. ***Prerequisite: HRMT330 Corequisite: HRMT368***

HRMT367 2 2 0 0 0
Beverage Seminar Voc/Tech
Course will familiarize the students with all aspects of beverage service including wine & alcohol laws. Basic mechanics of beverage preparation, sales and promotion will be covered.

HRMT368 2 2 0 0 0
Hotel Services Voc/Tech
An in-depth look at the management and operations of key services within hotel properties. Included are guest services, housekeeping, maintenance & security. Course will examine the intricacies of these services from a management perspective.

HTCT353 3 3 0 0 0
Microprocessor Interfacing Voc/Tech
A study of microprocessor/microcomputer interface methods. It includes parallel interfacing using the 8255 PPI and serial interfacing using UART and USARTS. Digital-to Analog and Analog-to-Digital converters are also examined.
Prerequisite: ELHT340, 341, Corequisite: HTCT354

HTCT354 4 0 8 0 0
Microprocessor Interfacing Lab Voc/Tech
An evaluation of microprocessor interface techniques. The experiments include parallel devices such as 8255 Programmable Peripheral Interface chip, UART and USART serial devices, D/A and A/D converters. ***Prerequisite: ELHT340, 341, Corequisite: HTCT353***

HTCT355 2 2 0 0 0
UNIX Operating System Voc/Tech
Concepts of the UNIX operating system commands. Use of shells, shell scripts, facilities and management commands.
Corequisite: HTCT356

HTCT356 1 0 2 0 0
UNIX Operating System Lab Voc/Tech
Course includes working with UNIX commands. Students will work with shells, write shell scripts, run facilities, work with management commands.
Corequisite: HTCT355

HTCT360 4 4 0 0 0
Network Compatibility Products Voc/Tech
Concepts of the software and hardware used to link various computers and operating systems. ***Prerequisite: HTCT355, 356 Corequisite: HTCT363***

HTCT363 2 0 4 0 0
Network Compatibility Products Lab Voc/Tech
Installing and configuring compatibility software and hardware. Use of the software to share data between dissimilar system types.
Prerequisite: HTCT355, 356 Corequisite: HTCT360

HTCT364 3 0 6 0 0
Microcomputer Systems Voc/Tech
An evaluation of microcomputer systems. Includes computer diagnostics and repair. Also includes peripheral troubleshooting.
Prerequisite: ELHT346

HTCT366 3 3 0 0 0
TCP/IP Networking Voc/Tech
Concepts of the TCP/IP protocol suite. Includes protocol formats, usage and network commands. Concepts of design, installation and management are introduced.
Prerequisite: HTCT355, 356 Corequisite: HTCT367

HTCT367 1 0 2 0 0
TCP/IP Networking Lab Voc/Tech
Hands on command manipulation of a TCP/IP network. Also includes installation and management. ***Prerequisite: HTCT355, 356 Corequisite: HTCT366***

HTCT371 2 2 0 0 0
Netware 3.x Administration Voc/Tech
Course is designed to prepare students to function competently as a Netware system manager. Topics covered correspond to the responsibilities of a system manager.

HTCT372 2 2 0 0 0
Netware 3.1x Adv Administration Voc/Tech
Designed to provide higher-level training for Novell Netware v3.1x system manager. Provides instructions that will enable student to follow basic management strategies, monitor network usage and perform software-oriented maintenance and prevention procedures. ***Prerequisite: HTCT371***

HTCT373 2 2 0 0 0
Networking Technologies Voc/Tech
Provides a technical level of understanding in the areas of mainframe networking connectivity, data communications concepts and protocol communication concepts.

HTCT374 2 2 0 0 0
Netware 4.x Administration Voc/Tech
Course covers the knowledge and skills needed to perform Netware 4.x network administration or system management tasks effectively.

HTCT375 2 2 0 0 0
Service & Support Voc/Tech
Provides a technical level of competence installing network interface cards, replacing hard drives, installing communications software and hardware and troubleshooting 3.1x and 4.x systems.
Prerequisite: HTCT371 OR 374

HTPC351 3 3 0 0 0
Hydraulics & Pneumatics Voc/Tech
The basic principles of fluid power and the operation and application of fluid power components are introduced. Devices such as valves, linear and rotary actuator are evaluated in the laboratory. In addition, pneumatic position control servomechanisms are evaluated. ***Corequisite: HTPC352***

HTPC352 2 0 4 0 0
Hydraulics & Pneumatics Lab Voc/Tech
The basic principles of fluid power and the operation and application of fluid power components are introduced. Devices such as valves, linear and rotary activators are evaluated in the lab. ***Corequisite: HTPC351***

HTPC355 3 3 0 0 0
Process Control Instrumentation Voc/Tech
A comprehensive study of process control characteristics such 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: ELHT340, 341 and 345 or 346; Corequisite: HTPC357

HTPC357 2 0 4 0 0
Process Control Instrumentation Lab Voc/Tech
This lab includes experiments on transducers used in process control as well as experiments on proportional, integral and derivative control. ***Prerequisite: ELHT340, 341, 345, Corequisite: HTPC355***

HTPC358 3 2 2 0 0
Motor Controls Voc/Tech
An introduction to industrial motor controls. During this course students will use ladder diagrams and control devices to implement practical control systems.

HTPC359 3 2 2 0 0
Programmable Logic Controllers Voc/Tech
This course covers PLC operation and programming techniques to include relay logic, timers, counters, sequencers, discrete I/O, analog I/O, networking, remote I/O, workstations, advanced programming techniques and interfacing with personal computers. ***Prerequisite: HTPC358***

HTPC360 2 2 0 0 0
Industrial Electronics Voc/Tech
The devices and circuits used in thyristor control of machines are presented. It includes phase control of DC motors, triac control of AC motors as well as various speed control circuits. ***Prerequisite: HTPC358***

HTPC363 2 2 0 0 0
Mechanisms Voc/Tech
Introductory course covers linear and angular displacement, velocities and accelerations of linkages, gear trains and belt and friction drives. Topics are vectors, simple and complex machines and toggle and intermittent motions mechanisms.
Corequisite: HTPC364

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Course Descriptions

HTPC364 2 0 4 0 0
Mechanisms Lab Voc/Tech
The principles of drives and linkages discussed in HTPC 363 are evaluated using precision components. Major principles evaluated are speed ratios, torque, power and efficiency. Lab projects are applications of principles of process control & robotics interfacing mechanical motion & energy requirements with programmable control concepts. ***Corequisite: HTPC363***

HTPC370 4 3 2 0 0
Pump Overhaul and Repair Voc/Tech
Overview of internal parts, principles of operation and maintenance of positive displacement and centrifugal pumps.

HTPC371 3 2 2 0 0
Mechanical Power Transmission I Voc/Tech
A course in fundamental mechanical power transmission used in manufacturing. Topics covered include the inspection, maintenance and repair of chain and belt drive equipment. This will include the sizing of belts and pulleys, determining speed ratios and the importance of proper sizing for process control.

HTPC372 4 3 2 0 0
Mechanical Power Transmission II Voc/Tech
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: HTPC371***

HTPC382 2 2 0 0 0
Control Systems Overview Voc/Tech
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.

HUMN115 3 2 2 0 0
Introduction to Film Core
An introduction to the conventions, scope, purposes and techniques of films. Includes viewing and writing about a variety of films.

HUMN131 3 3 0 0 0
Humanities Through Arts Core
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.

HUMN132 - Adjunct*** 3 3 0 0 0
Art of Being Human General
This telecourse explores themes from both Eastern and Western cultures. Themes include aesthetics, myth, morality, love and death which are explored through art, music, literature, philosophy, drama and religion.

HUMN133 3 2 2 0 0
America in the Movies Core
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.

HUMN137 3 3 0 0 0
Mythology General
An introduction to world mythology. The course explores classical, Nordic, Eastern, African and American/British myths.

HUMS101 3 3 0 0 0
Introduction to Human Services General
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.

HUMS104 3 3 0 0 0
Community Organization Open
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

HUMS109 3 3 0 0 0
Survey Mental Health Treatment Open
Introduction to major counseling theories including psychoanalytic, gestalt, existential, family systems, reality therapy, behavior therapy and person centered therapy. Applications in mental health and social services settings are considered.

HUMS202 3 3 0 0 0
Interviewing/Interpersonal Relations Open
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.

HUMS205 3 3 0 0 0
Intervention Theories/Practice I Open
Study of several management and planning theories and practices which are used to assess client needs, establish goals, identify resources and make appropriate referrals. Community resources are explored.
Prerequisite: HUMS101, 202

HUMS206 3 3 0 0 0
Intervention Theories/Practice II Open
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. ***Prerequisite: HUMS205 COREQUISITES: HUMS208***

HUMS208 3 0 0 0 13
Field Experience Open
Supervised experience in a human services agency enables students to apply their skills and knowledge by working directly with clients. ***Prerequisite: HUMS205 Corequisite: HUMS206***

HUMS210 3 3 0 0 0
Counseling Techniques Open
Several counseling models are considered. The theories, methods and applications of client-centered and directive counseling are emphasized. ***Prerequisite: HUMS202***

HUMS211 3 3 0 0 0
Counseling with Women Open
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.

HUMS213 6 0 0 0 27
Pract: Chemical Depend Counsel I Open
Supervised experience in three of these treatment programs for chemically dependent people: inpatient, outpatient, follow-up care, halfway house and family therapy.
Prerequisite: Admission- Powell CDC at Iowa Lutheran Hospital.
Prerequisite: HUMS205

HUMS214 3 0 0 0 12
Pract: Chemical Depend Counsel II Open
Supervised experience in one of the following treatment programs for chemically dependent people: inpatient, outpatient, residential, adolescent, or family services.
Prerequisite: Admission - Powell CDC or Iowa Lutheran Hospital. Prerequisite: HUMS205

HUMS216 3 3 0 0 0
Survey of Addictive Disease Open
A historical and theoretical background to current concepts of addiction. A variety of addictive behaviors are examined with special focus on psychoactive drug dependency.

HUMS217 3 3 0 0 0
Psychosocial Rehabilitation Open
The course will emphasize the rehabilitation model, values and techniques for direct service delivery to persons with severe mental disabilities. The student will develop the knowledge and basic skills necessary for rehabilitation goal planning, functional assessment and direct skills teaching along with job development, analysis, matching and retention.

ITAL101 4 4 0 0 0
Elementary Italian I Core
Development of the basic skills of understanding, speaking, reading and writing Italian. Grammar analysis, classroom conversational practice and some exploration of the Italian culture.

ITAL102 4 4 0 0 0
Elementary Italian II Core
Continued practice of the four basic skills and grammar analysis. Introduction of short prose selections with conversational emphasis. ***Prerequisite: ITAL101 or instructor permission***

ITAL103 4 4 0 0 0
Intermediate Italian I Core
Review of essential grammatical constructions emphasizing major areas of difficulty for English speakers. Use of Italian cultural and literary materials to develop conversational skills. ***Prerequisite: ITAL102 or instructor permission***

ITAL104 4 4 0 0 0
Elementary Italian II Core
Continued review of grammatical constructions using Italian cultural materials. Reading, writing and conversation will be emphasized in the context of cultural issues and current events.
Prerequisite: ITAL103 or instructor permission

ITNA310 4 2 4 0 0
Intro to CISCO Networking I Voc/Tech
This course provides the student a technical level of understanding in the areas of PC and mainframe networking connectivity, data communications concepts and protocol communication concepts.
Prerequisite: ELHT346

ITNA320 3 2 2 0 0
Advanced CISCO Networking II Voc/Tech
Includes network standards, LANs, WANs, OSI models, routers, router programming, ethernet and IP protocol addressing and decision making and problem solving techniques. ***Prerequisite: ELHT310***

ITNA330 4 4 0 0 0
Network Applications Voc/Tech
This course provides the student with an understanding of the software systems and applications which provide network services across differing networks and operating system platforms.
Prerequisite: ITNA310, Corequisite: ITNA332

ITNA332 2 0 4 0 0
Network Applications Lab Voc/Tech
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: ITNA310, Corequisite: ITNA330

ITNA351 3 2 2 0 0
Linux Network Administration Voc/Tech
This is the first in a series of ITNA Linux courses. This course covers the basic installation and administration of the Linux operating system. ***Prerequisite: ITNA330 or instructor permission***

ITNA352 3 2 2 0 0
Linux System Administration Voc/Tech
This is the second in a series of ITNA Linux courses. This course covers system administration of the Linux operating system.
Prerequisite: ITNA351 or instructor permission

ITNA353 3 2 2 0 0
Linux System Programming Voc/Tech
This is the third in a series of ITNA Linux courses. This course covers system programming for the Linux operating system. The final project for the course will be creating your own Packet Sniffer/Intrusion Detection system/Firewall. ***Prerequisite: ITNA352 or instructor permission***

ITNA354 3 2 2 0 0
Network Security Voc/Tech
This is the first in a series of ITNA Security courses. This course details how to protect your network from malicious users and how to choose and configure a Firewall for Microsoft Windows, Novell, Linux and CISCO. ***Prerequisite: ITNA330 or instructor permission***

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Course Descriptions

ITNA360 - Adjunct 3 3 0 0 0
Network Security Issues
This is a survey course for currently employed network managers and/or administrators. This course does not have any lab component. It explains how to protect a network from malicious users and how to choose a Firewall for Microsoft Windows, Novell, Linux and CISCO. ***Prerequisite: ITNA330 or 2 years industry experience and instructor permission***

JAPN101 4 4 0 0 0
Elementary Japanese I Core
Development of the basic skills of understanding, speaking, reading and writing Japanese. Grammar analysis, classroom conversational practice and some exploration of the Japanese culture.

JAPN102 4 4 0 0 0
Elementary Japanese II Core
Continued practice of the four basic skills and grammar analysis. Introduction of short prose selections with conversational emphasis. ***Prerequisite: JAPN101 or instructor permission***

JAPN103 4 4 0 0 0
Intermediate Japanese I Core
Review of essential grammatical constructions emphasizing major areas of difficulty for English speakers. Use of Japanese cultural and literary materials to develop conversational skills. ***Prerequisite: JAPN102 or instructor permission***

JAPN104 4 4 0 0 0
Intermediate Japanese II Core
Continued review of grammatical constructions using Japanese cultural materials. Reading, writing and conversation will be emphasized in the context of cultural issues and current events.
Prerequisite: JAPN103 or instructor permission

JNAD120 3 3 0 0 0
Intro to Mass Communication Open
An introduction to mass communication in a global market place. Emphasizes print and electronic media, advertising and public relations, ethics and new technology.

JNAD121 3 3 0 0 0
Basic Reporting Principles Open
Designed to provide students with experiences in gathering, organizing and writing news stories.

JNAD123 3 1 4 0 0
Publications Production Open
Special work in journalism. Students will produce a DMACC newspaper, the Challenger (Ankeny) or the Bear Facts (Boone) and will gain experience in writing, copy-editing, layout and design. May be repeated for three additional semesters.

JNAD125 3 3 0 0 0
Principles of Advertising Open
Course explores advertising as a tool and socioeconomic force.

JNAD126 - Adjunct 3 2 2 0 0
Photojournalism Open
Students will learn basic visual and technical aspects of photojournalism, using a digital camera, while photographing a series of general news, feature, performing arts, sports and community events. A digital camera is required for this class.

LEGA240 3 3 0 0 0
Introduction to Law Open
A general introduction to the American legal system including case briefing, court structure and civil, criminal and administrative procedure. An examination of ethical and professional practice standards applicable to the legal profession. Understanding of the roles of the judge, jury, attorney and legal assistant.

LEGA242 3 3 0 0 0
Torts & Litigation I Open
A study of the basic law relating to personal and property damage. Topics include intentional torts, negligence, nuisance, strict liability and automobile law. Principles of trial practice including drafting basic pleadings, gathering and organization of materials for trial. ***Prerequisite: instructor permission or LEGA240, 260***

LEGA243 3 3 0 0 0
Torts & Litigation II Open
A continuation of Torts and Litigation I. Areas of concentration will be premise liability, family torts, defamation, governmental immunity, malpractice and wrongful death. Advanced trial practice including drafting of pleadings and discovery documents. ***Prerequisite: LEGA242***

LEGA244 3 3 0 0 0
Family Law Open
Legal aspects of the family relationship. Rights and duties of the parties in marriage, annulment, divorce, child custody and adoption. The course will emphasize the use of domestic law forms. ***Prerequisite: instructor permission or LEGA240, 260***

LEGA246 3 3 0 0 0
Business & Corporate Law I Open
Study of fundamentals of law of contracts, uniform commercial code and rights of creditors in transactions.

LEGA247 3 3 0 0 0
Business & Corporate Law II Open
Continuation of Business and 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: LEGA246***

LEGA248 3 3 0 0 0
Real Estate Law Open
Study of law of real property and a survey of more common types of real estate transactions. Emphasis is on the preparation of the instruments necessary to complete various real estate transactions. ***Prerequisite: instructor permission or LEGA240, 260***

LEGA249 3 3 0 0 0
Probate Procedure Open
A study of wills including validity requirements, modification and revocation. Formation of trusts and the characteristics and requirements of each type. Laws of testate and intestate succession. Forms and procedures for probating an estate.
Prerequisite: instructor permission or LEGA240, 260

LEGA250 4 1 0 0 15
Legal Internship & Ethics Open
Application of the theoretical knowledge gained in the classroom by interning in a private law office, governmental agency, or private business which utilizes attorneys. Students will participate in seminars concerning their internship experience and legal ethics. Total internship requirement is 225 hours. ***(P/F) Prerequisite: Minimum of "C" in all LEGA courses & complete minimum 8 LEGA classes***

LEGA251 3 3 0 0 0
Wills, Estate Planning & Taxation Open
Basic principles of estate planning in order to minimize estate and gift tax consequences. Preparation of federal estate, gift tax returns and Iowa inheritance tax returns. Drafting of wills designed to carry out estate plans.
Prerequisite: LEGA249

LEGA252 3 3 0 0 0
Administrative Practice Open
A study of administrative law and procedures for administrative hearings in various governmental agencies. Drafting and researching administrative rules and regulations will be covered. ***Prerequisite: instructor permission or LEGA240, 260***

LEGA254 3 3 0 0 0
Evidence: Theory & Practice Open
Study of substantive and procedural laws of evidence. Introduction to Rules of Evidence. Methods of discovering, preserving and presenting evidence in civil and criminal trials. ***Prerequisite: instructor permission or LEGA242***

LEGA256 3 3 0 0 0
Debtor/Creditor Law Open
Procedures in non-bankruptcy debt collection. Fundamentals of bankruptcy law and bankruptcy procedure. Examination of alternatives to formal bankruptcy proceedings. ***Prerequisite: instructor permission or LEGA240, 260***

LEGA258 1 1 0 0 0
Computerized Legal Research Open
Introduction to computer assisted legal research. Training in legal research search strategies using both the Lexis and Westlaw systems. ***Prerequisite: LEGA260***

LEGA259 3 3 0 0 0
Adv Legal Research & Writing Open
Research and analysis of complex and multiple factual and legal issues. Preparation of legal documents using analysis and application of legal research. Use of specialized research sources.
Prerequisite: LEGA261

LEGA260 3 3 0 0 0
Legal Research & Writing I Open
The nature of legal authority and tools and techniques of basic legal research and writing. Emphasis will be on Iowa law. Degree Students: If transcript has not been submitted, you must contact the registration office to register for this course.
Prerequisite: ENGL117

LEGA261 3 3 0 0 0
Legal Research & Writing II Open
Advanced application of principles of legal research. Preparation of interoffice memorandums and demand letters. Out of state and federal law.
Prerequisite: LEGA240, 260

LEGA265 3 3 0 0 0
Mediation Open
Classroom study of mediating legal disputes. Students will study the purposes of mediation using "objective" criteria, impediments to resolution, moving beyond impasse and reaching an agreement.
Prerequisite: LEGA240, 260 and or instructor permission

LIBS120 1 1 0 0 0
Library Instruction General
Study of classification systems, use of library resources and the compilation of bibliographies.

LIBS123 1 1 0 0 0
Internet Research Techniques General
Students will learn how information resources are organized on the Internet, how to reference and evaluate information on particular topics.
Prerequisite: Basic computer literacy

LITR120 3 3 0 0 0
Intro to Literature Core
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.

LITR121 3 3 0 0 0
Major British Writers Core
Introduction to the study and appreciation of major British writers particularly from the post-Renaissance through the contemporary period. Basic critical approaches are emphasized.

LITR122 3 3 0 0 0
Major American Writers I Core
Study of works of selected major writers (including Native American) particularly from Puritan times to 1865. Basic critical approaches are emphasized.

LITR123 3 3 0 0 0
Major American Writers II Core
Examines American literature from early 20th Century through contemporary America. Emphasizes major literary works and their social and cultural contexts.

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Course Descriptions

LITR124 3 3 0 0 0
Children's Literature General
Study historical, sociocultural contexts surrounding children's literature; examine current trends and issues in the field; analyze and evaluate children's literature; and develop an awareness and appreciation for the variety of literature available.

LITR125 3 3 0 0 0
Contemporary Literature Core
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.

LITR130 3 3 0 0 0
Science Fiction Core
A survey of speculative fiction from Frankenstein to literature of the 20th Century. Examines major influential works in their literacy, social and cultural contexts. Critical analysis is emphasized.

LITR131 3 3 0 0 0
Detective Fiction Core
Introduction to the study and appreciation of detective fiction. A literary investigation of the components of detective fiction and basic critical approaches are emphasized.

LITR132 3 3 0 0 0
Humor Core
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.

LITR133 3 3 0 0 0
Black American Literature Core
Introduction to the study and appreciation of literature written by African-American writers. A broad range of Black American authors will be presented.

LITR134 3 3 0 0 0
Women's Literature Core
Introduction to the study and appreciation of literature written by women. Examines major works from a variety of historical, social and cultural contexts. Critical analysis is emphasized.

MATH091** 3 3 0 0 0
Arithmetic Adaptor
A review of the fundamental operations of arithmetic including addition, subtraction, multiplication and division of whole numbers, decimals and fractions. This is an adaptor course designed for those students who need to review and improve their knowledge of the fundamentals of mathematics.

MATH092** 4 4 0 0 0
Introductory Algebra Adaptor
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 an adaptor course designed for students with no algebra background or for students who need review.

MATH094** 4 4 0 0 0
Intermediate Algebra Adaptor
A review of elementary algebra along with the new topics including exponents and radicals, functions and graphs, quadratic equations, inequalities and systems of equations.
Prerequisite: 1 year H.S. algebra, department permission or MATH092

MATH115 4 4 0 0 0
Finite Mathematics Core
General education course in practical mathematics for students not majoring in mathematics or science. 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: 1 year H.S. algebra or MATH092

MATH118 4 4 0 0 0
Math for Elementary Educators Core
Provides future elementary teachers a modern approach to mathematics. Sets, relations, number systems, nature of proof, algorithms, elements of algebra and geometry, basic computational skills and problem solving. This course is for students in education fields and is not appropriate for students in other majors. This is not a methods course.
Prerequisite: 1 year H.S, algebra, department permission or MATH092

MATH121 4 4 0 0 0
Elementary Statistics Core
Tabular and graphical presentation, measures of central tendency and variability, standard elementary procedures involving the binomial, normal, student's t, chi-square and f distributions, correlation, regression, analysis of variance and several nonparametric procedures. Same content as BSAD152, credit will not be granted for both BSAD152 and MATH121.
Prerequisite: 2 years H.S. algebra, department permission or MATH094

MATH122 4 4 0 0 0
Calculus for Business/Social Science Core
Functions, graphs, differential calculus, integral calculus, introduction to max-min theory for functions of two variables. Emphasis on application of calculus to business problems. Not a substitute for MATH129 and MATH130.
Prerequisite: 2 years H.S. algebra and MATH115, or MATH094 and MATH115

MATH123 3 3 0 0 0
Trigonometry Core
Circular functions and their inverses, trigonometric identities, trigonometric equations, solving triangles and graphing.
Prerequisite: 2 years H.S. algebra, department permission or MATH094

MATH124 5 5 0 0 0
Precalculus Core
Real and complex number systems, inequalities, exponential and logarithmic functions, mathematical induction, limits, sequences, elementary theory of equations, linear systems, matrices, vectors and topics of analytic geometry.
Prerequisite: MATH 123 or equivalent or department permission

MATH125 2 2 0 0 0
Statistical Business Applications Open
This is the second course in the statistics sequence. Course content includes application and interpretation of probability and statistics as applied to business situations by using sampling, confidence intervals, control charges, simple linear regression analysis, multiple regression analysis, correlation analysis, data analysis, time series analysis, hypothesis testing and computer analysis. Same content as MATH125, credit will not be granted for both BSAD125 and MATH125.
Prerequisite: BSAD152 or MATH121

MATH129 5 5 0 0 0
Calculus I Core
Absolute values, inequalities, functions, limits, continuity, differentiation, definite integral, exponential and logarithmic functions. ***Prerequisite: MATH124 or equivalent or department permission***

MATH130 5 5 0 0 0
Calculus II Core
Continuation of MATH129. Techniques of integration, hyperbolic functions, polar coordinates, indeterminate forms, improper integrals, infinite series, partial derivatives, multiple integrals. ***Prerequisite: MATH129***

MATH132 4 4 0 0 0
Differential Equat/Laplace Trans Core
Ordinary differential equations, systems of ordinary differential equations, Laplace transforms, numerical methods and applications. ***Prerequisite: MATH130 or equivalent must be taken concurrently with or prior to this course***

MATH410 3 3 0 0 0
Mathematics for Technicians I Voc/Tech
A course in elementary mathematical skills for technicians. Topics covered include fundamental operations with whole numbers, fractions, decimals and signed numbers; percents; geometric figures and basic constructions; area and volume formulas; English/Metric systems; measurements; and the interpretation of graphs and charts.

MATH411 3 3 0 0 0
Mathematics for Technicians II Voc/Tech
A course in algebra and trigonometry for technicians. Topics covered include polynomials, equations, systems of linear equations, factoring, quadratic equations, trigonometry, powers, roots and logarithms.
Prerequisite: MATH410

MCSE305 3 3 0 0 0
Implementing Network Infrastructure Voc/Tech
This course concentrates on the specifics of network infrastructure administration, including setting up, maintaining and administering the network. The content is geared toward preparation for the associated Microsoft certification test.
Prerequisite: ITNA320, 330, 332

MCSE310 5 2 6 0 0
MS Windows Professional/Server Voc/Tech
This course includes the curriculum for the current Microsoft versions of professional and server products. The content is geared toward preparation for the associated Microsoft certification test. Prerequisite: ITNA320, 330, 332

MCSE312 2 2 0 0 0
Designing MS Directory Services Voc/Tech
This course covers the current curriculum for designing MS directory services. ***Corequisite: MCSE305, 310, 320***

MCSE314 2 2 0 0 0
Designing Security for MS Network Voc/Tech
This course covers the current curriculum for Designing Security for an MS Network.
Corequisite: MCSE305, 310, 320

MCSE316 2 2 0 0 0
Designing MS Net Infrastructure Voc/Tech
This course covers the current curriculum for Designing the MS Network Infrastructure.
Corequisite: MCSE305, 310, 320

MCSE318 3 3 0 0 0
Upgrading from WIN NT 4.0 Voc/Tech
This course covers the current curriculum for upgrading to the newest version of Windows Workstation/Server software from WIN NT 4.0. ***Corequisite: MCSE305, 310, 320***

MCSE320 3 2 2 0 0
Implementing Directory Service Voc/Tech
This course concentrates on the specifics of active directory administration. Includes setting up, maintaining and administrating the active directory services of current windows server products.
Prerequisite: ITNA320, 330, 332

MCSE322 3 3 0 0 0
Design/Implement Data Warehouse Voc/Tech
This course covers the current curriculum for Designing and Implementing MS Data Warehouse. ***Prerequisite: MCSE310***

MCSE330 3 3 0 0 0
Internetworking MS TCP/IP Voc/Tech
This course covers the current curriculum in Microsoft courses for Internetworking TCP/IP. ***Prerequisite: MCSE310***

MCSE335 3 3 0 0 0
Supporting MS Windows 95 Voc/Tech
This course covers the current curriculum in Microsoft Windows 95. ***Prerequisite: CSE310***

MCSE340 4 3 2 0 0
Microsoft Exchange Server Voc/Tech
This course covers the current curriculum in the Microsoft Exchange Server series.
Prerequisite: MCSE310

MCSE345 3 3 0 0 0
Supporting MS Windows 9.X Voc/Tech
This course covers the current curriculum in Microsoft Windows 98. ***Corequisite: CSE305, 310, 320***

MCSE345 3 3 0 0 0
Supporting MS Windows 9.X Voc/Tech
This course covers the current curriculum in Microsoft Windows 98. ***Corequisite: CSE305, 310, 320***

MCSE346-Adjunct *** 4 3 2 0 0
Supporting MS Windows XP Voc/Tech
Involves installation, configuration, maintenance and administration of Windows XP Professional software. Prepares students with a knowledge base for Windows XP Pro Version certification exam.
Prerequisite: ITNA 320 or Net Plus Certification

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Course Descriptions

MCSE355 4 3 2 0 0
MS Systems Management Server Voc/Tech
This course covers the current curriculum in administering and deploying the Microsoft Systems Management Server. ***Prerequisite: MCSE310***

MCSE360 2 2 0 0 0
MS Internet Information Server Voc/Tech
This course covers the current curriculum for creating and managing a web server.
Prerequisite: MCSE350

MCSE365 1 1 0 0 0
Microsoft Proxy Server Voc/Tech
This course covers the current curriculum for MS Proxy Server. ***Prerequisite: MCSE360***

MCSE370 1 1 0 0 0
Implementing MS Internet Explorer Voc/Tech
This course covers the current curriculum for implementing MS Internet Explorer.
Prerequisite: MCSE310

MCSE375 3 3 0 0 0
Implementing an SQL Database Voc/Tech
This course covers the current curriculum for implementing a database in Microsoft SQL Server. ***Prerequisite: MCSE305, 310, 320***

MCSE380 3 3 0 0 0
MS SQL System Administration Voc/Tech
This course covers the current curriculum for System Administration on Microsoft SQL Server. For more information contact the Advanced Technology Center or www.dmacc.edu (ITNA program)
Prerequisite: MCSE375

MEDA461 4 4 0 0 0
Human Body-Health & Disease I Voc/Tech
Basic biological concepts, structure and function of the body. Interrelationship of body systems in the healthy individual is stressed. Symptoms of disease, diagnostic aids used by the physician, possible methods of treatment and prognosis are presented.

MEDA462 1 0 2 0 0
Medical Terminology Voc/Tech
Designed to help logically understand medical terms. Basic prefixes, suffixes and root words are emphasized as a method of acquiring and retaining knowledge. Exercises stressing the spelling, pronunciation and use of medical terms are included.

MEDA464 4 3 2 0 0
Medical Laboratory Procedures I Voc/Tech
Introduction to medical laboratory procedures, ethics, laboratory personnel and OSHA regulations. Includes use of basic lab equipment and application of basic microbiological principles. Routine urinalysis: physical, chemical and microscopic examination. Quality control is emphasized.
Corequisite: MEDA465

MEDA465 3 2 2 0 0
Medical Office Procedures I Voc/Tech
Designed as a basis for understanding and performing clinical skills including vital signs and patient exam preparation. Experience in taking patient histories, charting and patient education. Introduction to medical and surgical asepsis and emphasis on OSHA regulations. ***Corequisite: MEDA464***

MEDA466 2 1 2 0 0
Medical Office Management I Voc/Tech
Emphasizes administrative responsibilities of the medical assistant. Includes classroom work in records management, banking and payroll. Introduction to the computer with practical application in word processing.

MEDA467 3 3 0 0 0
Professional Development I Voc/Tech
Emphasizes professional opportunities and responsibilities of the Medical Assistant. Medical specialities are studied. Study of first aid procedures prepares the student to cope with emergency situations in the office as well as in the community. Medical ethics and law are studied as they affect the practice of medicine.

MEDA471 4 4 0 0 0
Human Body-Health & Disease II Voc/Tech
The study of the body systems is completed. Prerequisite: Grade of "C" or better in MEDA461

MEDA472 2 2 0 0 0
Diagnostic Radiography I Voc/Tech
This course includes radiological principles, film evaluation, processing and techniques, positioning of patients and radiation protection of patients and workers. This course partially meets the requirements for a "limited diagnostic radiographer" set by the Radiologic Division of the Iowa Department of Health. ***Prerequisite: MEDA464***

MEDA473 4 3 2 0 0
Medical Office Management II Voc/Tech
Study of health insurance, HMOs, workers' compensation, Medicare and Medicaid, proper use of telephone, appointment scheduling and recordkeeping. Through computer applications and practice sets, the student keeps patients' medical and financial records and transcribes medical dictation.
Prerequisite: Grade of "C" or better in MEDA466

MEDA474 3 2 2 0 0
Medical Laboratory Procedures II Voc/Tech
Blood collection by venipuncture and finger puncture. Pregnancy tests, mono tests and EKGs performed. Practical experience performing complete blood counts, differentials and blood chemistries. Emphasis on OSHA regulations and quality control in the physician's office laboratory.
Prerequisite: Grade of "C" or better in MEDA464; Corequisite: MEDA475

MEDA475 3 2 2 0 0
Medical Office Procedures II Voc/Tech
Student learns how to assist with examinations, tests and treatments and how to care for and use medical and surgical equipment used in the examining room. Includes principles of pharmacology, administration of injections, sterile procedures, pulmonary functions, bandaging and patient education. ***Prerequisite: Grade "C" or better in MEDA465; Corequisite: MEDA474***

MEDA480 1 0 2 0 0
Professional Development III Voc/Tech
Provides an opportunity for the student to discuss situations that arise in the clinical experience. Oral reports by students are supplemented by a review of weekly clinical evaluations. In addition, the student is made aware of community health service available to the patient. ***Corequisite: MEDA485***

MEDA482 2 2 0 0 0
Diagnostic Radiography II Voc/Tech
A continuation of Diagnostic Radiology I with emphasis on evaluation of films exposed by the student under supervision in a physician's office. ***Prerequisite: Grade of "C" or better in MEDA472 Corequisite: MEDA485***

MEDA483 1 0 2 0 0
Medical Office Management III Voc/Tech
Provides an opportunity for the student to become adept in using dictation transcription equipment. Case histories, consultations, physical examinations and surgical reports on prepared tapes are used to provide material that is of immediate practical use.
Prerequisite: Grade of "C" or better in MEDA473

MEDA485 5 0 0 0 21
Practicum Voc/Tech
A course designed especially for the preparation of students involving supervised practical application of previously studied theory. New material is integrated as the student progresses. The student receives experience in a physician's office working under the direct supervision of the physician and office staff. There is no financial remuneration.
Prerequisite: Satisfactory completion of all courses in first 2 terms. Corequisite: MEDA482

MFGT418 5 0 0 0 20
IMT Internship Voc-Tech
Supervised work experience with employer, based upon individual training plan which enables student to apply skills and knowledge. ***Prerequisite: Successful completion of courses in terms 1, 2 and 3 of the Integrated Manufacturing Technology program.***

MFGT475 2 0 4 0 0
Manufacturing Welding I. Voc-Tech
Basic skills will be developed in welding beads and buildup surfacing in the flat position, welding with oxy-acetylene equipment along with an introduction to GMAC welding..

MFGT482 1 1 0 0 0
Related Welding Blueprint-Mfg. Tech. Voc-Tech
Basic skills will be developed in reading welding blueprints, with emphasis on welding symbols.

MGMT101 3 3 0 0 0
Supervisory Management Open
A unique view of organizational structure, the managerial function and the role of the supervisor as it relates to the human relationship between supervisors, peers and subordinates and the practice of sound personnel techniques.

MGMT102 3 3 0 0 0
Introduction to Management General
Explore basic management principles, concepts and practices in the areas of planning, organizing, leading and controlling. Paradigm shifts include motivation, leadership, group dynamics, job design, organizational structure, decision making, social responsibility and global competition.

MGMT103 3 3 0 0 0
Sales Management Open
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.

MGMT104 3 3 0 0 0
Organizational Behavior Voc/Tech
Course introduces the concepts, methodologies and techniques used in the field of organizational development. Topics covered include: fundamental concepts, leadership, organizational environment, social environment, group process and operating activities.

MGMT153 3 3 0 0 0
Office Management Open
Introduces concepts of office management aimed at increasing efficiency and productivity in operation of the office. Areas covered include: planning and organizing, leadership and human relations and controlling office operations.

MGMT203 3 3 0 0 0
Human Relations in Business Open
Emphasizes the importance of the development of proper attitudes toward self, others and organizational settings. Stresses the development of a good self image and the relationship this has to energy levels, emotions, defensiveness, verbal and nonverbal communication.

MGMT240 3 3 0 0 0
Principles of Managerial Finance Open
This course provides a general background in managerial finance through financial statement analysis, time values, long range investment strategy and cost analysis of alternative financial strategies.
Prerequisite: ACCT101, 102

MGMT241 3 3 0 0 0
Production Management Open
An introductory course in production management with emphasis on facilities layout and planning, forecasting, inventory systems and quality control.

MGMT242 3 3 0 0 0
Human Resource Management Voc/Tech
This course studies the role of human resource management as it applies to the challenges, problems, techniques, opportunities, ethical considerations and social dynamics in organizations. Emphasis on human resource activities of both managers and human resource specialists.

MGMT243 3 3 0 0 0
Management of Information Voc/Tech
An introduction of managing information for decision-making. Planning what information to obtain, sources and methods of collecting information; interpreting and analyzing; presenting and using information for decisions.

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*** Adjunct Courses cannot be used to fulfill or substitute for required or option courses in any degree or diploma program

Course Descriptions

MGMT244 3 3 0 0 0
Leadership Development Voc/Tech
The central focus of this course is the development of leadership ability. The course provides a basic understanding of leadership and group dynamics theory, assists participants in developing a personal philosophy of leadership and an awareness of one's own ability and style of leadership.

MGMT250 3 3 0 0 0
Fundamentals of Purchasing Mgmt. Voc/Tech
This course provides information on the basic functions, terminology and systems used in a modern purchasing department. Topics include supplier analysis, negotiation techniques, contracts and administration of a purchasing department for both service and manufacturing firms.

MGMT341 6 0 0 0 24
Business Internship I Voc/Tech
One semester of full-time successful introductory on-the-job training in a cooperating training station. Emphasis is placed on customer service and sales promotion strategies.
(P/F) Corequisite: MGMT342

MGMT342 2 1 2 0 0
Internship Seminar I Voc/Tech
Field experience problems will be discussed, new occupational information will be presented and business people will speak on the functions, institutions and products found in the field of sales promotion.
Corequisite: MGMT341

MGMT344 2 1 2 0 0
Field Experience I Seminar Voc/Tech
Field experience problems will be discussed, new occupational information will be presented and business people will speak on the functions, institutions and products found in the field of management.
Corequisite: MGMT345

MGMT345 6 0 0 0 24
Field Experience I Voc/Tech
Consists of one term of full-time successful introductory on-the-job management training in a cooperating training station. Development and supervision of a training plan will be made by a teacher-coordinator.
(P/F) Corequisite: MGMT344

MGMT353 4 0 0 0 16
Business Internship II Voc/Tech
Sales promotion training of the level prescribed in the individual training plan. Exposure will be given to merchandising techniques. The training will be scheduled in an approved cooperating training station. Supervision of the training plan will be made by a teacher/coordinator.
(P/F) Corequisite: MGMT348

MGMT356 1 1 0 0 0
Field Experience II Seminar Voc/Tech
Field experience problems will be discussed, new occupational information will be presented and topics relating to supervision and management will be discussed.
Corequisite: MGMT363

MGMT358 1 1 0 0 0
Internship Seminar II Voc/Tech
Students are exposed to areas of sales promotion through guest speakers, visual aids and discussion of business.
Corequisite: MGMT353

MGMT362 4 0 0 0 16
Business Internship III Voc/Tech
Consists of one term of part-time on-the-job training of the level prescribed in the individual training plan. Exposure will be given to merchandising control and supervision. Supervision of the training plan will be made by a teacher/coordinator.
(P/F) Corequisite: MGMT367

MGMT363 4 0 0 0 16
Field Experience II Voc/Tech
Consists of field training of the level prescribed in the individual training plan. The training is scheduled in an approved cooperating management training station. The training plan will be supervised by a teacher/coordinator.
(P/F) Corequisite: MGMT356

MGMT364 4 0 0 0 16
Field Experience III Voc/Tech
Consists of continued field training of the level scheduled in the individual field training plan. The training is scheduled for a half day. The training plan will be supervised by a teacher/coordinator.
(P/F) Corequisite: MGMT369

MGMT367 1 1 0 0 0
Internship Seminar III Voc/Tech
Students are exposed to areas of marketing through guest speakers, visual aids and discussion of business internship experiences.
Corequisite: MGMT367

MGMT369 1 1 0 0 0
Field Experience III Seminar Voc/Tech
Field experience problems will be discussed. New occupational information will be presented and topics relating to management will be discussed. *Corequisite: MGMT364*

MGMT406 2 2 0 0 0
Relationship Strategies in Business Voc/Tech
Includes the awareness of communication styles and how to manage successful interpersonal and organizational relationships.

MGMT407 1 1 0 0 0
Leadership Strategies in Business Voc/Tech
Presents insights into how individuals with the right insights sense and fit into organizations. A researched set of organizational values used by excellent companies will be presented and used as a model for development of individual career values.

MILL440 3 2 2 0 0
Blueprint Reading and Layout Voc/Tech
An introduction to blueprint reading and layout and the application of this knowledge with the use of specific tools.

MILL441 3 2 2 0 0
Material Identification and Usage Voc/Tech
An introduction to the materials used in making architectural millwork products.

MILL442 3 2 2 0 0
Introduction to Portable Tools Voc/Tech
An introduction to safe use and the proper care and selection of power tools.

MILL443 4 2 4 0 0
Stationary Equipment Voc/Tech
The purpose of this course is to train the student in the identification, operation and maintenance of stationary equipment.

MILL444 3 2 2 0 0
Advanced Equipment Techniques Voc/Tech
This course will provide the students with maintenance experience and advanced machining skills. *Prerequisite: MILL440, 441, 442, 443*

MILL445 3 2 2 0 0
32 Millimeter Cabinet Techniques Voc/Tech
This course is an introduction to the rationale of cabinet making and millwork.
Prerequisite: MILL440, 441, 442, 443

MILL446 4 2 4 0 0
Millwork Techniques Voc/Tech
This course is an introduction to the initial steps of applying various millwork techniques to projects.
Prerequisite: MILL440, 441, 442, 443

MILL447 3 2 2 0 0
Introduction to Application Voc/Tech
This course will allow students to begin combining their knowledge of the previous courses in Architectural Millwork to produce mock up projects.
Prerequisite: MILL440, 441, 442, 443

MILL448 5 1 8 0 0
Advanced Millwork Application I Voc/Tech
This course will combine the skills learned from the previous courses to begin producing completed projects.
Prerequisite: MILL444, 445, 446, 447

MILL449 5 1 8 0 0
Advanced Millwork Application II Voc/Tech
This course will combine the students' previous courses to produce a completed project from beginning to installation.
Prerequisite: MILL448

MKTG102 3 3 0 0 0
Principles of Marketing General
Marketing effectively and efficiently results in better customer loyalty, higher share of customer, 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.

MKTG103 3 3 0 0 0
Principles of Selling Open
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.

MKTG104 3 3 0 0 0
Advertising/Sales Promotion Open
The area of promotional communication is studied to achieve an understanding of the market place, the various advertising media and the development of an effective promotional campaign.

MKTG211 3 3 0 0 0
Business Marketing Open
Presents functional methods of business-to-business marketing. Examines all forms of wholesaler service and manufacturer type marketing activities.

MKTG231 3 3 0 0 0
Fashion Analysis & Design Voc/Tech
Emphasis is on how the fashion business works, from concept to consumer. The fashion business entails buying supplies, creating and developing a new product and marketing the product. Fashion designers, manufacturers, buyers, as well as retailers work together to develop and sell "good" design. Focus is on analyzing styles and creating and implementing the principles of design into product development as well as researching past and present designers to understand their contribution to fashion.

MKTG232 3 3 0 0 0
Advanced Selling Strategies Voc/Tech
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: MKTG103

MKTG233 3 3 0 0 0
Design Concepts Voc/Tech
Includes a study of the history of fashion design, the effective use of design principles and analysis of future fashion trends. New industry based computer design software will be used to design contemporary fashion apparel for women, men or children.

MKTG234 3 3 0 0 0
Interior Design Analysis Voc/Tech
Acquiring knowledge and expertise to create pleasing and effective interior design will be emphasized. 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.

MKTG235 3 3 0 0 0
Interior Design Planning Voc/Tech
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: MKTG234

MKTG305 3 3 0 0 0
Internet Marketing Voc/Tech
Study of the Internet as a marketing tool. Investigation of the relevant issues and uses of web-based marketing including influence on traditional marketing mix topics such as product, place, price and promotion. Focus will be on the use of technology rather than the technology itself.

Course Descriptions

MKTG306 3 3 0 0 0
Sports/Entertainment Marketing Voc/Tech
Exploration of the essentials of effective Sport/Entertainment Marketing. Topics include application of the marketing principles in the sports/entertainment area, licensing issues, 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.)

MKTG321 3 3 0 0 0
Retail Management I Voc/Tech
Course examines developments in retailing, organization of retail institutions, merchandise handling processes, understanding retail customers and future directions in retailing.

MKTG322 3 3 0 0 0
Retail Management II Voc/Tech
A problem-solving approach to the operating principles and methods in the retail field. Management decision making is emphasized. ***Prerequisite: MKTG321***

MKTG323 2 1 2 0 0
Visual Merchandising/Design Voc/Tech
Includes design/display planning activities, store fixturing and the total merchandise presentation in a store. Emphasis is placed on actual design of window and interior displays by students.

MKTG324 3 3 0 0 0
Fashion Buying Voc/Tech
Fashion moves quickly and the buyer must be in tune with current trends and suppliers who can provide the best quality merchandise, delivery and pricing. Vender analysis, open-to-buy and timing are studied, including the development of a six-month merchandise plan.

MKTG331 3 3 0 0 0
Fashion Coordination/Promotion Voc/Tech
Focus is on researching, analyzing and forecasting fashion trends. Information on emerging fashion trends is communicated through a power point computer presentation. Use of this information results in creation of a promotional plan to establish fashion leadership. ***Prerequisite: MKTG231***

MKTG332 3 3 0 0 0
Textiles Voc/Tech
Focus will be on an application oriented study of natural and manufactured fibers. Popular weaves, technologies used to produce, qualities achieved and costs incurred will be analyzed. Printing and dyeing processes, in addition to the finishes available today will be studied.

MKTG345 1 0 2 0 0
Fashion Study Tour Voc/Tech
The student will participate in a supervised study tour, location to be announced, in which a concentrated time will be spent touring a market center and researching a variety of fashion businesses from manufacturing and marketing to merchandising, promoting and selling apparel. ***Prerequisite: MKTG231***

MLTS401 2 1 2 0 0
Lab Fundamentals & Urinalysis Open
A course designed to acquaint the student with the field of laboratory medicine, laboratory structure and staffing. Basic lab skills, instrumentation and quality control are presented. This course also includes the study of urine formation and methodology for determining the physical, chemical and microscopic properties of urine in normal and abnormal states. ***Prerequisite: Acceptance into the Medical Laboratory Technology program***

MLTS402 2 1 2 0 0
Beginning Hematology Open
An introduction to the study of red blood cells, white blood cells and platelets. This course focuses on red cell metabolism, hematopoiesis, evaluation of red cell morphology and the pathogenesis of anemia. Methods of measurement and basic hematology procedures are presented. ***Prerequisite: Acceptance into the Medical Laboratory Technology program***

MLTS403 2 2 0 0 0
Principles of Phlebotomy Open
An orientation course designed to give students a thorough background in blood collection, including demonstrations of venipuncture and skin puncture techniques. This course is required for students admitted to the Medical Laboratory Technology program who do not have documentation of competency in Phlebotomy and for students who wish to obtain certification in Phlebotomy. Phlebotomy students must also enroll in the Phlebotomy Clinical course, (PHLE320).

MLTS415 5 3 4 0 0
Advanced Hematology/Coagulation Open
A review of basic procedures, followed by a study of normal and abnormal blood and bone marrow smears as they relate to anemias and leukemias. Hematology instrumentation, quality control, coagulation and body fluid analysis are studied. This advanced course is a sequel to the Beginning Hematology and includes an in-depth study of various anemias, leukemias and other hematological disorders. ***Prerequisite: Grade of 'C' or better in MLTS401 and402.***

MLTS422 8 6 4 0 0
Clinical Chemistry Open
Study and analysis of electrolyzes, proteins, lipids, enzymes, hormones, drugs and various other biochemical compounds found in the body. Test results are correlated with patients' conditions. Laboratory math, statistics and quality control are presented.
Prerequisite: Grade of 'C' or better in MLTS401. Successful completion of the following courses: CHEM131 or equivalent; CHEM 132 or equivalent; BIOL154 or equivalent.

MLTS431 6 4 4 0 0
Clinical Microbiology Open
A study of clinically important microorganisms. Students learn and practice techniques used to isolate and identify pathogenic bacteria, parasites and fungi.
Prerequisite: Grade of 'C' or better in MLTS401. Successful completion of the following courses: BIOL132 or equivalent, BIOL154 or equivalent, CHEM131 or equivalent; CHEM 132 or equivalent.

MLTS440 2 1 2 0 0
Immunology & Serology Open
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 better in MLTS415.

MLTS442 5 3 4 0 0
Immunohematology Open
Principles of immunohematology with the practices of blood banking are presented. ABO grouping, RH typing and transfusion testing procedures are performed. Blood group antigens and antibodies are studied.
Prerequisite: Grade of 'C' or better in MLTS415 and pre or co-requisite of MLTS 440. Successful completion of the following courses: BIOL132 or equivalent, BIOL154 or equivalent, CHEM131 or equivalent; CHEM 132 or equivalent.

MLTS455 12 0 0 0 48
Clinical Laboratory Practicum Open
Students rotate through the various departments (hematology, chemistry, microbiology, blood bank and urinalysis) of the hospital laboratory applying the knowledge and skills learned in the classroom. ***Prerequisite: Completion of first four terms of Medical Laboratory Technology program with a GPA of 2.0 or higher. Co-requisite: MLTS 465***

MLTS465 2 2 0 0 0
Clinical Seminar and Review Open
Students review medical laboratory subjects, share experiences in the clinical area and present case studies. Job seeking skills, continuing education opportunities, legal responsibilities and professional organizations are also discussed. A mock certification exam is given. ***Prerequisite: Successful Completion of first four terms of Medical Laboratory Technology program with a GPA of 2.0 or higher. Co-requisite: MLTS 455***

MUSI130 3 3 0 0 0
Music Appreciation Core
A survey of the development of western art music through study of representative compositions of many periods and styles. Includes definitions of musical terminology and a major emphasis on listening.

MUSI131 3 3 0 0 0
Introduction to Music Core
This course introduces students to the elements of music through performance on recorder and piano. Includes instruction in teaching the elements of music to pre-school and elementary school children.

MUSI136 1 0 2 0 0
Voice General
Individual instruction in voice. Weekly half-hour lessons in tone production, breath control, diction, literature and stage presence. May be repeated for a maximum of four credits.

MUSI137 1 0 2 0 0
Piano General
Individual instruction in piano. Weekly half hour lessons. Beginning, intermediate and advanced students accepted. May be repeated for a maximum of four credits.

MUSI139 1 0 2 0 0
Instrumental Music General
Individual instruction in all instruments. Weekly one half-hour lessons. May be repeated for a maximum of four credits.

MUSI143 2 1 2 0 0
Introduction to Piano General
This course is especially for the beginner in piano. Students will be introduced to the fundamentals of piano playing, including beginning note reading for the keyboard, technical development and appropriate repertoire.

MUSI144 2 1 2 0 0
Concert Choir General
The concert choir is open to all students. Varied literature is chosen. May be repeated for a maximum of eight credits.

MUSI145 1 0 2 0 0
Chamber Choir General
Course is open to members of the Concert Choir who are selected by auditioning with the director. Chamber Choir sings a variety of musical styles and the music is generally more difficult than the music in Concert Choir. Prior choir experience is most helpful. May be repeated for a maximum of four credits.
Prerequisite: Audition with director; COREQUISITES: MUSI 144

MUSI147 4 3 2 0 0
Materials of Music I General
All aspects of music theory will be introduced and explored with the experienced music student. Activities will include ear training, sight singing, keyboard training and written theory assignments.

MUSI148 4 3 2 0 0
Materials of Music II General
As a sequel to Materials of Music I, this course will examine music theory in greater complexity and will emphasize the harmonic aspects of music. Activities include ear training, sight singing, keyboard training and written theory assignments.

MUSI149 2 1 2 0 0
Instrumental Ensembles General
This course is open to any student with an instrumental music background. It will provide an opportunity for the rehearsal and possible performance of music in groups with students having similar levels of technical skill. May be taken for a maximum of eight credits. Prerequisite: Approval of instructor

NECP301 1 1 0 0 0
Internet Business Strategies Voc/Tech
This course teaches participants how to place a business on the Internet and how to manage the development of a business Web site from inception to evaluation. The class uses realistic business scenarios, giving participants a hands-on opportunity to develop a marketing strategy, create a business plan and implement the business plan-while requiring them to keep in mind cost efficiency and return on investment.
Prerequisite: ITNA20, 330, 332

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Course Descriptions

NECP302 1 1 0 0 0
Mastering the Net/Netscape Voc/Tech
Mastering the Net with Netscape Communicator is designed to give students survey and hands-on introduction to the Netscape Communicator application suite. Students learn to browse the Web using Navigator; create HTML documents.
Prerequisite: ITNA320, 330 332

NECP303 1 1 0 0 0
Web Authoring & Publishing Voc/Tech
This course focuses on the skills required to design and publish Web documents. Students create a web site using basic hypertext markup language (HTML). Students also generate links and use the advanced HTML features such as tables, images and frames. Additionally, the class provides practice creating HTML forms and accessing Common Gateway Interface (CGI) scripts such a Perl and BASIC.
Prerequisite: ITNA320, 330, 332

NECP304 1 1 0 0 0
Advanced Web Authoring Voc/Tech
This course will introduce advanced Web authoring tasks. The students will learn to modify and use many types of scripts and commands to enhance a Web site. PERL scripts, SSI (Server Side Include) commands, JavaScripts and Java applets.
Prerequisite: NECP301, 302, 303

NECP305 1 1 0 0 0
Designing Websites Voc/Tech
Designing effective Web sites will teach students essential principles of Web design and page layout. Course discussions address concepts involved in completing job tasks that current Web designers accomplish every day. These discussions are strengthened with hands-on lab exercises that incorporate case studies and help students solidify the design concepts with practical application.
Prerequisite: NECP301, 302, 303

NECP306 2 2 0 0 0
Java Programming Voc/Tech
Learn Java programming techniques.
Prerequisite: ITNA 320, 330, 332

NECP307 2 2 0 0 0
Advanced Java Voc/Tech
Advanced Java programming techniques.
Prerequisite: NECP306

NECP308 1 1 0 0 0
Web Server Management Voc/Tech
Learn how to configure a NetWare server for internet access and publishing. This course provides the skills needed to assess internet connectivity, options, compare internet and intranet implementations, install and configure a web server and optimize server performance. ***Prerequisite: NECP301, 302, 303***

NECP311 1 1 0 0 0
NetWare TCP/IP Transport Voc/Tech
Novell Course 605. Learn how to install and configure NetWare TCP/IP software on a NetWare server. ***Prerequisite: CNE certification***

NECP312 1 1 0 0 0
Fundamentals of Internetworking Voc/Tech
Novell Course 216. Learn the internetworking devices and protocols commonly used to connect networks.
Prerequisite: NECP311

NECP313 1 1 0 0 0
DNS & FTP Server Installation Voc/Tech
Novell Course 658. Learn to incorporate internet technologies with existing network infrastructures. ***Prerequisite: NECP312***

NECP314 2 2 0 0 0
Securing Intranets Voc/Tech
Students learn to implement BorderManager as part of an intranet security solution. They install, configure, administer, maintain and troubleshoot the following components of BorderManager: packet filtering firewall and screening router, network address translation (NAT), Virtual Private Networks, remote access, proxy cache server and IP gateways. They also learn how to take advantage of the power of th NDS to easily implement access control at the Intranet-to-Internet border.
Prerequisite: NECP351, 352

NECP341 2 2 0 0 0
NetWare 4.11 Administration Voc/Tech
Novell Course 520, Test 50-613 provides knowledge and skills to perform competently the role of Network Administrator or System Manager for NetWare 4.11.
Prerequisite: Working knowledge of personal computer operation systems and hardware, or A+ certification.

NECP342 2 2 0 0 0
Networking Technologies Voc/Tech
Novell Course 200, Test 50-147. Course covers basics of computer networking including terms and concepts. "Core" requirement for CNE certification.
Prerequisite: Working knowledge of personal computer operation systems and hardware, or A+ certification.

NECP343 2 2 0 0 0
NetWare 4.x Advanced Admin. Voc/Tech
Novell Course 525, Test 50-614. Advanced administrative skills such as tuning the network and server for better performance and managing complex tree structures.
Prerequisite: NECP341, 342

NECP344 2 2 0 0 0
NetWare 4.x Design & Implement Voc/Tech
Work as a design team using a case company. Create a design document for IntranetWare and create an implementation schedule.
Prerequisite: NECP351, 352

NECP345 1 1 0 0 0
NetWare 4.x Install & Configure Voc/Tech
Novell Course 804. Install IntranetWare, determine appropriate settings for installation and create and manage NDS Building Intranet. ***Prerequisite: NECP344***

NECP346 2 2 0 0 0
Novell Service & Support Voc/Tech
The two main goals of the Service and Support course are NetWare installation and upgrade and basic network troubleshooting. After completing this course you will be able to install file servers and workstations, configure and install network boards and cables and isolate and diagnose network problems. ***Prerequisite: NECP351, 352***

NECP347 2 2 0 0 0
IntraNetWare Integrating NT Voc/Tech
Novell Course 555, Test 50-636. Integrate a Windows NT environment with an IntranetWare environment. Streamline NT administration by using NDS for NT.
Prerequisite: NECP343

NECP351 2 2 0 0 0
NetWare 5 Administration Voc/Tech
Provides knowledge and skills to perform competently in the role of Network Administrator or System Manager for NetWare5. ***Prerequisite: ITNA310, 320***

NECP352 2 2 0 0 0
NetWare 5 Advanced Administration Voc/Tech
Provides advanced administration skills to design, configure and administer a complex NetWare 5 Network.
Prerequisite: ITNA310, 320

NRAO301 - Adjunct*** 3 2 0 3 0
Nurse Aide 75 Hours Voc/Tech
Entry level skills to seek employment in Iowa skilled facilities. Meets OBRA87 standards.

NRAO333 - Adjunct*** 3 2 0 3 0
Advanced Nurse Aide Voc/Tech
A continuation of Nurse Aide to provide additional skills and clinical to work in hospital. ***Prerequisite: A DMACC sponsored 75 hour Nurse aide class-NRAO556 or 301***

NURS221 3 1 2 3 0
Health Assessment Open
Introduces basic techniques of client health assessment across the life-span, emphasizing an organized, holistic, body system approach. Screening exams, environmental and safety assessments and diagnostic tests commonly performed are also introduced.

NURS222 3 3 0 0 0
Foundation of Nursing Practice Open
Introduces the art and science of nursing practice across the life-span. Nursing heritage, professionalism, nursing roles, ethical and legal aspects will be emphasized. The concepts of nursing process, communication, management, safety, pharmacology, nutrition and health care services are introduced.

NURS223 3 1 2 3 0
Skills and Technology Open
Focuses on the introduction of skills and technology utilized in the routine nursing care of clients in traditional and community-based healthcare settings. Principles and safe implementation are emphasized.

NURS224 5 3 0 6 0
Health: Birth to Middle Adult Open
Promotion of health from birth to middle age is discussed. Issues of normal pregnancy, child rearing and common illnesses of this age group are included. A holistic viewpoint including the influence of the family will be maintained. The student participates in health and illness care in a variety of settings.
Prerequisite: NURS221, 222, 223, PSCH101, 103

NURS225 4 2 0 6 0
Older Adult Health Open
Introduces the normal aging process and common health conditions of the older adult. Holistic nursing care for the individual is promoted through use of the nursing process. The student participates in health and illness care for the individual in a variety of settings.
Prerequisite: NURS221, 222, 223, PSCH101, 103

NURS232 2 1 2 0 0
Passport to ADN Nursing Open
Assists 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 life span. ***Prerequisite: Acceptance into Advanced Standing Program***

OFFC204 3 2 2 0 0
Office Procedures Voc/Tech
Office Procedures is the integration of knowledge and skills needed to function in an office environment. Topics include telecommunication techniques, components of customer relations and various responsibilities of the administrative assistant.
Prerequisite: OFFC205, 305

OFFC205 3 3 0 0 0
Business English Voc/Tech
The fundamentals of proofreading grammar, spelling, punctuation, word usage, capitalization, abbreviations and number usage.

OFFC206 3 3 0 0 0
Business Correspondence Tech Voc/Tech
Principles and procedures of effective business communication. The student is required to be computer literate as computer software programs are used to develop communication skills for office correspondence and presentations. Recommend keyboarding skills of at least 25 NWPM.
Prerequisite: OFFC205, 355

OFFC207 3 2 2 0 0
Administrative Office Applications Voc/Tech
This course incorporates simulated office activities into realistic workplace integration. Students use integrated software to complete specialized tasks. Workplace basic skills including interpersonal skills, communication, teamwork, creative thinking and problem solving will be developed.
Prerequisite: OFFC204, 356

OFFC221 3 3 0 0 0
Medical Terminology I Voc/Tech
Builds a medical vocabulary through an understanding of anatomic roots for words denoting body structures, prefixes, suffixes and body functions.

OFFC222 3 3 0 0 0
Medical Terminology II Voc/Tech
Continues to build a medical language vocabulary by studying body systems such as musculoskeletal, endocrine, nervous and integumentary systems. ***Prerequisite: OFFC221***

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*** Adjunct Courses cannot be used to fulfill or substitute for required or option courses in any degree or diploma program

Course Descriptions

OFFC223 3 2 2 0 0
Medical Transcription III Voc/Tech
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: OFFC431***

OFFC305 4 2 4 0 0
Word Processing Skill Dev I Voc/Tech
Review of alphabetic and numeric keyboard reaches using a computer. Develop a strong keyboarding foundation using the touch method while utilizing correct techniques. Introduces fundamental word processing functions. Instruction covers word processing concepts, terminology, features and other related skills. Must key at least 25 NWPM for 3 minutes

OFFC306 3 2 2 0 0
Word Processing Skill Dev II Voc/Tech
Emphasis on developing speed, accuracy and proofreading techniques in preparation of business documents using word processing software. Students develop a broader understanding of software capabilities as they continue to study concepts, vocabulary and additional features. Continued development of speed and accuracy is emphasized.
Prerequisite: OFFC305 or 325

OFFC312 3 0 6 0 0
Data Entry Voc/Tech
Competency based course to give students an introduction to current practices, equipment and various job related applications in data entry. The main focus is on speed and accuracy in entering data in a terminal. Recommend keyboarding skills of at least 30 NWPM

OFFC320 3 3 0 0 0
Human Body-Health and Disease Voc/Tech
Designed to provide specialized knowledge of the human body relating to disease processes and possible methods of treatment. Includes CPR training. Drug terminology is added, as well as basic knowledge of symbols and abbreviations. ***Prerequisite: OFFC221***

OFFC324 1 0 2 0 0
Office Calculators Voc/Tech
Electronic calculator operations. Emphasis on speed and accuracy. Includes topics in addition, subtraction, multiplication and division; also the use of constants, chain computations and prorations.

OFFC325 3 2 2 0 0
Medical Computer Applications Voc/Tech
This course presents basic word processing, computer language and applications, including medical management software required in various medical settings. Theory and hands-on experience will be included.

OFFC326 3 3 0 0 0
Medical Insurance Voc/Tech
Course provides a practical approach in medical insurance billing. Emphasis 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: OFFC221

OFFC328 4 0 0 0 16
Internship for Medical Secretaries Voc/Tech
Work in a medical facility to learn the many office procedures and policies as they exist in a job situation.
(P/F) Prerequisite: OFFC222, 320, 431, 433

OFFC329 1 0 2 0 0
Keyboarding I Voc/Tech
Basic instruction on a personal computer to learn the touch system for the alphabetic keyboard, number keyboard and ten-key numeric pad.

OFFC331 3 3 0 0 0
Legal Terminology Voc/Tech
Provides training in spelling, defining and pronouncing terms common in the legal field.

OFFC349 1 0 2 0 0
WORD Voc/Tech
Hands-on instruction using Word in the Windows environment. Special features include working with windows, speller , Thesaurus, merge and sort.

OFFC350 1 0 2 0 0
PowerPoint Voc/Tech
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.

OFFC351 1 0 2 0 0
Access Voc/Tech
Introduction to Access database management system. Topics include creating, editing, querying, using forms, reports, customizing and managing data and files.

OFFC352 1 1 0 0 0
CPS Review Sec. I-Economics & Law Voc/Tech
Section I assists students to pass part one of the Certified Professional Secretary Examination by reviewing economic, accounting and business law fundamentals. In addition to 1 hour of credit, students will be awarded 1.5 CEUs.

OFFC353 1 1 0 0 0
CPS Review Sec. II - Office Systems Voc/Tech
Section II assists students to pass part two of the Certified Professional Secretary Examination by reviewing office technology, administration and communications. In addition to 1 hour of credit, students will be awarded 1.5 CEUs.

OFFC354 1 1 0 0 0
CPS Review Sec. III - Management Voc/Tech
Section III assists students to pass part three of the Certified Professional Secretary Examination by reviewing behavioral science in business and human resource management. In addition to 1 hour of credit, students will be awarded 1.5 CEUs.

OFFC355 3 2 2 0 0
Computer Applications Voc/Tech
The focus of this course is to use computer hardware and software as business productivity tools. Training includes a hands-on introduction to computer applications vital in today's business and industry. Course covers operating system, e-mail, internet, word processing, spreadsheet, database and presentation applications.

OFFC356 3 2 2 0 0
Advanced Computer Applications Voc/Tech
Develop a proficiency in decision-making using computer software applications. Producing final documents for real business applications such as file integration, on-line forms, linked spreadsheets and desktop publishing are emphasized.
Prerequisite: OFFC355 or COMS181

OFFC357 3 3 0 0 0
Emerging Technologies Voc/Tech
Students will explore changing trends in peripheral equipment and software, review technology within the framework of today's business environment and analyze the future of hardware and software usage in various business fields.

OFFC358 3 3 0 0 0
PC Desktop Publishing Voc/Tech
In a PC environment, use image enhancement software such as Adobe Photoshop to manipulate photo and graphic files. Apply principles of desktop publishing in the development of publications using software such as Microsoft Publisher. Convert files into web-ready format. ***Prerequisite: OFFC355 or COMS181***

OFFC359 2 2 0 0 0
Project Management Basics Voc/Tech
This class teaches basic project management theory using project management software. The student will learn to use software to create projects, organize schedules, customize reports, plus work with calendars, multiple projects, evaluate and adjust resources, costs and time factors.

OFFC405 3 3 0 0 0
Professional Development Voc/Tech
Designed to make students aware of their personal strengths and identify areas for improvement. Concentrates on helping students develop marketable personal and professional skills. Presents strategies to assist students in maintaining employment and in demonstrating a professional image and work behavior.

OFFC410 2 0 0 0 8
Office Internship Voc/Tech
Practical experience through on-the-job training in an approved business setting. Tasks will be consistent with student's career objectives, skills and knowledge.
(P/F) Prerequisite: OFFC205, 305, 355; Corequisite: OFFC411

OFFC411 1 1 0 0 0
Office Seminar Voc/Tech
An examination of topics relevant to the office internship experience, sharing work place problems encountered and the solutions found to those problems.
Prerequisite: OFFC205, 305, 355; Corequisite: OFFC410

OFFC430 3 2 2 0 0
Medical Transcription I Voc/Tech
Designed to prepare the student to transcribe from physician dictation. The course covers the various medical specialities and introduces the student to a variety of formats for medical materials.
Prerequisite: OFFC205, 221, 325 and 329 must be taken concurrently with or prior to this course.

OFFC431 3 2 2 0 0
Medical Transcription II Voc/Tech
A continuation of Medical Transcription I.
Prerequisite: OFFC430

OFFC433 3 3 0 0 0
Medical Techniques Voc/Tech
A study of medical science, ethics and medical law. Various management duties and responsibilities, such as filing, insurance processing, mail schedules, computerized accounting and telephone procedures.
Prerequisite: OFFC221, 306

OFFC434 - Adjunct* ** 3 3 0 0 0
Building Customer Service Skills Voc/Tech
Designed to make students aware of the value and reliance that a company places on their Customer Service Representative. Emphasis is placed on developing skills that enable students to effectively work with external as wel as internal customers. Self-management techniques are also included to enhance the retention of a positive attitude in the workplace.

PHIL110 3 3 0 0 0
Introduction to Philosophy Core
Exploration of basic questions in epistemology, metaphysics and ethics. Emphasis on western philosophy tradition.

PHIL111 3 3 0 0 0
Introduction to Logic Core
Learn to recognize and construct good arguments. Study of deduction including categorical and truth functional arguments. Study of induction. Examination of informal fallacies.

PHIL112 3 3 0 0 0
Ethical Problems Core
Comparative study of different traditional moral theories. Application of moral theories to different contemporary moral problems.

PHIL113 3 3 0 0 0
Comparative Religions Core
Study of major living religions; commonalities and contrasts. How these religions enrich human lives.

PHLE320 2 0 0 3 5
Phlebotomy Clinical Voc/Tech
Students report to a local hospital to practice patient approach and collect blood specimens from hospital patients. The 120-hour clinical includes both supervised clinical experience and independent clinical learning experiences. Note: Phlebotomy students must also take MLTS403

PHOT105 3 2 2 0 0
Principles of Photography Open
Students will learn the basic principles of photography. Topics will include basic camera operation, film developing, darkroom techniques and special effects. The camera will become an instrument to explore and communicate ideas, goals and visions effectively.

PHOT106 3 2 2 0 0
Advanced Photography Open
For students who have mastered basic photographic principles and processes. Topics will include photographic lighting and filtration, photojournalism, documentary photography, advanced darkroom techniques, print finishing and display. ***Prerequisite: PHOT105***

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Course Descriptions

PHOT210- Adjunct* 3 2 2 0 0**
Travel Photography Open
Advanced principles of image making, printing and presentation will be explored with spirit and knowledge that is expected to engender an appreciation for photography, travel and the state of Iowa.
Prerequisite: PHOT105

PHOT407 3 2 2 0 0
Studio Photography Voc/Tech
Students will learn to compose a photograph in a deliberate process. Students will arrange and analyze elements in a scene and use artificial light to produce the desired effect. Projects will test for student imagination, creativity, technical skills and willingness to experiment, while improving their photographic expertise.
Prerequisite: PHOT106

PHYE128 3 1 4 0 0
Lifeguard Train/Water Safety Instruction Open
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.

PHYE129 1 0 2 0 0
Advanced Lifesaving Open
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.
Prerequisite: Students must pass a swim test

PHYE130 1 0 2 0 0
Physical Fitness Open
Various exercises and activities to improve physical fitness.

PHYE133 1 0 2 0 0
Bowling Open
Beginning skills only

PHYE135 1 0 2 0 0
Cheerleading Open
Men and women desiring to be basketball cheerleaders for Varsity Basketball season.

PHYE136 1 0 2 0 0
Weight Training Open
Introduction to basics of weight training. Emphasizes increasing physical capacity, that is increased muscular strength and power.

PHYE137 1 0 2 0 0
Recreational Swimming Open
Recreational swimming at Heartland Health Center. Some swimming experience expected.

PHYE138 1 0 2 0 0
Varsity Men's Basketball Open
For students on Varsity Men's Basketball team only. May be repeated for a maximum of 2 credits.

PHYE139 1 0 2 0 0
Varsity Women's Basketball Open
For students on Varsity Women's Basketball team only. May be repeated for a maximum of 2 credits.

PHYE140 3 3 0 0 0
Sports Officiating Open
Study of the rules and official's mechanics for high school football, basketball and baseball. Provides guidelines for students to become licensed officials in Iowa for these sports.

PHYE142 1 0 2 0 0
Varsity Baseball Open
For students on Varsity Baseball team only. May be repeated for a maximum of 2 credits.

PHYE143 1 0 2 0 0
Varsity Women's Softball Open
For students on Varsity Women's Softball team only. May be repeated for a maximum of 2 credits.

PHYE144 3 3 0 0 0
Intro to Physical Education Open
History of physical education. Careers and professional leadership in physical education, with emphasis on teaching. Examines the four areas of most vital concern to the physical educator: recreation and leisure, sports, curriculum and research and evaluation.

PHYE146 3 3 0 0 0
Personal/Community Health Open
Provides the student with information on physical, emotional and social factors as they relate to personal and community health.

PHYE149 3 3 0 0 0
Wellness Prog/Planning/Organization Open
The purpose of this course is to familiarize the student with wellness programs in the workplace. Emphasis will be on program design, health assessment, corporate management issues and promotion.

PHYE150 3 3 0 0 0
Fitness Testing/Programming Open
The purpose of this course is to prepare the student to be able to organize and implement fitness programs for employees in agencies and organizations. Emphasis will be on introduction/recruitment of employees, fitness testing, prescription of individual and group fitness programs and fitness retesting procedures.

PHYE157 2 1 2 0 0
Introduction to Athletic Training Open
Entry level course designed to introduce the potential coach or athletic trainer to the field of athletic training. Basic care and prevention of athletic injuries will be dealt with in order to equip the coach or trainer with the knowledge to make intelligent decisions regarding common athletic injuries.

PHYE158 1 0 2 0 0
Golf Open
Beginning skills only.

PHYE160 1 0 2 0 0
Volleyball Open
Provides instruction in the basic skills and strategies of volleyball. Class is designed to provide volleyball play for both the beginner and the experienced player; however, instruction is geared toward beginning skills. All equipment is provided.

PHYE161 1 0 2 0 0
Aerobics Open
Introduces aerobic concept of physical fitness. Includes aerobic activities, aerobic exercising and aerobic dance. Course designed for men and women.

PHYE162 1 0 2 0 0
Tennis I Open
Introduction to basic skills (forehand, backhand, service and volley) and basic knowledge of game play.

PHYE163 1 0 2 0 0
Badminton I Open
Introduction to basic skills (serve, clear, drop, drive and smash) and basic knowledge of game play.

PHYE164 2 2 0 0 0
Personal Wellness General
This course will aide in the enhancement of knowledge, skills and attitudes necessary to promote positive life-long wellness decisions. Students will look at the physical, social, intellectual, emotional, occupational and spiritual components of wellness.

PHYL106 4 3 2 0 0
Survey of Physics Core
Student is exposed to scientific method with an emphasis on elementary problem solving. Review of basic mathematics, the topics of weights and measures, mechanics, heat, gas laws, electricity, magnetism, sound, light and modern physics are covered.

PHYL111 4 3 2 0 0
College Physics I Core
This course is the first semester of a two semester sequence in non-calculus physics. Topics include forces, linear and rotational motion, energy, momentum, fluids, gases and heat. ***Prerequisite: MATH123 or high school trigonometry***

PHYL112 4 3 2 0 0
College Physics II Core
Course is second semester of a two semester sequence in non-calculus physics. Topics include wave motion, sound, electricity, magnetism, optics and modern physics.
Prerequisite: PHYL111 or equivalent

PHYL121 6 5 2 0 0
Classical Physics I Core
Course is calculus based and intended for engineering and science majors. Topics include statics, dynamics, kinematics, fluid behavior, wave motion, vibrating systems, heat and thermodynamics.
Corequisite: MATH129 or equivalent must be taken concurrently with or prior to this course

PHYL122 6 5 2 0 0
Classical Physics II Core
This course is a continuation of Classical Physics I. Topics covered include static electricity, electrical circuits magnetism, time-dependent electric and magnetic fields, optics and modern physics.
Prerequisite: PHYL121 or equivalent; Corequisite: MATH130 must be taken concurrently with or prior to this course

PHYL401 3 2 2 0 0
Physics for Technicians Voc/Tech
A physics course for students of technology. Topics include: forces, work, energy, heat, electricity and magnetism with a strong emphasis on practical applications.
Prerequisite: MATH410 or equivalent

PLSC111 3 3 0 0 0
American National Government Core
A study of the American political system and how and why the citizenry relate to the government as they do. Emphasis is placed upon the organization and functioning of the presidential, legislative and judicial subsystems.

PLSC112 3 3 0 0 0
State & Local Government Core
Study of organization, operations and politics of state and local governments. Emphasis on an analysis of legislative, executive and judicial roles and processes.

PLSC121 3 3 0 0 0
World Politics Core
International system is examined from several perspectives including United States, Russia and China. Emphasis upon ideology, national interest, the use of power, international law and organization.

PLSC122 3 3 0 0 0
Comparative Political Systems Core
Examination of the government and politics of such countries as Great Britain, Mexico, Germany and Russia. Each nation is viewed in terms of its political culture, party system, executive, legislative and legal organization.

PLSC126 3 3 0 0 0
Intro to Public Administration Core
Study of the theory & practice of public administration examining alternate organizational theories & practices, personnel administration, problems of communications within organizations and styles of leadership. Course emphasizes the interrelationships of professional and political influences on decision making

PSCH101 3 3 0 0 0
General Psychology Core
A survey of psychology including theoretical and experimental findings and applications from areas such as neurobiology, learning, memory, personality, social, abnormal and therapy.

PSCH103 3 3 0 0 0
Developmental Psychology Core
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. Recommend PSCH101 be taken prior to this course.

PSCH104 3 3 0 0 0
Abnormal Psychology Core
An introduction to the study of abnormal behavior, with emphasis on anxiety, depression, schizophrenia and personality disorders. Includes the dynamics of mental disorder along with the biopsychosocial factors involved in the etiology and treatment of disorders. Recommend PSCH101 be taken prior to this course.

Course Descriptions

PSCH105 3 3 0 0 0
Social Psychology Core
This course surveys selected topics in social psychology including social perception, social influence, attraction, altruism aggression, persuasion, attitude formation, group processes and applications of research to everyday situations.

PSCH106 3 3 0 0 0
Psych of Human Relations and Adj General
Emphasizes awareness of factors inherent in human relationships and psychological adjustment patterns of individuals and groups. Effort is made to develop techniques of interpersonal relations and coping.

PSCH107 3 3 0 0 0
Principles of Behavior Modification General
The principles of learning theory with a major emphasis on operant conditioning will be studied. Emphasis will be on the practical application of these principles to the areas of mental health, mental retardation and education.

PSCH108 3 3 0 0 0
Human Sexuality & Gender Roles Core
This course provides students with definitive and precise information about the nature of human sexuality and gender roles. An interdisciplinary approach will be used to present a more comprehensive view, stressing the biological, social and psychological aspects of sexuality and gender roles.

PSCH109 3 3 0 0 0
Educational Psychology General
The principles of psychology applied to classroom teaching, with emphasis on such topics as development, learning, motivation, evaluation, adjustment and educational techniques and innovations.

PSCH110 3 3 0 0 0
Stress and Stress Management General
Basic instruction in understanding stress reactions, their causes and effects and 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.

PSCH120-Adjunct* ** 3 3 0 0 0
Exploring Human Behavior General
An introductory-level course encouraging an understanding and appreciation of the scientific approach to the study of human behavior. Dramatization and other techniques clarify fundamental concepts and philosophies, highlighting the contributions of major figures in psychology. (TV course)

PSCH 155-Adjunct* ** 3 3 0 0 0
Exploring Mental Health General
A telecourse that explores the basic causes, manifestations and treatment of common psychological disorders. The course introduces mental illness along a continuum from functional to dysfunctional.

READ087** 3 3 0 0 0
College Preparatory Reading I Adaptor
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. ***Prerequisite: Compass score of 35 or higher on COMR***

READ088** 3 3 0 0 0
College Preparatory Reading II Adaptor
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. ***Prerequisite: READ087 or a Compass score of 57 or higher on COMR***

READ116 3 3 0 0 0
Speed Reading General
An advanced reading course designed to improve reading speed and comprehension. Emphasis on adapting to varying content, levels of difficulty and reading purposes. ***Prerequisite: READ088 or a Compass score of 81 or higher on COMR or ACT score of 19 or higher on ACTR***

RESP300 3 3 0 0 0
Fundamentals of Respiratory Therapy Open
This initial course in the Respiratory Therapy program emphasizes the assessment and evaluation of patients. Also included will be a history of health care, medical specialties, communication skills and medical terminology. Students must demonstrate skill in the assessment of patient vital signs. ***Prerequisite: BIOL133 or BIOL154***

RESP302 4 3 2 0 0
Gas, Humidity & Aerosol Therapy Open
This course introduces the student to basic therapeutic techniques utilized in respiratory care. Major topics include medical gas therapy, humidity and aerosol, cylinder systems and physical principles of gases and liquids. Students will be required to demonstrate competence in the techniques to receive a passing grade in the course. ***Prerequisite: RESP300 must be taken concurrently with or prior to this course; Corequisite: RESP304***

RESP304 4 3 2 0 0
Cardiopulmonary Therapeutics Open
Students will learn basic patient care techniques of hyperinflation therapy, secretion clearance, airway care, patient assessment, pulmonary rehabilitation, subacute respiratory care and assessment of the effectiveness of therapies. Students will be required to demonstrate competence in procedures to succeed in course. ***Prerequisite: RESP300 must be taken concurrently with or prior to this course; Corequisite: RESP302***

RESP310 5 5 0 0 0
Cardiopulmonary Renal Pathophys Open
This course provides an in-depth study of the normal functioning of the cardiovascular, pulmonary and renal systems emphasizing their interactions. Progresses to study of the common adolescent and adult diseases affecting the three systems. Students will learn to interpret the results of arterial blood gas pH data. ***Prerequisite: RESP304, BIOL134 must be taken concurrently or prior to this course***

RESP315 3 3 0 0 0
Respiratory Therapy Pharmacology Open
Course provides a study of actions and interactions of drugs with and within the body. Students will learn theories of drug action, pharmacodynamics and methods for drug administration. Drugs affecting the cardiovascular, pulmonary and renal systems will be emphasized. ***Prerequisite: RESP304, BIOL134 must be taken concurrently or prior to this course***

RESP320 5 4 2 0 0
Advanced Respiratory Therapy Open
Techniques of initiation, monitoring, maintenance and discontinuation of mechanical ventilation in a variety of care settings will be learned. Students will develop skill in ABG analysis and electrocardiography. Adjuncts for advanced life support will be learned . Students will become proficient in the analysis of arterial blood gases and basic techniques of electrocardiography. Students will learn the use of adjuncts for the treatment of cardiopulmonary arrest. ***Prerequisite: BIOL134 or 154, RESP310***

RESP325 3 3 0 0 0
Neonatal/Pediatric Respiratory Therapy Open
Embryonic development of the respiratory and cardiovascular systems will begin this course which progresses to the learning of normal function and a consideration of the common neonatal and pediatric diseases. Therapeutic techniques and monitoring of the patients will be learned. ***Prerequisite: BIOL134 or 154, RESP310***

RESP330 3 3 0 0 0
Cardiopulmonary Diagnostics Open
Principles and techniques of testing of cardiovascular and pulmonary function will be learned with an emphasis on the evaluation and interpretation of the results of the tests. Integration of test results with clinical picture with emphasis on therapeutics and principles of polysomnography will be learned. ***Prerequisite: BIOL134 or 154, RESP310, 315***

RESP335 3 3 0 0 0
Respiratory Therapy Mgmt & Ethics Open
Begins with study of the organization and management of a respiratory therapy department. Consideration of issues of jurisprudence and medicolegal aspects of health care. Tactful interactions and ethical practices will be emphasized. Will also serve to review much of what has been assimilated in the program. ***Prerequisite: RESP372***

RESP352 4 2 0 8 0
Respiratory Therapy Practicum I Open
This is the initial hospital experience. Consists of supervised care of patients with respiratory disorders. Students will administer IPPB, aerosol, postural drainage and incentive breathing therapies. Other therapeutic modalities which have been learned will be introduced as well. ***Prerequisite: RESP304 COREQUISITES: RESP310, 315***

RESP362 5 2 0 10 0
Respiratory Therapy Practicum II Open
This practicum will continue the supervised experience in provision of basic patient care techniques to therapies from practicum I. Arterial puncture, arterial line sampling and analysis of blood samples will be introduced. Suctioning of airways will be emphasized. ***Prerequisite: RESP 352***

RESP372 6 2 0 13 0
Respiratory Therapy Practicum III Open
This practicum continues supervised experience in basic therapeutic techniques with emphasis on increased speed and efficiency. Neonatal intensive care will be introduced. Students will continue development of skills in sampling and analyzing arterial blood. ECG and other cardiac diagnostic tests will be observed. ***Prerequisite: RESP325, 362***

RESP382 6 2 0 13 0
Respiratory Therapy Practicum IV Open
Hospital respiratory care with the addition of mechanical ventilation and care of patients in critical care units will complement the techniques from the prior practicums. Observation and performance of pulmonary function testing will be introduced. ***Prerequisite: RESP320, 372; RESP330 must be taken concurrently with or prior to this course***

RESP392 5 2 0 12 0
Respiratory Therapy Practicum V Open
The fourth clinical experience with emphasis on the care of patients in critical care areas of the hospital. All techniques and procedures previously performed will continue to be administered to patients. ***Prerequisite: RESP330, 382***

SFTY301 3 3 0 0 0
Introduction to Safety Science Voc/Tech
This course will cover the introduction to safety in business and industry. It will familiarize students with economic, social, environmental, ethical and regulatory pressures regarding occupational safety. Overview of physical safety, protection and chemical, biological, mechanical hazards.

SFTY302 3 3 0 0 0
Accident Invest & Worker Comp Voc/Tech
This course addresses the requirements and important procedures regarding worker compensation laws and guidelines. The basics of worker compensation are emphasized including accident reporting, completing worker compensation forms, investigating accidents and implementing corrective actions.

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Course Descriptions

SFTY310 3 3 0 0 0
Regulatory Safety Standards & Req Voc/Tech
This course will cover the regulatory agencies and their standards to which all businesses are required to conform. Standards such as those promulgated by OSHA, EPA and ISO will be reviewed. Emphasis will be placed on understanding the regulations.

SFTY311 3 3 0 0 0
Safety Program Management Voc/Tech
Course provides a background in creating, implementing and maintaining an effective safety program. Topics include effective management techniques of safety awareness, employee training, safety inspections and audits. Program development is stressed.
Prerequisite: SFTY301

SFTY315 3 2 2 0 0
Ergonomics in the Workplace Voc/Tech
Course provides students with the background for assessing proper ergonomic practices in any business. Emphasis is on prevention as well as investigation and corrective action. Focus includes back injury, cumulative trauma and repetitive motion disorders. ***Prerequisite: SFTY301***

SFTY331 3 2 2 0 0
Industrial Hygiene-Chemical Haz Voc/Tech
This course will address chemical and biological hazards in the work environment. Air sampling techniques and problem analysis is used to evaluate the workplace for airborne contaminant's such as dusts, vapors, gases and fibers. Various body systems affected by these contaminant's is also studied.
Prerequisite: CHEM131, SFTY301

SFTY332 3 2 2 0 0
Industrial Hygiene-Physical Haz Voc/Tech
This course will address physical hazards in the work environment. Instrumentation and problem analysis is used to evaluate the workplace for proper illumination, ventilation, temperature, noise levels and non-ionizing radiation.
Prerequisite: SFTY301

SFTY390 4 1 0 0 12
Safety Science Internship Voc/Tech
This course allows the student to demonstrate the knowledge and experiences gained through the safety science program. The internship must involve a faculty pre-approved business/industry. The student will conduct the project with the business/industry partner and present it to a panel of DMACC ATC faculty/industry representatives ***Prerequisite: SFTY311, 315***

SOCY101 3 3 0 0 0
Introduction to Sociology Core
The study of human interaction, groups and society. Topics included are culture, socialization, organizations, deviance, inequality, institutions, health, population, ecology, social change and research methods.

SOCY102 3 3 0 0 0
Social Issues Core
This course is an analysis of the nature, dimensions, causes and characteristics of selected social problems of major interest. Consideration is given to theories research and programs for prevention and treatment.

SOCY103 3 3 0 0 0
Courtship, Marriage & Family Core
This course analyzes the sociological, physical, psychological, legal and economic aspects of the American family. Included are investigations of courtship and marriage relationships, preparation for marriage, family, parenthood, interpersonal relationships and marital adjustment.

SOCY105 3 3 0 0 0
Race, Ethnic & Gender Relations Core
This course is the study of the relations between racial, ethnic and gender categories. Focus on stereotypes, prejudices, discrimination and exploitation. Major emphasis upon group relations in the United States. SOCY101 is recommended

SOCY106 3 3 0 0 0
Juvenile Delinquency General
An investigation of juvenile delinquency in American society, sociological theories and research of delinquency, impact of groups, juvenile justice system and prevention programs. ***Prerequisite: SOCY101 or instructor permission***

SOCY107 3 3 0 0 0
Criminology General
The nature and extent of crime and criminality, society's efforts to control crime, theories of causation, emphasis on social processes, systems and methods of correction.
Prerequisite: SOCY101 or instructor permission

SOCY204 4 4 0 0 0
Social Gerontology/Applications Open
Societal aspects of aging as they relate to the delivery of services to the aging. Students will develop a project which serves a specific community need.

SOCY205 2 2 0 0 0
Issues in Aging Open
This course will address the issues of aging: in transition, explore the conflicts of change and examine the needs and strategies to best meet the demands and challenges presented to this fast-growing segment of our population.

SPAN101 4 4 0 0 0
Elementary Spanish I Core
Development of the basic skills of understanding, speaking, reading and writing Spanish. Grammar analysis, classroom conversational practice and some exploration of the Hispanic culture.

SPAN102 4 4 0 0 0
Elementary Spanish II Core
Continued practice of the four basic skills and grammar analysis. Introduction of short prose selections with conversational emphasis.
Prerequisite: SPAN101 or instructor's permission

SPAN103 4 4 0 0 0
Intermediate Spanish I Core
Review of essential grammatical constructions emphasizing major areas of difficulty for English speakers. Use of Hispanic cultural and literary materials to develop conversational skills. ***Prerequisite: SPAN102 or instructor's permission***

SPAN104 4 4 0 0 0
Intermediate Spanish II Core
Continued review of grammatical constructions using Hispanic cultural materials. Reading, writing and conversation will be emphasized in the context of cultural issues and current events. ***Prerequisite: SPAN103 or instructor's permission***

SPCH110 3 3 0 0 0
Fundamentals of Speech Core
Explores the fundamentals of speech-communication through the study and practice of interpersonal and small group communication and the composition and delivery of short speeches.

SPCH111 3 3 0 0 0
Public Communication Core
Analysis, preparation and practice of forms of public address with emphasis on critical thinking, audience analysis, speech composition and style and nonverbal communication. ***Prerequisite: SPCH110***

SPCH117 3 3 0 0 0
Interpersonal & Small Group Comm Core
An introduction to interpersonal and group communication theories and their application in relationship development, conflict resolution, group problem solving and group presentations.

SPCH119 3 3 0 0 0
Professional Communication General
Communication theory applied to organizational settings in such forms as interviewing, group work; conflict resolution; and public, impromptu and ceremonial speaking. Topics: organizational perspectives, leadership, power, intercultural diversity, nonverbal communication and perception.
Prerequisite: SPCH110 or 117 or permission of instructor

SURV310 3 3 0 0 0
Survey Drafting Voc/Tech
This course includes the application of manual and computer-aided techniques in survey drafting. The topics include plat maps, topography, field notebook sketches and property descriptions. Third party software will be utilized.
Prerequisite: CET-390

SURV320 5 4 2 0 0
U.S. Public Lands Survey System Voc/Tech
This course will develop a working knowledge of the United States Public Land Survey System and its application in Iowa surveying. Topics will include: the general plan; methods of surveying; the system of rectangular surveys; monumentation; restoration of lost or obliterated corners; resurveys; special surveys and special instructions; field notes; and plats.
Prerequisite: CET-315

SURV410 1 1 0 0 0
Safety in the Work Environment Voc/Tech
This course will address the various safety hazards and causes of illness and injury in the work environment. Topics will include acceptable safety conduct and positive safety attitudes and practices, basic first aid 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.

SURV415 2 2 0 0 0
Intro to Land Information Systems Voc/Tech
An introduction to Land Information System and Land Records Research. Mapping information analysis compiled from country records for environmental protection, land uses, land values and the responsibility of the professional surveyor to a land information system will be covered. An introduction to LIS software will be included.
Prerequisite: CET-320

SURV420 3 1 4 0 0
Boundary Surveying Voc/Tech
This course will develop a working knowledge of land boundary surveying including liability, professional stature, original surveys, apportionment procedures and description writing. Field work in both urban and rural settings will be performed.
Prerequisite: SURV320

SURV425 2 2 0 0 0
Surveying Ethics Voc/Tech
Introduction to ethical and business issues involved in the surveying profession. Case studies and problems included.
Prerequisite: SURV320

SURV430 3 3 0 0 0
Land Subdivision Voc/Tech
Covers different phases of the land development process: study financing of the project, site analysis, design of preliminary plat and a final plat.
Prerequisite: MATH123

SURV435 5 4 2 0 0
Introduction to Geodesy Voc/Tech
This course deals with concepts of astronomy and geodesy that are relevant to the practice of surveying. They include theory, field techniques, coordinate systems, gravity and leveling; control surveys and networks; GPS surveying; an introduction to the figure of the earth and its geometric and physical characteristics; solar and Polaris observation; photogrammetry and computations involved in the determination of true north.
Prerequisite: MATH123

SURV440 4 4 0 0 0
Boundary Law Voc/Tech
This is an in depth course dealing with evidence and procedures used in the determination and location of property boundaries and recognized landlines. Laws and administrative rules relating to land surveying in the State of Iowa will be addressed. The role of the surveyor in issuing opinions regarding boundary locations and in resolving boundary disputes will be examined.
Prerequisite: SURV420

TELE311 3 3 0 0 0
Basic Electricity/Electronic I Voc/Tech
For beginners to solve basic electronic problems involving voltage, resistance and power. Relationship between electricity and magnetism, operation of resistors, meters, switches, relays, capacitors, inductors and batteries will be explained.

Course Descriptions

TELE312 2 2 0 0 0
Basic Electricity/Electronic II Voc/Tech
For those who have an understanding of volts, Ohms, amps and series parallel circuits. Explain the difference between alternating current (AC) and direct current (DC), the AC generator; analyze simple AC currents, transformer action, series and parallel resonant circuits. May also be taken as a study course.

TELE316 2 2 0 0 0
Electronic Circuits Voc/Tech
Basic and operational amplifiers, power supplies, oscillators, pulse circuits and modulation. Must have prior knowledge in electricity/electronics. ***Prerequisite: TELE312***

TELE318 3 3 0 0 0
Semiconductor Devices Voc/Tech
N-type, P-type, PN junctions, diodes, zener diode, transistors, bipolar characteristics, field effect, thyristors, integrated circuits and opto electronics. Should have knowledge in AC/DC electronics.

TELE410 3 3 0 0 0
Telecommunications I Voc/Tech
Provides an overview of telecommunications and covers basic telecommunications circuits, equipment and diagnostic procedures for lines, basic key systems, station carrier and associated equipment.

TELE411 4 0 8 0 0
Telecommunications Experience I Voc/Tech
Provides hands-on experience in installation and fault isolation of lines and basic key systems, access and station data modification for a digital multiplex switch, basic cable counts and splicing procedures.
Corequisite: TELE410

TELE420 4 4 0 0 0
Telecommunications II Voc/Tech
Covers basic telecommunications equipment used by businesses and its connection to a switched public or private network. Covered subjects include electronic key systems, private branch exchange systems (PBX), trunks and associated equipment. Analog and digital communications and associated equipment are also covered. Experienced individuals may contact the instructor to gain admittance to this course.
Prerequisite: TELE410

TELE421 4 0 8 0 0
Telecommunications Experience II Voc/Tech
Provides hands-on training on a private branch exchange system and user data modification for a digital central office switch, digital key systems and associated equipment. Experiences include wiring, call routing, fault isolation and modular splicing.
Prerequisite: TELE411; Corequisite: TELE420

TELE422 4 0 8 0 0
Telecom Access Technologies Voc/Tech
This course trains the student on telecommunications outside topics including wiring repair and splicing. Training includes: ladder safety, working aloft and pole climbing, safety and procedures for outside telecommunications equipment and hardware. ***Prerequisite: TELE410, 411; Corequisite: TELE420, 421***

TELE430 3 3 0 0 0
Telecommunications III Voc/Tech
Covers advanced digital switching principles and practices, system configuration and diagnostic procedures common to digital central office switching systems and private branch exchanges. Experienced individuals may contact the instructor to gain admittance to this course. ***Prerequisite: TELE420***

TELE431 4 0 8 0 0
Telecommunications Experience III Voc/Tech
Provides hands-on learning experience in system configuration, operation & diagnostic procedures using a digital central office switching system, private branch exchanges, fiber optic multiplexors and intelligent channel banks. ***Prerequisite: TELE421; Corequisite: TELE430***

TELE432 3 3 0 0 0
Data Communications Voc/Tech
An introduction to data communications and data networks. Includes digital communications, analog communications LAN, WAN and Packet Networks.
Prerequisite: TELE420

TELE440 3 3 0 0 0
Telecommunications IV Voc/Tech
Covers new and emerging technologies including LSDN, SONET, XDSL, Frame Relay, ATM, STM, wireless and computer telephony technologies. Experienced individuals may contact the instructor to gain admittance to this course.
Prerequisite: TELE430. It is recommended that students take ELEM462 prior to this course.

TELE441 4 0 8 0 0
Telecommunications Experience IV Voc/Tech
Provides hands-on learning experiences on digital carrier, twisted pair and fiber optic facilities, point to point and switched data circuits, DMS-10M and local area networks.
Prerequisite: TELE431.

TOOL437 1 1 0 0 0
Geometric Dimensioning & Tolerance Voc/Tech
A basic course explaining the GD & T system and the symbols used within it.

TOOL460 2 2 0 0 0
Hand Tools & Basic Machine Tools Voc/Tech
Machine shop procedures including shop safety, hand tools, layout and tool grinding. Operations on drill presses, pedestal grinders and sawing machines.

TOOL461 1 1 0 0 0
Lathe Operations I Voc/Tech
An introductory level course explaining the basic operations and care of an engine lathe.
Corequisite: TOOL462

TOOL462 2 0 4 0 0
Lathe Operations Lab I Voc/Tech
An introductory level course for the metal cutting lathe. During this course students will become familiar with basic setups as well as safe operation and care of a lathe.
Corequisite: TOOL461

TOOL463 1 1 0 0 0
Mill Operations I Voc/Tech
An introductory level course explaining the basic operations and care of a vertical milling lathe. ***Corequisite: TOOL464***

TOOL464 2 0 4 0 0
Milling Operations Lab I Voc/Tech
An introductory level course for the vertical mill. During this course students will become familiar with basic setups as well as safe operation and care of a milling machines.
Corequisite: TOOL463

TOOL470 2 2 0 0 0
Lathe Operations II Voc/Tech
An advanced level course explaining complex setups and procedures for lathes.
Prerequisite: TOOL461 Corequisite: TOOL471

TOOL471 3 0 6 0 0
Lathe Operations Lab II Voc/Tech
An advanced course for the metal cutting lathe. During this course students will become familiar with advanced setups as well as safe operation and care of a lathe.
Prerequisite: TOOL462 Corequisite: TOOL470

TOOL472 2 2 0 0 0
Milling Operations II Voc/Tech
An advanced course for the vertical and horizontal milling machines. During this course students will become familiar with advanced setups and machining concepts as well as safe operation and care of milling machines. ***Prerequisite: TOOL463 Corequisite: TOOL473***

TOOL473 3 0 6 0 0
Milling Operations Lab II Voc/Tech
An advanced course for the vertical and horizontal machines. During this course students will become familiar with advanced setups and machining concepts as well as safe operation and care of milling machines.
Prerequisite: TOOL464 Corequisite: TOOL472

TOOL475 4 2 4 0 0
Machining - Electromechanical Tech Voc/Tech
A basic course in machine tool use.

TOOL480 2 0 4 0 0
Blueprint Reading I Voc/Tech
A beginning and intermediate blueprint reading course covering basic visualization of shapes and sizes and freehand sketching of objects. Includes section lining, print alterations and projections.

TOOL481 3 1 4 0 0
Blueprint Reading II Voc/Tech
An advanced blueprint reading course involving study of industrial metal work drawings as they apply to planning and laying out of jigs and fixtures.
Prerequisite: TOOL480

TOOL482 3 2 2 0 0
Machine Shop Measurements I Voc/Tech
A study of measurements as used in industry. Units of instruction include tools, gauges, comparators, gauge blocks and inspection practices.

TOOL489 2 1 2 0 0
Heat Treatment of Materials Voc/Tech
Introduction to physical and mechanical characteristics of metals directly associated with area of heat treatment. Also structure and composition of metals, testing, hardening, tempering and annealing.

TOOL492 1 1 0 0 0
Grinding Procedures Voc/Tech
Theoretical explanation of procedures in surface grinding.
Corequisite: TOOL493

TOOL493 3 0 6 0 0
Grinding Procedures Lab Voc/Tech
During this course students will become familiar with basic setups as well as safe operation and care of a surface grinder.
Corequisite: TOOL492

TOOL494 1 1 0 0 0
CNC Lathe Operations Voc/Tech
An introductory level course explaining the basic operation and programming of a CNC lathe. ***Corequisite: TOOL495***

TOOL495 2 1 2 0 0
CNC Lathe Operations Lab Voc/Tech
An introductory level course for programming and operating a CNC lathe.
Corequisite: TOOL494

TOOL496 1 1 0 0 0
CNC Mill Operations Voc/Tech
An introductory level course explaining the basic operation and programming of a CNC vertical machining center.
Corequisite: TOOL497

TOOL497 1 0 2 0 0
Basic Lathe Operation Voc/Tech
This course covers set-up and operation of the metal lathe including lathe parts, materials and safety procedures.

TOOL498 1 0 2 0 0
Vertical Mill Operation Voc/Tech
Vertical mill operation is explained and reinforced with practical experience using vertical milling machines.

TOOL499 2 1 2 0 0
CNC Mill Operations Lab Voc/Tech
An introductory level course for programming and operating a CNC milling center. ***Corequisite: TOOL496***

UPHL433 3 0 6 0 0
Auto Upholstery Installation Voc/Tech
Automobile upholstery and interior trim must be removed and replaced to facilitate access for auto collision repairers. Types of interior and exterior upholstery and trim and their removal, repair and replacement will be studied in the lab. Also removal, replacement and adjustment of outer automobile panels, to include proper fit and wind noise and water leak testing. ***Prerequisite: AUTC403, HLCR314, WELD468***

** Adaptor Courses cannot be used to fulfill degree requirements
*** Adjunct Courses cannot be used to fulfill or substitute for required or option courses in any degree or diploma program

Course Descriptions

WELD460 3 2 2 0 0
Related Welding-Industrial Maint Voc/Tech
A related welding course for industrial maintenance techniques to include the following topics. Theory and operation of welding equipment related safety issues, metallurgy and related properties.

WELD467 2 0 4 0 0
Related Welding-Transportation Trades Voc/Tech
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.) safety is emphasized.

WELD468 2 0 4 0 0
Related Welding/Auto Collision Voc/Tech
Basic skills will be developed in oxygen-acetylene fusion welding and flame cutting. Gas Metal Arc (MIG) welding equipment; and attain basic understanding of procedures related to auto collision area. Safety is emphasized.

WELD473 2 0 4 0 0
Oxygen-Acetylene Weld/Cutting Voc/Tech
Skills will be developed in oxy-acetylene welding, cutting and repair. Safety is emphasized.

WELD474 2 0 4 0 0
Shielded Metal Arc Welding I Voc/Tech
Skills will be developed in welding beads and buildup surfacing in the flat position. Safety is emphasized.

WELD478 3 0 6 0 0
Shielded Metal Arc Welding II Voc/Tech
Skills will be developed in welding multiple pass tee fillet welds in the horizontal position. Safety is emphasized.
Prerequisite: WELD474

WELD479 2 0 4 0 0
Shielded Metal Arc Welding III Voc/Tech
Skills will be developed in welding corner fillet joints, weld around and sheet metal weldments in the flat position. Safety is emphasized.
Prerequisite: WELD478

WELD481 3 3 0 0 0
Blueprint Reading Voc/Tech
The basic skills needed to read shop drawings (including welding symbols) will be learned.
Prerequisite: MATH410

WELD483 2 0 4 0 0
Gas Metal Arc Welding Voc/Tech
Practical application in the use of the gas metallic arc welding process including submerged arc and flux cored arc. Safety is emphasized.

WELD486 3 0 6 0 0
Shielded Metal Arc Welding IV Voc/Tech
Skills will be developed in welding beads, buildup surfacing and fillet weldments in the horizontal position. Safety is emphasized.
Prerequisite: WELD479

WELD487 3 0 6 0 0
Shielded Metal Arc Welding V Voc/Tech
Skills will be developed in welding fillet joints in the vertical downhill and vertical uphill position. Safety is emphasized.
Prerequisite: WELD486

WELD488 2 0 4 0 0
Shielded Metal Arc Welding VI Voc/Tech
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: WELD487

WELD493 2 0 4 0 0
Gas Tungsten Arc Welding Voc/Tech
A course to develop skills in the gas tungsten arc welding process using mild steel, stainless steel and aluminum. Safety is emphasized.
Prerequisite: WELD473

WELD497 2 0 4 0 0
Adv Shielded Met Arc Welding I Voc/Tech
Skills will be developed in welding and testing vee groove joints in the flat and horizontal positions. Safety is emphasized.
Prerequisite: WELD488

WELD498 3 0 6 0 0
Adv Shielded Met Arc Welding II Voc/Tech
Skills will be developed in welding and testing in the vertical and overhead positions. Safety is emphasized.
Prerequisite: WELD497

WELD499 3 0 6 0 0
Intro-Shield Met Arc Pipe Welding Voc/Tech
Welding practice and testing on open groove plate weldments in the 1G, 2G, 3G and 4G positions and, as time permits, on pipe weldments in the 2G, 5G and 6G positions. Safety is emphasized.
Prerequisite: WELD498

Faculty and Staff

Albertson, Marcia, 1974, P.C. Applications. B.A., University of Northern Iowa

Allbee, Dawn M., 1995, Child Development Specialist. A.S., Des Moines Area Community College

Amdahl, Maynard, 1978, Tool & Die. Diploma, Dunwoody Industrial Institute; Certificate, U.S. Department of Labor Journeyman Tool & Diemaker

Anderson, Robert L., 1974, Hospitality Careers. A.O.S., Culinary Institute of America; Mankato Area Vocational Technical Institute; C.C.E.; C.E.C.

Anderson, Ron D., 1999, HVAC. A.A., Arapahoe Community College; B.S. University of Colorado-Denver

Atal, Hadi., 2002, Educational Advisor. B.A., Grinnell College

Bailey, Greg A., 2000, Industrial Electromechanical Technology Assoc., National Institute of Technology

Baker, Dorothy, 1986, Counselor. B.S., Upper Iowa University; M.S. Drake University

Barrett, Larry, 1988, Respiratory Therapy. A.A.S., Des Moines Area Community College; B.S., M.Ed., Iowa State University

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

Bendy, Steve J., 2000, Desktop Publishing. B.F.A., B.S.Ed., University of Nebraska

Bennett, James, 1980, Data Processing. B.S., Northwest Missouri State University; A.A., Des Moines Area Community College; Iowa State University

Bergin, Timothy M., 1996, Biology. B.S., Kansas State University; M.S., University of Nebraska-Lincoln; Ph.D., Bowling Green State University

Berglund, Eric J., 2000, LAN Equipment Specialist. A.A.S., DeVry Institute of Technology

Bethards, Melody L., 2002, Nursing. A.D.N, Des Moines Area Community College; B.S.N., Grandview College; M.S.N., Drake University

Bisat, Talal A., 2001, Accounting. B.S.B.A., M.B.A., Ph.D., American University; CPA

Bishop, Patrick J., 1995, Diesel. A.A.S., Des Moines Area Community College; Iowa State University

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Booth, Connie, 1982, Nursing. B.S.N., Creighton University; M.S.N., University of Nebraska Medical Center

Bradley, Jane, 1996, Biology. A.S., Seminole State University; B.S., Oklahoma State University; M.S., University of Oklahoma

Brand, Sonja K., 1995, Academic Achievement Center. B.S., Northwest Missouri State University

Brandmeyer, Vivian, 1974, Executive Dean, Boone Campus. B.A., University of Northern Iowa; M.A., Viterbo College; Iowa State University

Brend, Joseph, 1998, Building Trades.

Briles, Dory L., 1999, Senior Vice-President, Development. B.G.S., M.A., University of Iowa

Brockelsby, John W., 1987, Business Administration. B.G.S., University of Nebraska at Omaha; M.A., Webster University

Brown, Georgia K., 1971, Academic Achievement Center. B.A., Simpson College; M.S.E., Drake University

Brown, Rebecca F., 2002, Business Administration. B.S., Meredith College

Brown III, Cyrus J., 1996, Mathematics. B.A., Louisiana State University; M.A., University of Nebraska-Lincoln

Burkhardt, Bryan A., 2001, Electronics. B.S., Iowa State University

Butin, Patricia, 1992, Coordinator, Veterans/Scholarships. A.A., Des Moines Area Community College; B.A., Drake University

Calkin, Jeffrey B., 1988, Automotive Technology.

Campbell, Karen J., 1999, Medical Laboratory Technology. B.A., M.A.T., Drake University

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Carson, Linda A., 1972, Child Development. B.S., M.S. Iowa State University

Cash-Wiese, Lisa. 1990, Educational Advisor. B.A., University of Northern Iowa

Chacko, Sandra J., 1980, Nursing. R.N., Iowa Lutheran Hospital School of Nursing; B.S.N., M.A., University of Iowa; Ph.D., Iowa State University

Chapman, Richard, 1970, English. B.A., M.A., University of Iowa

Chase, Hal S., 1989, History. B.A., Washington & Lee University; M.A., Stanford University; Ph.D., University of Pennsylvania

Cherry, Michael R., 2000, Safety/Fire Science. A.A., Des Moines Area Community College; B.A., Simpson College

Chopard, Lois, 1987, Educational Advisor. B.A., University of Northern Iowa

Christman, Rick L., 1989, English. B.A., University of Wisconsin-Madison; M.A., Mankato State University; D.A., Drake University

Claassen, Alan D., 1983, Academic Achievement Center. B.A., University of Northern Iowa

Clauson, Linda, 1987, Instructional Assistant. B.A., Drake University

Cleveland, Ole S., 1995, Agri-Business. A.A., Waldorf College, B.S., Iowa State University

Clinkenbeard, Theodore, 1969, Mathematics. B.A., Yankton College; M.A., University of South Dakota

Conis, Peter J., 2000, Sociology. A.A., Des Moines Area Community College; B.S., M.S., Ph.D., Iowa State University

Corwin, Marilyn K., 1984, Dental Hygiene. B.A., University of Iowa; Drake University; Iowa State University

Cory, Cynthia, 1980, Nursing. B.S.N., University of Iowa; M.S.N., Clarkson College

Crall, Kathleen, 1983, Business/Management Support Systems. B.S., University of Northern Iowa; M.A., Colorado State University; University of Wisconsin, Superior; Drake University; University of Iowa

Dally, Judith, 1973, Child Development. B.S., Iowa State University

Dameron, April J., 2001, Community Outreach Recruitment Specialist. B.A., Simpson College

Davenport, Rita L., 2002, Educational Advisor. B.A., Central College; M.S.E., University of Wisconsin, Platteville

Davey, James, 2000, Criminal Justice. B.S., Central Missouri State University; M.P.A., University of Nebraska, Omaha; Sam Houston State University

Day, Ann M., 2000, Nursing. B.S.N., M.S.N., University of Iowa

Delaney, Michael, 1972, Sociology. B.A., St. Joseph's College; M.A., Northern Illinois University

Dickson, Valree M., 1992, Nursing. Diploma, Marshalltown Community School of Nursing; B.S.N., Grand View College; M.S.N., Drake University

Dodds, Jack G., 1992, Accounting. A.A., Phoenix College; B.A., Northern Arizona University; M.B.A., Western Illinois University; University of Iowa; Iowa State University; CPA; CIA; CGFM; CMA; CFE; CFSA; EA-IRS; CFM; CPP; CCM, CISA

Doran, John M., 1980, Mathematics. B.A., University of Northern Iowa; M.A., San Diego State University

Doron, Bonne B., 1994, English. A.A., Colby-Sawyer College; B.A., M.A., East Texas State University; Ph.D., Texas Woman's University

Doud, Tim J., 1999, Commercial Horticulture. B.S., Iowa State University

Dowdell Hommerding, Katherine, 2001, Psychology. B.A., University of Pennsylvania; M.S., University of Pittsburgh

Dowie, Lori K., 1986, Hospitality Careers. A.A.A., Des Moines Area Community College

Drinnin, Beverly, 1983, Psychology. B.S., M.Ed., University of Illinois

Dyke, Bradley F., 2002, Political Science/History. B.A., B.A.Ed., University of Missouri, Kansas City; M.A., University of Kansas

Eischeid, Diane, 1992, Lab Assistant. A.A., Des Moines Area Community College

Emley, Bob, 1990, Psychology. B.A., Central College; M.S., Drake University; Ph.D. candidate, Iowa State University; L.M.H.C.

Emmerson, Janet E., 2000, Coordinator, Adult Basic Education. B.F.A., University of Wisconsin, Milwaukee

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Erickson, Ron, 1993, LAN Equipment Specialist. A.A.S, Iowa State University.

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Ethington, Lisa., 1993, Physical Sciences. A.A., Des Moines Area Community College; B.A., University of Northern Iowa; M.A., Drake University

Eubank, Cynthia C., 1987, Nursing. B.A., Central College; M.Ed., East Carolina University; B.S.N., Grandview College; M.S.N., Drake University

Fagen, Nathan 'Nate' G., 2002, Information Technology. B.S.B.A., M.B.A., Drake University

Fara, Kimberly J., 1991, Academic Achievement Center. B.S., University of Iowa; M.S.E., Drake University; University of Northern Iowa

Fetters, Alicia L., 1993, Total Quality Management. B.S., M.S., Iowa State University

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Gardner Marvin., 1999, Data/Computer Science. B.S., M.A., University of Iowa

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Gatzke, Michael L., 1997, Architectural Drafting. B. Arch., Iowa State University; Assoc. AIA; CDT; ACP.

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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

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Giese, Barbara J., 1987, Associate Dean, West Campus. B.S.E., Central Missouri State University; M.A., University of Northern Colorado

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Grattan, Helen G., 1985, Management Support Systems. M.A., Andrews University, Michigan

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Hanson, Dennis L., 1996, Diesel. B.S., Iowa State University

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Harstad, Ruthanne, 1989, English. A.A., Kirkwood Community College; B.A., University Without Walls; M.A., Ed.S., University of Iowa

Hauser, David W., 1992, Philosophy. B.A., M.S., Iowa State University; M.A., University of Arizona; Ph.D., Duquesne University

Hauser, Judith A., 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., 1999, Lab Assistant. Diploma, Des Moines Area Community College

Heilskov, Heidi, 1999, Educational Advisor. B.S., Iowa State University

Heimbaugh, Nancy J., 1977, Educational Advisor. B.S. Ed., Drake University

Helgeson, A. Scott, 1994, Biology. B.A., M.A., University of Nebraska

Hendrick, William, 1979, Automotive Technology. A.A.S., Des Moines Area Community College

Herrmann, Jane M., 1990, Executive Director, Continuing and Distance Education. B.S., Iowa Wesleyan College

Heuer, Karen K., 1976, Marketing. B.S., Iowa State University

Heysinger, Sue, 1986, Counselor. B.A., American University; M.A., University of Iowa

Faculty and Staff

Hildreth, Shelby., 1999, Educational Advisor. A.A., Des Moines Area Community College.; B.A., Upper Iowa University

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Hill, Sherry, 1991, Educational Interpreter. A.A.S., Iowa Western Community College

Hoffmann, Dean R, 1998, Integrated Manufacturing. B.S., University of Nebraska, Omaha

Hoffman-Toubes, Rose M., 1988, English/Journalism. B.S.E., M.A., Drake University

Hogan, Richard E., 2001, Counselor. B.A., Loras College; M.A., Bemidji State University

Hollinrake, William J., 1999, Computer Programming/Information Technology. B.B.A., Iowa State University, M.S.E., Drake University

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Howell, Amy, 1999, Educational Advisor. B.S.W., University of Northern Iowa

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Husak, Sheri, 1976, Educational 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

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Jedele, Randall E., 1993, English. B.A., Western Kentucky University; M.A., Eastern Kentucky University

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Johnson, Jean T., 1999, Academic Achievement Center. B.A., University of Northern Iowa, M.A., University of South Dakota

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Knowles, Keith A., 1987, Supervisor, Student Recruitment/Assessment. B.A., Adrian College

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Kockler, Lois M., 1988, Mathematics. B.S., Valparaiso University; M.S., Ph.D., Iowa State University

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Lonsdale, Mary, 1977, Coordinator, Student/Alumni Activities. A.S., Des Moines Area Community College

Loos, Jim, 1997, Music. B.M., University of Iowa; M.A., University of Northern Iowa

Loss, Florence, 1974, Psychology. B.S., B.A., M.S., Creighton University, Ed. D., Drake University

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Luloff, Terry, 1990, Mathematics. B.A., Wartburg College; M.S.E., Drake University

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Mann, Robert S., 1975, English. B.A., M.A., Ed.S., University of Iowa

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Marshall, Cindy K., 1988, Marketing. B.S., M.B.L., Upper Iowa University

Martin, Cynthia J., 1995, Chemistry. B.A., University of Northern Iowa; M.S., University of Iowa

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McBrearty, Jenean B., 2001, Sociology. B.A., M.A., M.A. San Diego University

McCaffrey, Jerrine, 1990, English. B.S., Truman State University; M.A., University of Nebraska, Omaha; Ph.D., University of Nebraska, Lincoln

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McEnany, Craig A., 1988, Agri-Business. B.S., Iowa State University

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McLean, Shari B., 2000, Educational Advisor. A.A., Waldorf College; B.A., Simpson College; University of Northern Iowa; Iowa State Univeristy

McMaken, Harry L., 1993, Mathematics/Engineering. B.S., University of Tulsa; M.S., Ph.D., Northwestern University

Mead, Randy A., 1998, Dean, Program and Faculty Development. B.A., M.A., Ed.S., University of Northern Iowa

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Merrell, Wayne L, 1994, Academic Dean, Business Management and Information Technology. B.S., Brigham Young University; M.S., Central Missouri State University; Ed. D., Utah State University

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Middendorf, Cheryl, 1975, Nursing. Nursing Diploma, St. Joseph Hospital School of Nursing; B.S., Kearney State University; M.S.N., University of Minnesota

Miles, Sharon, 1979, Financial Aid Advisor. B.E., Washburn University

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Miller, Sheryl L., 2000, Nursing. R.N., Iowa Methodist School of Nursing; B.G.S., M.S., M.S.N., Drake University

Mitchell, Susan J., 1989, Business Administration. B.A., Buena Vista College; J.D., Drake University School of Law

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Moore, Mary K., 1994, Supervisor, Student Support Services. B.A., Luther College; M.S., Iowa State University

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Moss, Judy A., 1992, Mathematics. B.S., Westmar College; M.A., University of South Dakota

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Murphy, Carin L., 1998, Graphic Arts. B.F.A., Iowa State University

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Newgaard, Beth, 1999, Educational Advisor. A.A., Des Moines Area Community College; B.A., Drake University

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O'Bannon, Jeff A., 2001, Automotive Technology. A.S.E. Master Certified; GM Master Certified

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O'Malia, Jerry L., 1992, Instructional Assistant. A.S., University of New York; A.A.S., Des Moines Area Community College

Osborne, Richard, 1998, Computer/Information Technology

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Peters, Randy, 1989, Automotive Technology. A.A.S., Des Moines Area Community College

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Phares, Therese, 1976, Data Processing. B.S., M.S., Iowa State University

Faculty and Staff

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Prager, Henry J., 1979, Economics. A.A., Graceland College; B.S.B.A., Northwestern University; M.A., Drake University; Ed.D., Northern Illinois University; CPA

Pratt, Ewa J., 1983, English As A Second Language. B.A., M.A., Adam Mickiewicz University, Poland

Pytleski, Charles D., 2001, Information Technology. B.S., Minnesota State University; South Central Technical College

Rahn, S. Mike., 2002, Welding. A.A., Kirkwood Community College

Ranch, Margaret E., 1996, Academic Achievement Center. B.A., Northeastern Illinois University; M.S.E., Drake University

Rarick, Melissa M., 2002, Commercial Art. B.A., Iowa State University

Ray, Randi S., 1993, Legal Assistant. B.S., University of Iowa; J.D., Drake University

Reagen, Erin E. L., 2003, Nursing. B.S.N., College of St. Benedict; University of Minnesota

Reimers, David D., 1988, Job Placement Specialist, Special Needs. B.S., Iowa State University; M.S., Drake University

Rhone, Jeannette B., 1997, Coordinator, Youthbuild. A.A., Des Moines Area Community College; B.S., Iowa State University

Rial, Tim., 1999, Mathematics. B.A., University of Illinois; M.A., University of Northern Iowa

Ringgenberg, Wendy J., 1999, Program Coordinator, Health Care Administration/Practicum. B.S., M.S.Ed., Iowa State University; Certificate of Specialization, Des Moines Area Community College. B.L.S.W., L.N.H.A.

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Robbins, Rosemary E., 1993, Job Placement Specialist. B.S., Upper Iowa University

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Rosenberry, Mark E., 1990, Tool and Die. A.A.S., Des Moines Area Community College

Rumelhart, Jeff O., 1992, High Tech Electronics.

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Sanders, Kelly Jo., 1998, Data Processing. B.S., Mankato State University; M.S., Drake University.

Sandoval, José A., 1997, Spanish. B.A., Central College; M.A., University of Iowa

Sandvold, Marcia A., 2000, Accounting. B.A., B.S., M.A. Iowa State University, CPA

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Schon, Renee L., 1988, Coordinator, Iowa New Choices. B.S., Iowa State University

Schulte, M. Anne, 1988, Social & Behavorial Sciences. B.A., Creighton University; M.A., California State University-Fullerton

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Silberhorn, George, 1972, Associate Dean, Boone Campus. A.A., Muscatine Community College; B.S.E., M.S.E., Drake University; Iowa State University

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Spry-Knutson, Jennifer, 1995, Recreation/Wellness Assistant. B.A., Iowa State University; M.A, University of Iowa

Stahr, Curtis B., 1989, Photography. A.A., Ellsworth Community College; B.F.A, Peru State College

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Steffen, Mark A., 2000, Director, High School Programs. B.A., Unviersity of Iowa; M.A., Drake University

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Stock, Lisa A., 2000, Director, Learning Resources. B.S., Iowa State University; M.A. University of Iowa

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Swan, Susan J., 2000, Nursing. B.S.N., Cornell University, M.S.N., Northern Illinois University

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Thieben, Patricia A., 1994, Director, Distance Learning. B.A., University of Northern Iowa; M.S., Iowa State University

Tonhouse, Marian L., 2002, English. A.A., Des Moines Area Community College; B.A., M.A., Drake University

Trieff, Richard T., 1985, Economics. B.A., Simpson College; M.S., Iowa State University

Tripp-Van Rees, Teresa M., 2001, Educational Advisor. A.A., Des Moines Area Community College

Trotter, William L., 1986, Biology. B.A., M.A., Drake University

Trumpy, Franklin, 1972, Physics. B.S., Western Illinois University; M.S., Iowa State University

Tryon, Sandy B., 2002, Executive Director, Human Resources. B.S.E., University of Arkansas; M.Ed., Arkansas Tech University; Ed.S., Ed D., Drake University

Twedt, Arlen, 1973, Counselor. B.B.A., University of Iowa; M.A.Ed., University of Northern Iowa; Grand View College; Chapman College; Iowa State University; Drake University; Northeast Missouri State

Twedt, John, 1980, Building Trades. B.S., Iowa State University

Tweedy, Thomas N., 2002, Counselor. B.A., University of Iowa; M.Ed., Abilene Christian University

Valentine, Terri L., 1999, Academic Achievement Center. B.A., Grandview College; M.Ed., Iowa State University

Van Ast, Pamela, 1980, Academic Dean, Health and Public Services. A.A., R.N., University of South Dakota; B.L.S., University of Iowa; M.S., Iowa State University; Economic Development Institute, University of Oklahoma

Vander Ploeg, Diane, 1977, Medical Assistant. B.B.A., M.S., Iowa State University

Vanderlinden, David W., 1998, Chemistry. B.S., Valparaiso University; M.A., Drake University

VanderWilt, Suellen, 1993, Nursing. Diploma, West Suburban Hospital School of Nursing; B.S.N., University of Iowa; M.Ed., Pennsylvania State University; M.S.N., Drake University

Van Veen, Neal V., 1992, Commercial Horticulture. B.A., Central College; B.S., Iowa State University

Verhulst, Susan L., 2000, Management. B.A., University of Northern Iowa, M.B.A., Drake University

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Vogel, Judith A., 1999, Speech Communication. B.A., M.A., Purdue University

Wagner, Richard, 1971, History/Geography. B.S., Wisconsin State University; M.A., University of Wisconsin; University of Iowa; Iowa State University; Western Illinois University; University of Chicago; University of Colorado

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Warren, Donalla, 1986, STRIVE. B.S., Drake University

Watts, Ann L. 1994, Librarian/Media Specialist. B.S., Iowa State University; M.A., University of Iowa

Whitaker, Christine A., 1989, LAN Equipment Specialist.

White, C. Renee., 2000, Civil Engineering Technology. B.S., Iowa State University

Whitehurst, Calvin L., 1987, Academic Achievement Center. B.A., M.A., University of Northern Iowa

Whittaker, David L., 2000, Director, Transportation Institute. Associate, Arizona Automotive Institute

Wickham, Susan, 1975, Academic Achievement Center. B.A., M.S.E., Drake University

Wiese, Sharon, 1998, Child Development Specialist

Wilk, Mary Beth, 1975, English/Speech Communication. B.A., University of Nebraska; M.A., University of New Mexico; Ph.D., University of Massachusetts

Wilson, Delores, 1990, Academic Achievement Center. B.S., Iowa State University; M.A., Marycrest College

Winter, Janis, F. 1989, Coordinator, Computer Lab. B.S., Peru State College

Wisnosky, Nancy K., 1995, Coordinator, Scheduling/Special Projects. B.A., Western Illinois University; University of Illinois; North Dakota State University

Witty, Sharon K., 1993, English. B.A., University of Northern Iowa; M.A., Iowa State University

Wolf, Laurie A., 1998, Executive Dean, Student Services. B.A., Iowa Wesleyan College; M.A., University of Iowa

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Wong, Siew-San, 1997, Associate Dean, Student Services. B.A., University of Nebraska - Omaha; M.S., M.B.A., Kansas State University

Wood, Amy, 1988, Educational Advisor. B.B.A., University of Iowa

Wood, Christine, 1977, Nursing. A.A.S., Iowa Central Community College; B.S.N., University of Iowa; M.S.N., Drake University.

Woods, Nancy A., 1987, Mathematics/Physics. B.S., B.A., University of Nebraska at Omaha; M.S., M.S.M., Iowa State University

Young, Steve, 2002, Educational Interpreter. C.T., Registry of Interpreters for the Deaf, B.S., Upper Iowa University; M.Ed., Iowa State University

Zarr, Harold, 1989, Manufacturing Management. B.S., Iowa State University; M.B.A., Drake University

Zhang, William W., 1998, English. B.A., Northeast Normal University; M.Ed., Rhode Island College; Edinburgh University; Ph. D., Indiana University of Pennsylvania

Zimmerman, Mary Kathleen, 1994, P.C. Applications. A.A.A., Ottumwa Heights College; B.B.A., University of Iowa

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Admission Checklist

Admission Procedures Checklist

Full-time student enrollment (12 or more credits fall and spring semester; 8 or more credits summer semester.)

General Procedures

Check when complete

☐ Schedule a campus visit. Call 1-800-362-2127

☐ Schedule a meeting with a DMACC advisor or counselor to determine which DMACC program is right for you.

To make an appointment call:

Ankeny Campus 515-964-6246/964-6200
Boone Campus 515-432-7203
Carroll Campus 712-792-1755
Newton Campus.....641-791-3622
Urban Campus.....515-244-4226
West Campus 515-225-2575

Admission Checklist

☐ **1.** Send a completed admission application to the DMACC Admission Processing Office.
Be sure to indicate your intended major and the campus you wish to attend.
Admission Processing Office
Des Moines Area Community College
2006 S. Ankeny Boulevard
Ankeny, IA 50021

☐ **2.** Submit an official copy of either your high school transcripts or GED scores and/or transcripts showing previous college credits to the DMACC Admission Processing Office.

☐ **3.** Complete the required assessment. ***(See Assessment Section for details.)***

☐ **4.** Complete necessary program entry requirements. ***(Refer to Program Section to determine if your program has specific entry requirements.)***

☐ **5.** Attend an Orientation/Registration session.
(Refer to Orientation/Registration Section.)
Note: The DMACC Admission application is separate from the financial aid application (FAFSA).

Financial Aid Checklist

Check when completed

☐ **1.** Complete the Free Application for Federal Student Aid (FAFSA) form any time after January 1.
The FAFSA can be filed on the Internet at the following website: http://www.fafsa.ed.gov

You may be eligible for the following grants:

- **Pell Grant**
- **Supplemental Education Opportunity Grant (SEOG)**
- **DMACC Grant**
- **Iowa Vocational Technical Tuition Grant (IVTTG)***
- **Iowa Grant**

*** Career education students should note a July 1st FAFSA filing deadline for Iowa Vocational Technical Tuition Grant consideration.**

☐ **2.** Within 4-6 weeks of the postmark date, you will receive a Student Aid Report (SAR), confirming the information you reported on our financial aid application.
Please review the SAR for accuracy and, if changes need to be made, you may submit your SAR to DMACC's Financial Aid Office for corrections.

☐ **3.** When you receive the initial information letter from DMACC's Financial Aid Office and if they are requesting additional information, please return the requested information immediately.
After your financial aid information has been confirmed, you will receive a financial aid award letter. A William D. Ford Direct Loan may be processed through the DMACC Financial Aid Office. An application will be sent with your Financial Aid Award Letter. Refer to the Financial Aid Section for more details or go to the DMACC Financial Aid website at www.dmacc.edu/financial.htm.

Note: The FAFSA is a separate application from the DMACC Admission application.

DMACC
DES MOINES AREA COMMUNITY COLLEGE

Return to: Admission Processing Office
Des Moines Area Community College
2006 S. Ankeny Blvd., Ankeny, IA 50021-3993
Or Apllications for Admission may be completed electronically at www.DMACC.edu

APPLICATION FOR ADMISSION

Please print legibly with a pen.

PERSONAL INFORMATION

Social Security Number ☐☐☐ - ☐☐ - ☐☐☐☐

Legal Last Name (Family Name) | First (Given Name) | M.I.

All Former Legal Last Name(s)

E-Mail Address

CURRENT MAILING ADDRESS

Number and Street | Apartment/Lot Number Etc.

City | State | Zip

Home Telephone (Area Code) Telephone Number

Work Telephone (Area Code) Telephone Number

County

ETHNIC INFORMATION

1. ☐ White, Non-Hispanic
2. ☐ Black, Non-Hispanic
3. ☐ Hispanic
4. ☐ Asian/Pacific Islander
5. ☐ American Indian/Alaskan Native
6. ☐ Choose not to reply

PERSONAL BACKGROUND

The following is required for state reporting purposes only.

Are you a single parent? ☐ YES ☐ NO
Are you a displaced homemaker? ☐ YES ☐ NO
Did either of your parents attend college? ☐ YES ☐ NO

GENDER

☐ Male ☐ Female

BIRTHDATE

☐☐ - ☐☐ - ☐☐☐☐
Month Date Year

RESIDENCY INFORMATION

ARE YOU A U.S. CITIZEN? ☐ YES ☐ NO

IF NO, ARE YOU A PERMANENT RESIDENT OF THE U.S.? ☐ YES ☐ NO

IF NO, INDICATE TYPE OF VISA ☐☐☐☐

IF YES, PRINT YOUR ALIEN REGISTRATION NUMBER A☐☐☐☐☐☐☐☐☐

COUNTRY OF CITIZENSHIP, IF YOU ARE NOT A U.S. CITIZEN

IOWA RESIDENCY STATEMENT

To be completed by U.S. Citizens and Permanent Residents Only

Check One

☐ I have been a resident of Iowa since birth.

☐ I have been a permanent resident of Iowa since Month _____ Year _____

☐ I am a resident of _____ (state, territory, possession).

ADMISSION INFORMATION

SEMESTER YOU PLAN TO ENTER DMACC
1. ☐ Fall 2. ☐ Spring 3. ☐ Summer Year: ☐☐☐☐

CAMPUS YOU PLAN TO ATTEND
☐ Ankeny ☐ Boone ☐ Carroll ☐ Newton ☐ Urban ☐ West ☐ Other Location

I plan to enroll
☐ Full-time (12 credit or more) (Full-time summer is 8 credits or more)
☐ Part-time (11 credits or less) (Part-time summer is 7 credits or less)
☐ As a Guest Student* (*Refer to admission section of catalog.)

DMACC EDUCATION GOALS

CC. ☐ Prepare to change careers
CL. ☐ Meet certification or licensure requirements
EX. ☐ Explore course to decide on career
IS. ☐ Improve skills for present job
JM. ☐ Prepare to enter job market
PI. ☐ Personal interest or self-improvement
SI. ☐ Self improvement/improve basic skills
TA. ☐ Transfer to another college or university
UN. ☐ Undecided/unknown

DMACC DEGREE AND PROGRAM

Program (Refer to DMACC Catalog) or see Program Listing on back page ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Award you are seeking (Check one box)
☐ Associate in Arts (AA) Degree
☐ Associate in Applied Science (AAS)
☐ Associate in Science (AS) Degree
☐ Associate in General Studies (AGS)
☐ Diploma
☐ Certificate of Specialization

EDUCATION INFORMATION

Name of High School Last Attended (List current high school if currently attending high school)

City | State | Zip

Are you currently attending high school (grades 9-12)?
Yes ☐ No ☐ Anticipated Graduation Date:
Month – Day – Year
Are you home schooled? Yes ☐ No ☐

Did you have a high school diploma? Yes ☐ No ☐
Graduation Date:
Month – Day – Year

If you have received your high school diploma from DMACC or another community college enter the name of the college in the blank above.

Have you earned the GED? Yes ☐ No ☐
(High School Equivalency Test)
Month – Day – Year

Previous College(s)

LIST ALL COLLEGES (INCLUDING DMACC) PREVIOUSLY ATTENDED FOR CREDIT COURSES IN ORDER OF ATTENDANCE		FROM MONTH/YEAR	TO MONTH/YEAR	TYPE OF DEGREE EARNED
COLLEGE NAME	COLLEGE CITY, STATE			

+AN OFFICIAL TRANSCRIPT FROM EACH INSTITUTION ATTENDED MUST BE SUBMITTED DIRECTLY TO THE DMACC ANKENY ADMISSION OFFICE. ALL DOCUMENTS SUBMITTED BECOME THE PROPERTY OF DMACC AND CANNOT BE RETURNED TO THE STUDENT OR SENT TO OTHER INSTITUTIONS.

EMERGENCY INFORMATION

Name someone to contact in case of an emergency

Address | Apartment/Lot Number Etc.

City | State | Zip

(Area Code) – Telephone Number – | Relationship to student

I CERTIFY THAT ALL STATEMENTS ARE TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE.

I AGREE TO ABIDE BY ALL APPROVED COLLEGE POLICIES AS OUTLINED IN THE CURRENT ISSUE OF THE COLLEGE CATALOG.

I AGREE TO REPORT ALL CHANGES, INCLUDING NAME AND ADDRESS, TO THE ADMISSION OFFICE WITH THE UNDERSTANDING THAT MY ADMISSION MAY BE DELAYED IF ALL CHANGES ARE NOT REPORTED.

SIGNATURE OF APPLICANT _____ **DATE** _____

Des Moines Area Community College requests this information for the purpose of processing your application for admission. No persons outside the College are routinely provided this information. Responses to all items are required for admission. If you plan to receive financial aid assistance, additional applications must be completed and filed in a timely manner. Des Moines Area Community College shall not engage in nor allow discrimination covered by law, including harassment, based on race, color, national origin, creed, religion, gender, sexual orientation, age and disability or, to the extent covered by law veteran status. Any inquires may be directed to the EEO/AA Coordinator at (515) 964-6301. Des Moines Area Community College provides a wide array of support services to students with disabilities. If you have a need for accommodations due to a disability, please contact the campus you plan to attend.

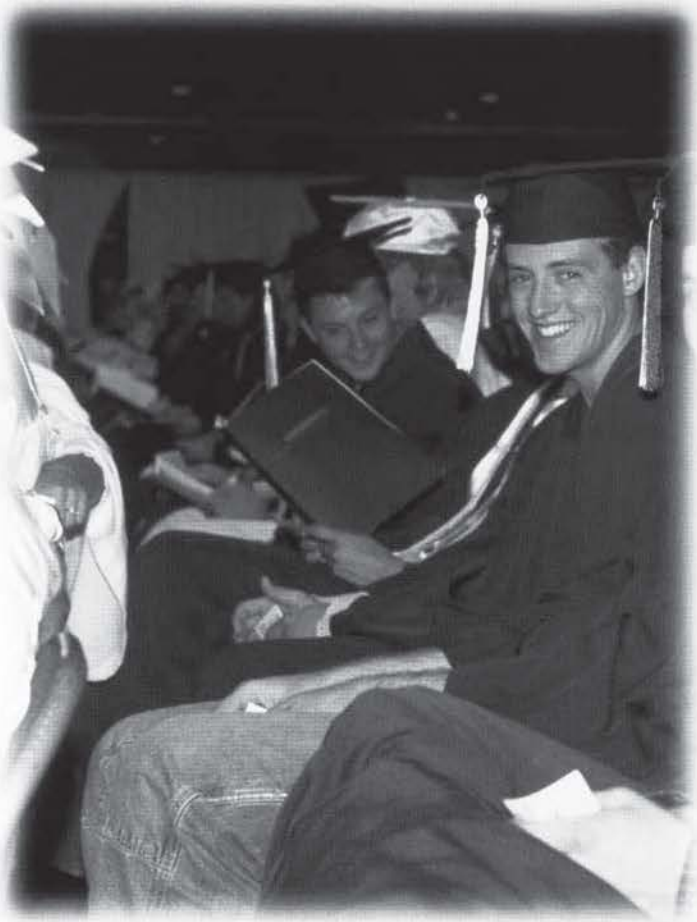
DMACC
DES MOINES AREA COMMUNITY COLLEGE
FOUNDATION

The DMACC Foundation was created to help assure educational excellence through charitable giving. Gifts to the Foundation enable us to offer scholarships to a number of our deserving students. Others help us acquire new instructional equipment or launch a special project. Still others build the endowment funds so essential to the future. Gifts of all sizes help us realize our mission.

The Foundation accepts gifts made by cash or check. Checks need to be made out to the DMACC Foundation and mailed to:

DMACC Foundation
2006 S. Ankeny Blvd.
Ankeny, IA 50021-3993

For more information or to inquire about making donations of common stock, real estate or other tangible property, or making bequest or estate gifts, please call the Foundation at 1-800-362-2127, extension 6447.



The DMACC Foundation Scholarship Program

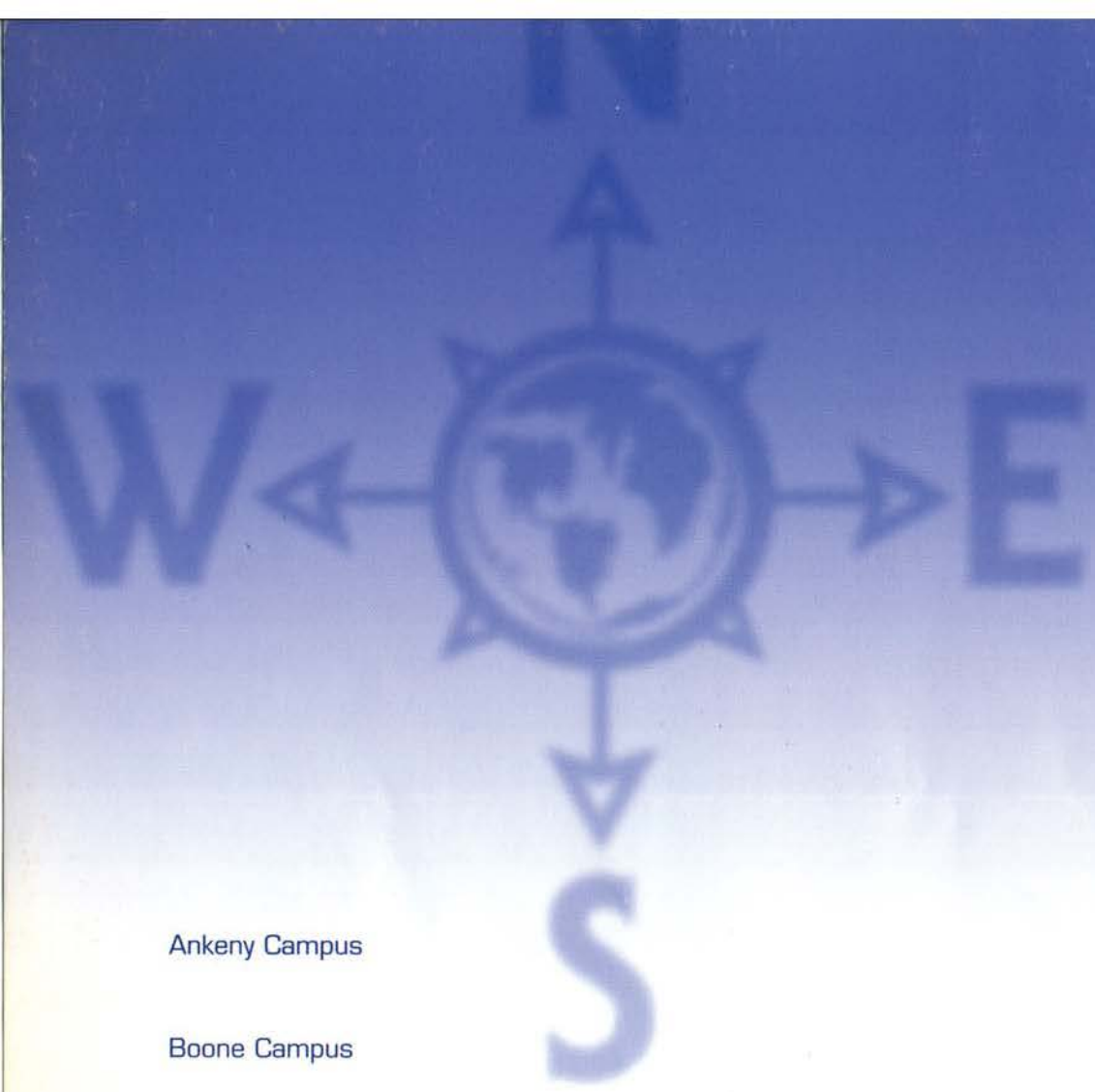
The DMACC Foundation scholarship awards are based on both financial need and academic achievement. A select few are given based on academic achievement alone. Criteria vary from category to category, with the Foundation setting minimum standards for both grade point average (GPA) and credit hour requirements.

Unless otherwise noted, the following applies to all Foundation awards:

- Applications must be received on or before MAY 1 (unless otherwise stated).
- Applicants must have verifiable financial need. Filing a Free Application for Federal Student Aid (FAFSA) is the best way to do this. A FAFSA application is available at the college Financial Aid Office or by calling 1-800-362-2127, Extension 6282.
- Applicants need a minimum verifiable 2.0 GPA. Cumulative GPA will be used for current DMACC students.
- Recipients of awards must be enrolled at DMACC for at least 6 credit hours for part-time awards and 12 credit hours for fulltime awards.

Most awards are for fall and spring and pay tuition, fees & books only. All awards are applied directly to the recipient's account at DMACC.

A generic scholarship application and description of the various scholarships offered is available on the Foundation Web Page, www.dmacc.edu/foundation. This application, when submitted will automatically enter an applicant in every award pool where they are eligible, except where otherwise indicated or where awards are accessed through the program chair. For all scholarship questions, please call the Scholarship Office at 1-800-362-2127, extension 6278.



Ankeny Campus

Boone Campus

Carroll Campus

Newton Polytechnic Campus

Urban/Des Moines Campus

West Campus

www.DMACC.edu

DMACC
DES MOINES AREA COMMUNITY COLLEGE

2006 South Ankeny Boulevard
Ankeny, Iowa 50021-3993
1-800-362-2127