

2002

## Catalog 2002-2003

DMACC

Des Moines Area Community College



**DMACC**  
DES MOINES AREA  
COMMUNITY COLLEGE

2002-2003 Catalog

# Q&A

## Frequently Asked Questions

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

### **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.

Can I find answers to the following FAQs on-line?

**Yes, visit [www.DMACC.edu](http://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?

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Where can I receive help in selecting my courses?

**Educational Advising/Counseling Services**

How much will my classes cost?

**Tuition/Fees**

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Can I get a part-time or work-study job on campus?

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If I have a learning disability, whom should I contact?

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

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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**

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- Agri-Business
- Commercial Horticulture
- Veterinary Assistant
- Veterinary Technician

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- Agri Business - Farm Management
- Agri-Business - Sales/Service
- Greenhouse Production
- Small Animal Care
- Turf Maintenance

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- Commercial Art
- Graphic Arts

#### **Certificates of Specialization**

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- Graphic Arts
- Production Art

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- Accounting & Bookkeeping
- Accounting Information Systems
- Accounting Paraprofessional
- Accounting Specialist
- Administrative Assistant
- Business Administration
- Business Information Systems
- Computer Programming
- Fashion/Design Management
- Management Information Systems (MIS)
- Marketing
- Medical Administrative Assistant
- Office Assistant
- Retailing
- Sales and Management

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## Certificates of Specialization

- Accounting Certificate I
- Accounting Certificate II
- Computer Applications
- Computer Languages
- Data Entry I
- Database Specialist
- Fashion
- Information Processing Support
- Interior Design Consultant Management
- Medical Transcriptionist
- Microcomputers
- Office Specialist
- Retailing
- Sales
- Supervision
- Technical Management

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- Dental Assistant
- Dental Hygiene
- Health Care Administration
- Medical Assistant
- Medical Laboratory Technology
- Nursing-Advanced Standing
- Nursing Program
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## Certificates of Specialization

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- Emergency Medical Technician - Basic
- Health Services Management
- Long Term Care Administrator
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- Hotel and Restaurant Management

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- ASSET - Ford
- Auto Collision Technology
- Auto Mechanics Technology
- Building Trades
- CAP - Chrysler
- Caterpillar Technology
- Civil Engineering Technology
- Computer-Aided Design Technology

- Diesel Technology
- Electronic Systems Service Technology
- Fire Science Technology
- Heating, Air Conditioning, Refrigeration Technology
- High Tech-Automation/Robotics
- Industrial Electro-Mechanical Technology
- Information Technology
- Information Technology Network Administration
- Integrated Manufacturing Technology
- Land Surveying
- Manufacturing Technology
- Telecommunications Technology
- Tool and Die-making
- Welding

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- Building Maintenance
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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.

# 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	Law
Architecture	Medicine
Business Administration	Nursing
Chiropractic	Optometry
Computer Science	Pharmacy
Dentistry	Physician's Assistant
Education	Social Work
Engineering	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
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
Exercise Science	AS	.....B
Fashion	Certificate	.....A
Fashion/Design	AAS, Dipl	.....A
Fire Science Technology	AS	.....A,U*

**Program Award Campus**

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	AAS	.....A,B*,C*,N*,U*,W
Information Technology Network Administrator	AAS	.....A,B*,C*,N*,U*,W
Integrated Manufacturing Technology (John Deere)	AAS	.....A
Interior Design Consultant	Certificate	.....A
Land Surveying	AAS	.....B
Legal Assistant	AS, Certificate	.....U
Long Term Care Administrator	Certificate	.....A
Management	AAS, Certificate	.....A,N,B*,U*
Management Information Systems (MIS)	AS	.....A,B,N,U
Manufacturing Technology	AAS	.....A,N
Marketing	AAS	.....A
Machinist Technology	Diploma	.....A
(see Tool & Die Making)		
Medical Administrative Assistant	AAS, Diploma	.....A
(see Secretarial Careers)		
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	.....A,B
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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
Technical Management	Certificate	.....A
Telecommunications Technology	AAS	.....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

\*\* Programs begin fall semester, 2003-04, pending approval from the Iowa Department of Education and the American Veterinary Medical Association.

AA=Associate in Arts degree AS=Associate in Science Degree AAS= Associate in Applied Science Degree AGS= Associate in General Studies Degree

# Profile of DMACC



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 and 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, I encourage you to contact me.

With warm regards,

David C. England  
President  
Des Moines Area Community College

## 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 Synergie™ 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 became the president of Des Moines Area Community College in October, 2001.

## 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. This includes harassment based on race, color, national origin, creed, religion, gender, age, and disability. Veteran status in its 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 Coordinator. Persons who wish additional information or assistance may contact the EEO/AA Coordinator, Executive Director, Human Resources, Bldg. 1, 515-964-6408.

## 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 on a six-acre site north of I-235 at 7th and Laurel in Des Moines.

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](http://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	8
Des Moines	
• Dale Froehlich	6
Ankeny	
• Steve Goodhue	1
Ames	
• Naomi Neu	3
Carroll	
• Joe Pugel	5
Newton	
• Wayne Rouse, M.D.	2
Boone	
• Doug Shull, President	4
Indianola	
• Madelyn Tursi	9
Des Moines	
• Rena Wilson	7
Des Moines	

## Ankeny



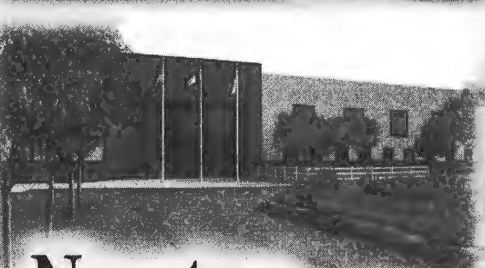
## Carroll



## Urban



## Boone



## Newton



## West



# 2002-2003 Calendar

## August 2002

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

## September 2002

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

## Fall Semester 2002

<b>Aug. 28, 2002</b> .....	Fall Semester Begins (first day of classes)
<b>Oct. 1, 2002</b> .....	Application Deadline for Fall Graduates
<b>Oct. 22, 2002</b> .....	MIDTERM
<b>Nov. 6, 2002</b> .....	*Last Day to Withdraw From Regular Term Classes
<b>Nov. 28-30, 2002</b> .....	Thanksgiving Holiday- No Classes, Offices Closed
<b>Dec. 17, 2002</b> .....	Last Day of Fall Semester
<b>Dec. 24, 2002-Jan. 1, 2003</b> .....	Christmas & New Year's Holidays-Offices Closed

## October 2002

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

## November 2002

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

## December 2002

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

## January 2003

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

## Spring Semester 2003

<b>January 13, 2003</b> .....	Spring Semester Begins (first day of classes)
<b>January 20, 2003</b> .....	Martin Luther King Holiday - Offices Closed
<b>February 1, 2003</b> .....	Application deadline Spring/Summer Graduates
<b>March 7, 2003</b> .....	All Staff In-Service - No Classes, Offices Closed
<b>March 10, 2003</b> .....	MIDTERM
<b>March 17-23, 2003</b> .....	Spring Break - No Classes, Offices Open
<b>April 1, 2003</b> .....	*Last Day to Withdraw From Regular Term Classes
<b>May 8, 2003</b> .....	Last Day of Spring Semester
<b>May 8, 2003</b> .....	7:00 p.m. Ankeny/Urban/Newton/West Graduation
<b>May 9, 2002</b> .....	10:00 a.m. Boone Graduation
<b>May 12, 2003</b> .....	Carroll Graduation

## February 2003

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	

## March 2003

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

## April 2003

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

## May 2003

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

## Summer Semester 2003

<b>May 28, 2003</b> .....	Summer Semester Begins (first day of classes)
<b>July 4, 2003</b> .....	Holiday - No Classes, Offices Closed
<b>August 7, 2003</b> .....	Last Day of Summer Semester

## June 2003

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

## July 2003

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

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

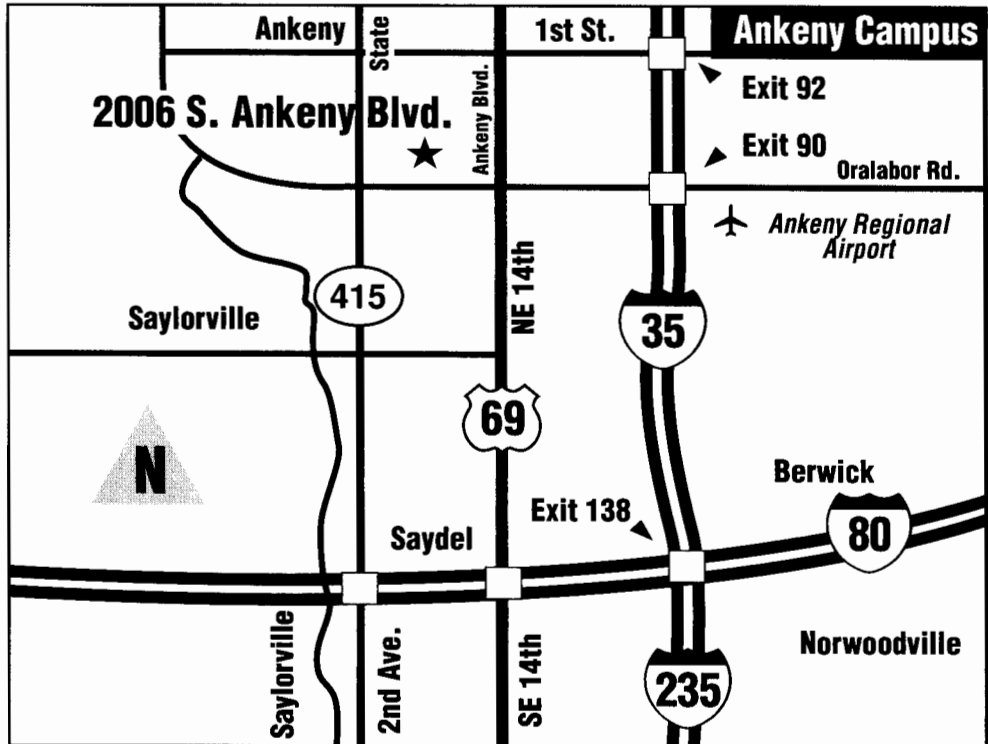
	<b>Semester Begins</b>	KEY
	<b>Midterm</b>	
	<b>Last day to withdraw from classes</b>	
	<b>Holiday-College Closed</b>	
	<b>Semester Ends</b>	

# Campus Maps

## Ankeny Campus

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

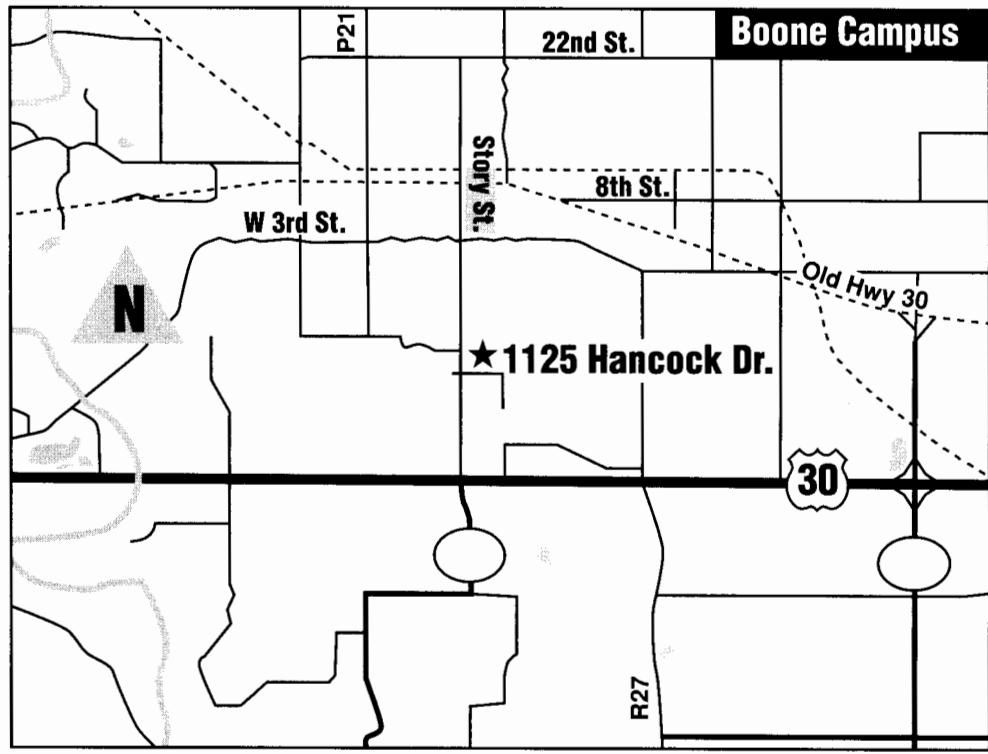
	Bldg. No.	Rm. No.	Ext No.
Academic Achievement	6	20	6558
Accidents-Auto (On Campus)	12	.01	6500
Address Changes	1	.16	6565
Advising	1	.16	6246
Alumni Association	5	.27	6376
Assessment Center	6	.24	6595
Athletics/Recreation	5	.26	6333
Bookstore	5	.34	6302
Campus Clubs	5	.26	6359/6376
Campus Events	1	.06	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/ 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  
 (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/1298	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/Add	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: 964-6284or 800-362-2127 Ext.#6284 Ankeny Campus)	

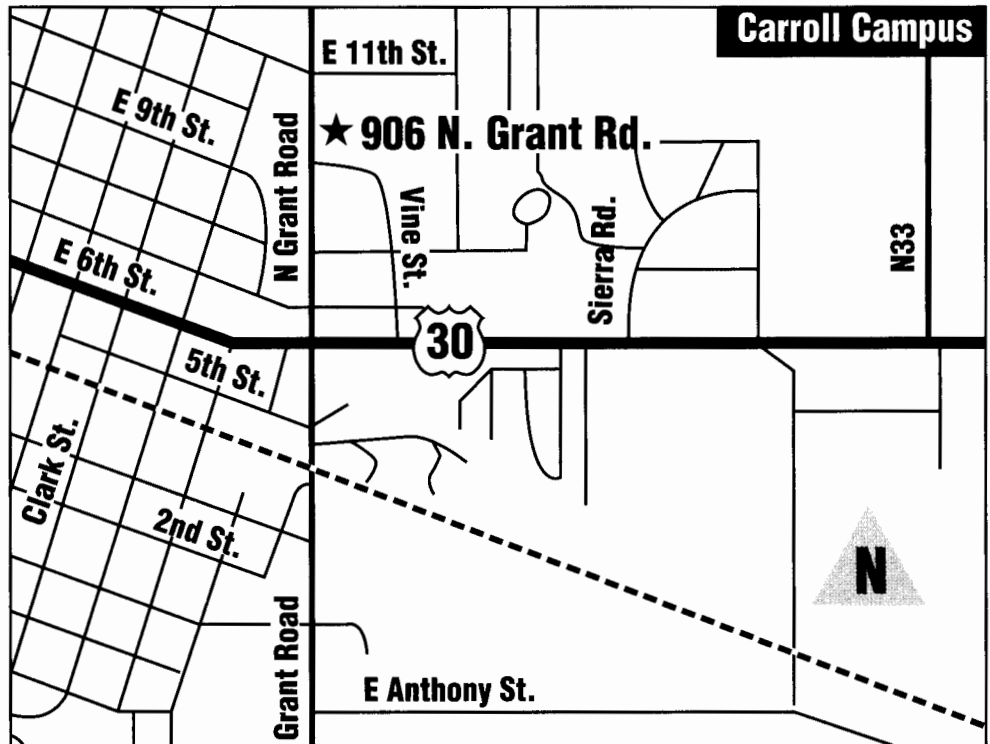


# Campus Maps

## Carroll Campus

906 North Grant Rd., Carroll, Iowa 51401  
(712) 792-1755 or 1-800-362-2127, Campus Code #4, and the Ext #

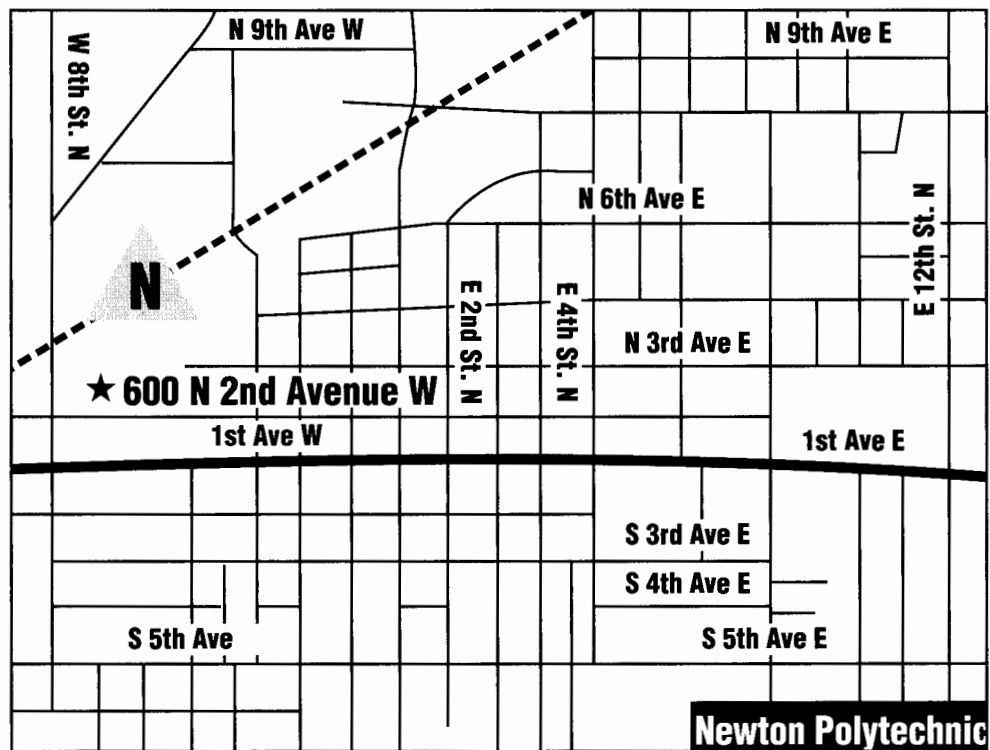
	Rm. No.	Ext No.
Academic Achievement	157	8333/8307
Accidents-Auto (On Campus)	Business Office	Operator
Address Changes	141	8331/8332
Advising	141	8331/8332
Assessment Center	141	8331/8332
Bookstore	Bookstore	8310
Campus Clubs	141	8331/8332
Campus Events	141	8331/8332
Career Planning/Counseling	141	8331/8332
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)	



## Newton Polytechnic

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)	

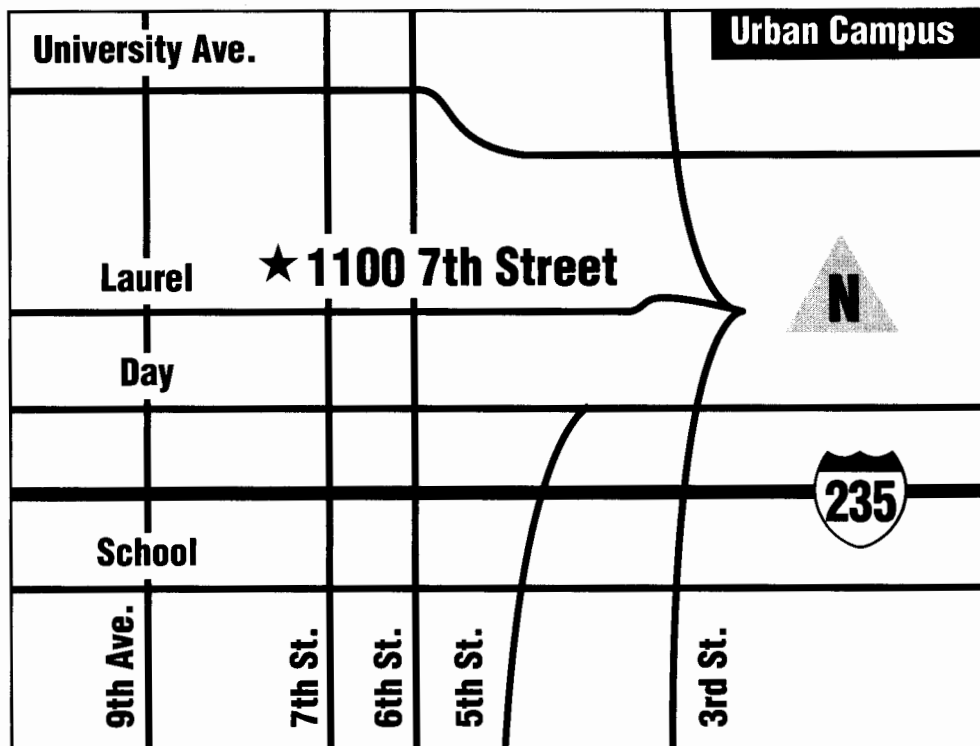


# Campus Maps

## Urban Campus

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

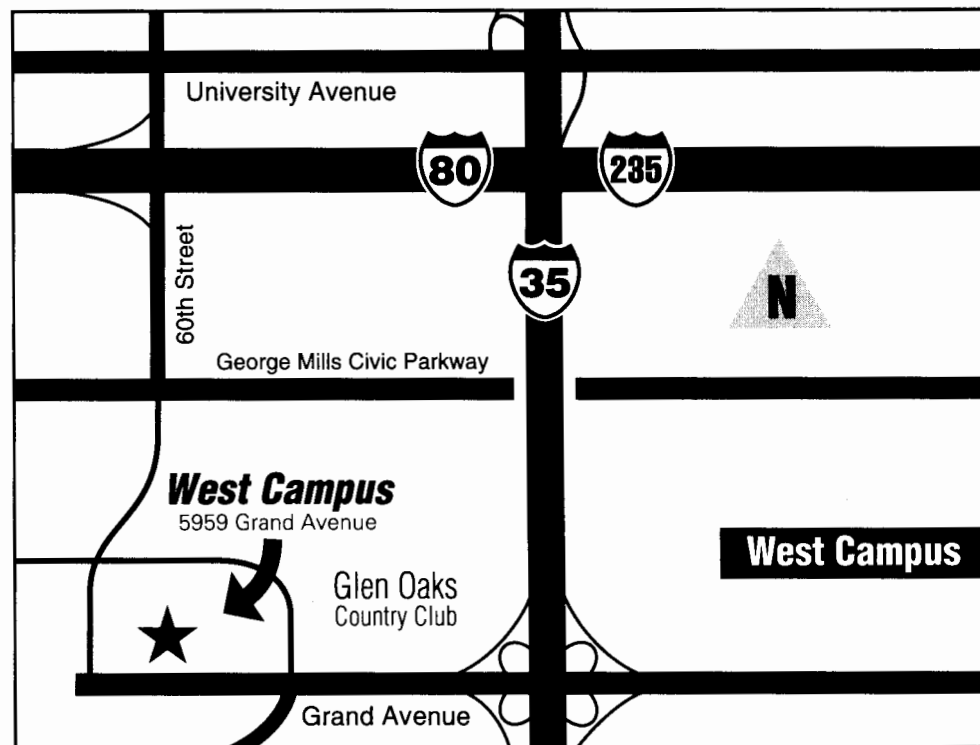
	Rm. No.	Ext No.
Academic Achievement	204	7204
Address Changes	101	4226
Advising	101E	4226
Assessment Center	207A	7218
Bookstore	134A	7212
Campus Clubs	101G	7234
Campus Events	101	4226
Career Planning/Counseling	101E	7236
Drop/Add	101	4226
Emergencies	101	4226
Financial Aid	101A	7202
Graduation	101	4226
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/ 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  
 (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 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 as all 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**  
**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.org](http://www.dmacc.org). 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, or steps 1, 2, and 3 if enrolling full-time. Freshmen and sophomores must complete all four steps.

### Admission steps:

1. Submit a completed Application for Admission.
2. Submit written approval from parent/guardian and the 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.

**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 Supervisor of Student Support Services at (515)964-6857 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 to another college or university or whose primary enrollment is at another college may enroll as a "guest student" at DMACC. Guest students may, by submitting a DMACC Application for Admission and proof of acceptance at their primary college (or a valid student ID from that college), enroll at DMACC without taking the normally required COMPASS assessment test or providing ACT scores. Guest student status cannot be claimed for consecutive academic terms at DMACC.

## Admission of International Students

International students are persons in the U.S. who are on a non-immigrant visa including students who have an F1 student visa. Specific requirements must be met before being considered for admission to the college. No admissions decision will be made until an application is complete. **A completed application includes:**

1. A completed and signed admission application.
2. A completed International Student Data Sheet.
3. Payment of a \$100, non-refundable International 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 \$11,000 per year.
5. Official evidence of the English proficiency required by the college 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 to enroll in credit classes. 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 to enroll in credit classes.
  - c. An official transcript from an accredited U.S. college or university showing successful completion (grade "C" or higher) of freshmen level English.
6. Submission of official transcripts from all secondary and post-secondary schools attended, translated into English.
7. A deposit of \$2000 (U.S.) to cover direct educational costs (tuition, fees, books, supplies, etc.) for the first semester.
8. Proof of valid medical insurance must be submitted to the International Student Office within 30 days of the start of classes.

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

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.

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. Failure to do so can result in deportation. For further information call the International Student Office 515-964-6471.

## 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 voter registration card.
- Proof of Iowa Homestead credit on property taxes.
- Other indicators of Iowa residency, such as rent receipts, utility bill, 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.

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 515-964-6471.

# Admissions

## 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-enrolling.

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.

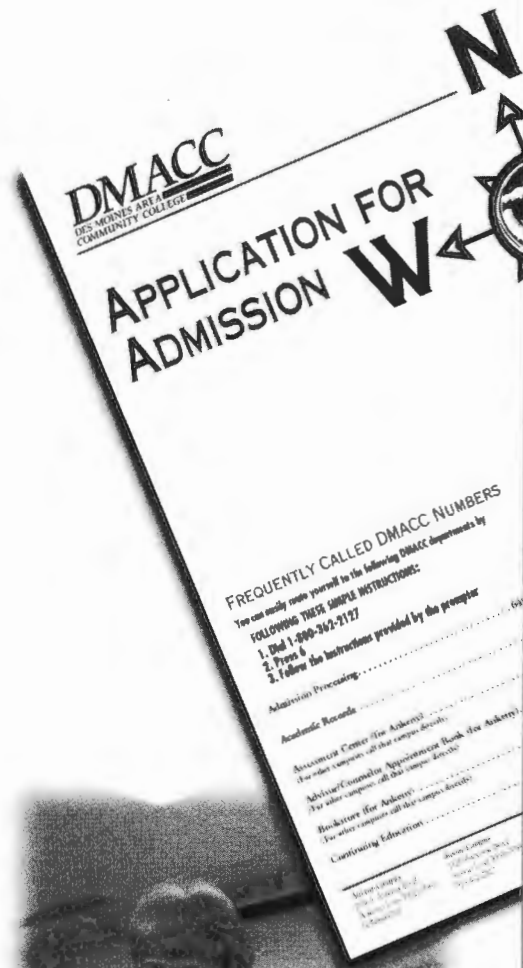
Credit is awarded only for significant learning experiences as recommended by the ACE guide. No credit will be awarded based on the Military Occupational Specialties evaluation program.

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. 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**.....515-964-6200
- Boone Campus**.....515-432-5025
- Carroll Campus** ..... 712-792-8332
- Newton Campus** .....641-791-3622
- Urban Campus** ..... 515-248-7234
- 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."

## 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 \$2,000 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 Student Accounts 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

## Resident Student Tuition Rate for Credit Offerings

Full or part-time enrollment (per credit) .....	\$ 72.00
Audit (per credit) .....	\$ 72.00
Career Supplemental non-credit courses (per contact hour) .....	\$ 4.60
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

Service & Technology Fee (per credit) .....	\$ 8.40
Service fee - non-credit courses (per contact hour) .....	\$ .20
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

## Transcript Fees

Overnight request .....	\$ 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
Driving in unauthorized area.....	\$ 50.00
Moving violation .....	\$ 50.00

**Des Moines Area Community College reserves the right to change tuition and fees.  
Changes adopted by DMACC Board of Directors April 8, 2002**

## 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/>.



# 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
<b>Tuition and Fees</b>	<b>\$2,412</b>	<b>\$4,572</b>
<b>Books and Supplies</b>	<b>690</b>	<b>690</b>
<b>Room and Board</b>	<b>4,461</b>	<b>4,461</b>
<b>Personal/Misc.</b>	<b>1,494</b>	<b>1,494</b>
<b>Transportation</b>	<b>1,498</b>	<b>1,498</b>
	<b>\$10,555</b>	<b>\$12,715</b>

### Filing Petition 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 request a Petition 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 Petition 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](http://www.fafsa.ed.gov) Students may access the Web by using computers available in the Student Financial Aid Office located on the Ankeny Campus.

1. Continuing students will be mailed a renewal FAFSA from the U.S. Department of Education between November and December.
2. New students may 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 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 the Internet it is 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.org](http://www.dmacc.org). 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. 7300 or 515-964-7300 or email to: [info-sys@dmacc.cc.ia.us](mailto:info-sys@dmacc.cc.ia.us).

### 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. Once the FAFSA process is complete the student will receive a Student Aid Report (SAR). If a SAR is not received within four weeks of mailing the FAFSA, call the Central Processor at (319) 337-5665 or at 1-800-433-3243.
4. 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 if students have completed and filed a FAFSA and show exceptional financial need, and are an undergraduate enrolled at least half-time. 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

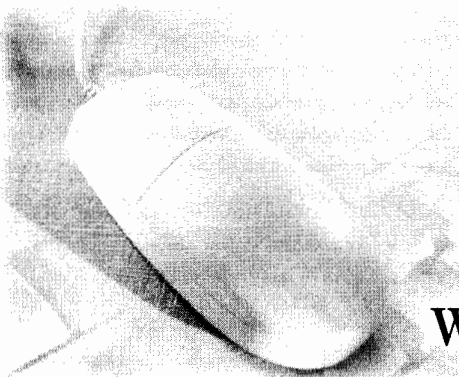
These grants are available to undergraduate students enrolled at least half-time, who have applied for financial aid, and show exceptional need. The maximum amount offered is \$940 per academic year.

### 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.



Check out your  
Financial Aid  
on the Web at  
[www.DMACC.edu](http://www.DMACC.edu)

# Financial Aid

## 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.org/foundation](http://www.dmacc.org/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.org/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.

## Criteria and Conditions for DMACC 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 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. Term Offered: Fall (renewable for spring)

### The Foundation Corporate Scholarship

Application for this award is open to students at all DMACC campuses who have a minimum 3.0 GPA. Award amounts vary. Term Offered: Fall (renewable for spring)

### 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 except Carroll. Award amounts vary. Term Offered: Fall (renewable for spring)

### 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

### 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)

## 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 Job Placement 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.

# Financial Aid

## 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 interviews are required.

## 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 interview session. Each DMACC campus will provide a schedule of dates and locations for entrance interviews. Students may use the Internet to complete an Entrance Interview, at [www.IFAP.ed.gov](http://www.IFAP.ed.gov).

## 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 are encouraged to use the [www.dlsvicer.ed.gov/demo](http://www.dlsvicer.ed.gov/demo) to complete the exit counseling requirement.

## Additional Sources of Aid Veterans Educational Benefits

The primary function of the Veterans Services Office is to assist students in applying for Veterans Educational Benefits, act as a liaison between the student and the Veterans Administration, and serve as a resource to other DMACC departments and services.

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

Application for veteran benefits should be completed when applying for admission to DMACC. It takes a minimum of eight weeks for the Veterans Administration to process new claims for benefits; therefore appropriate paperwork should be submitted as early as possible. Applications are available at the DMACC Veterans Services Office, Ankeny Campus.

At DMACC, career and degree programs are approved for VA benefits. The amount of monthly payment will depend on the current veterans affairs rates, and on the number of credit hours enrolled and benefits category under which student is eligible. Details may be obtained at the Office of Student Financial Aid/Veterans Services, Ankeny Campus, 515-964-6284 or 1-800-362-2127 extension 6284.

## Iowa National Guard

The Iowa National Guard Educational Assistance Program may pay up to \$1,800 per year for undergraduate tuition for active members of the Iowa Army and Air National Guard. The Iowa Adjutant General determines eligibility for this tuition assistance program, and funding for the program is determined on an annual basis by the Iowa General Assembly. Individuals must apply for this grant through their Unit Commander. The Iowa Adjutant General notifies the Iowa College Student Aid Commission (ICSAC) of approved applications. DMACC is notified by the Iowa College Student Aid Commission of students' eligibility.

## 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

## 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).
- 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.**

## Leave of Absence

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

# Financial Aid

## 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
<b>Total Financial Aid Awarded .....</b>	<b>\$3,511</b>

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.

<b>Total Financial Aid Awarded .....</b>	<b>\$3,511</b>
<b>Multiply Percent of Unearned Aid .....</b>	<b>X .90</b>
<b>Amount of Unearned Aid .....</b>	<b>\$3,159.90</b>

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.

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

Penny is required to return the remaining unearned amount.

<b>Total Unearned Aid .....</b>	<b>\$3,159.90</b>
<b>Subtract Percent of Unearned Aid .....</b>	<b>1,085.40</b>
<b>Amount Penny Must Repay .....</b>	<b>\$2,074.50</b>

## 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.

<b>Unearned Pell Grant .....</b>	<b>\$1,898.90</b>
	<b>X .50</b>
	<b>\$ 949.45</b>

## 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 more than the 60 percent point 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 1-800-362-21-27, ext. 6282 for additional information concerning the Return of Title IV Aid or at [DMACC.org/finaid.htm](http://DMACC.org/finaid.htm). As the regulations governing Return of Title IV aid are subject to change, refer to DMACC's financial aid web site [www.DMACC.org/finaid.htm](http://www.DMACC.org/finaid.htm) 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:

- Multiply hours of credit in each course by the appropriate numerical value to find the quality points.
- Total the quality points earned.
- 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
<b>TOTAL</b>	<b>17</b>	<b>semester hours</b>	<b>40.98</b>

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 and which has an office in London. 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 non-enrollment for a minimum of one term, 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 that placement to the College's Judicial Board by following the procedures outlined in the Student Academic Appeals Procedure, ES 262. Copies of this procedure are available in the Student Services Offices on all campuses.

## 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

- Skill Building/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.

## 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.

## 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.

# Program Requirements & Graduation

## 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 at Des Moines Area Community College is found in all degree and diploma programs. It is defined as that body of knowledge which contains skills relevant to the understanding and effective application of many fields. This includes written and oral communications, pure and applied science, mathematics, social and behavioral sciences, and humanities. The essential importance of general education remains a central principle in curriculum development at Des Moines Area Community College.

## 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 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.





# Program Requirements & Graduation

## 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)
- 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 as career changers for all stages of career planning. The CRC has up-to-date information about hundreds of occupations. There are many resources available in Iowa 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. Students with classes in Des Moines and Indianola should purchase their books at the Urban Campus bookstore. Mail orders from the Ankeny Campus bookstore are available for other off-campus courses. 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.

## Developmental Studies Program

The Developmental Studies 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 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 developmental 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, 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.

## Job Placement

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 Placement 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.cc.ia.us](http://www.library.dmacc.cc.ia.us). 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](http://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 oral 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. To access these services:

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 Accommodations
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 T. Quam Resources. 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 and Carroll 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. The Chamber Choir (MUSI 145) is selected by audition from the Concert Choir membership. Chamber Choir rehearses MWF from 12:40 PM until 1:15 PM. Both choirs sing a wide variety of music ranging from serious to pop selections. Concert Choir is a 2 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.

## 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 "Bear Facts" and on the Ankeny Campus students publish "The Chronicle." Publications emphasize news features, entertainment, sports, and college events. For additional information, contact the publications advisors 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, 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 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.





# Advanced Technology Center/Business Resources

## Advanced Technology Center

When students enroll at the Advanced Technology Center (ATC) they are taking an important step toward achieving and sustaining a higher quality of life. ATC graduates are employed as: computer systems engineers, engineers, computer network administrators, tool and die makers, safety engineers, quality engineers, computer aided design technologists, firefighters, manufacturing technologists, electronics systems technicians, automation and robotics technologists, self-employed machinists, and more! Our programs are listed in the program section of this catalog. In addition to credit offerings, the Advanced Technology Center (ATC) Continuing Education program offers evening and weekend programs in high tech areas - Microstation, Autocad, networking, UNIX, Fanuc CNC and other related tool and die programs. The ATC Continuing Education program also offers a full line of courses related to C language programming. ATC programming is designed to promote, operate, and apply state-of-the-market technology.

## Synerg.e™ Center

In business circles, the concept of Synergy has been defined as when the resulting "whole is greater than the sum of it's parts." In other words, the case of the true Synergy, 1+1 would equal 3. The collaboration between elements creates something much bigger than they worked together. Synergy is more than cooperation, though. It's about creating better solutions through empathic listening and enhanced understanding, courage to make changes and take risks, and genuine interaction and open communication between all types of people.

The Synerg.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 it, Des Moines Area Community College will focus on technology advancement in education through beta testing new and emerging technologies and their use in delivery of course content. The center will also provide needs-specific training and solve problems with established business partners.

## 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, Literature & the Arts; and Test 5, Math.

### GED Testing Centers

**DMACC Ankeny Campus**

**DMACC Boone Campus**

**DMACC Carroll Campus**

**DMACC Urban Campus**

**DMACC Newton Polytechnic Campus**

## GED 2002

Current candidates for a GED High School Equivalency diploma must successfully complete all five tests by December, 2001. After that date, all GED Testing Centers will be administering the 2002 edition of the tests. Scores from the current version of the GED tests cannot be combined or "converted to" scores on the new tests.

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 other services.

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.





# Continuing Education & Specialized Programs

## 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.org/distance/welcome.htm](http://www.dmacc.org/distance/welcome.htm) or call 515-964-6422.

## 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 Television, Iowa Communications Network (ICN), 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 courses throughout the district, including Ames, Indianola 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" and require students 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 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.



# Choosing 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. Circle 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.

## PERSONAL CAREER PROFILE

Values	Skills	School Subjects	Interests
The most important values for the work place are:	The skill areas I most like to use are:	The subjects I did well in and enjoy are:	The interest areas I enjoy most are:
To influence others	Reasoning	Office courses	People
To help others	Communicating	Math	Things (hands on)
To compete	Investigating	English	Data
To think creatively	Hands-on	Science	Ideas
To be flexible	Organizing	Social Sciences	Other _____
To acquire knowledge/skills	Managing	Fine Arts	
To be physically challenged	Analyzing	Computers	
To have power/prestige	Working with details	Business Courses	
To be financially secure	Initiating	Voc/Tech; i.e., construction, mechanics	
Other _____	Working under pressure	Family/Consumer Science	
	Working as a team	Foreign Language	
	Serving the customer	Other _____	
	Other _____		

**Other areas to consider are:**

Special awards received

Enjoyable work experience

Hobbies

Clubs and organizations

Special talents

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

My career profile is: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**STEP 2:** Complete the "Are You a Match?" activity found on the introductory page for each academic department included in this catalog. 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.

**STEP 3:** Schedule an appointment with the program counselor/advisor at the campus offering the program(s) that interest you. This appointment will provide you with more details about the program and its requirements and will help confirm your program choice.

**STEP 4:** Contact the counseling/advising staff at the campus you plan to attend for more in-depth career assistance if needed. The Ankeny and Urban Campuses can also provide additional resources and services through their Career Resource Centers.

# Educational Programs



# Arts & Sciences

## *Are you a match?*

This activity, "Are You a Match," lists statements describing several skills, values, and subjects that are important for individuals wanting general education. Check the statements that best describe you. Compare the results of this activity with the Personal Career Profile on page 36. If similar strengths and interests are identified, you may want to explore programs offered in this career field. Select the program of study that appears to meet most of the items marked in both activities.

Contact the campus offering the program(s) that interest you and make an appointment with the program advisor/counselor. This visit will provide you with more program details and will help confirm your program choice. If you find yourself still uncertain about your career path, DMACC's Counseling Center can provide more in-depth career planning assistance. To help you with further self-exploration, occupational exploration, decision-making and developing a plan of action, call the counselor/advisor at your campus. The Career Resource Center staff on the Ankeny and Urban Campuses can also provide resources to help you.

Are you intending to transfer to a four-year school? Are you trying to determine a career world that is best for you? Do you need knowledge in a broad area of studies?

### Check the activities that best describe you:

- 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**.

The Arts and Science curriculum at Des Moines Area Community College assists students in acquiring skills necessary for life-long learning. This curriculum allows students to meet the general education requirements for transfer to four-year colleges and universities. It may also prepare students for initial entry into an occupation, for advancement within their current occupation, or for a change in careers.

Des Moines Area Community College students have the option of completing an Associate in Arts degree or an Associate in Science degree. It is important that students work closely with a Des Moines Area Community College counselor or advisor to determine which degree option will meet their educational goals.

A third option for students is to earn the Associate in General Studies degree. This degree provides students an opportunity to select their coursework to meet specific educational goals and interests. It is important to note that the Associate in General Studies degree is generally not designed to meet college transfer requirements. Students wishing to complete an Associate in General Studies degree are encouraged to consult with a counselor or advisor in the Student Development Office for assistance in making appropriate course selection.

The Associate in Arts, Associate in Science, and the Associate in General Studies degree may be completed in two years as a full-time student.



# 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 developed jointly with DMACC 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 at DMACC a minimum of 1/3 of the semester credit hours applicable to the degree being pursued. No more than 43 transfer semester credit hours may be applied toward the degree.
- C. Complete the final 10 semester credit hours at DMACC (or petition 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 institute 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	PSCHE 101	General Psychology
GEOG 141	Intra to Geography	PSCHE 103	Developmental Psychology
GEOG 147	Developed World	PSCHE 104	Abnormal Psychology
GEOG 148	Third World	PSCHE 105	Social Psychology
HIST 121	Western Civilization Beg to 1715	PSCHE 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		

# Arts & Sciences

## 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
BIOL 126	Field Biology	MATH 115	Finite Mathematics
BIOL 127	Human Biology	MATH 118	Math for Elementary Educators
BIOL 141	Principles of Biology I	MATH 121	Elementary Statistics (OR BSAD152 Business Statistics)
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
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

## 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 Writer 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 A,B,C,D.

## 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

- Maintain a 2.0 grade point average on all work applicable to the AS degree.
- Earn at DMACC a minimum of 1/3 of the semester credit hours applicable to the degree being pursued. No more than 43 transfer semester credit hours may be applied toward the degree.
- Complete the final 10 semester credit hours at DMACC (or petition to the Credentials Office for an exception).
- Complete a minimum of 64 semester credit hours.
- 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
- 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 institute 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 & 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		



# Arts & Sciences

## 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	CHEM 161	Organic Chemistry I
BIOL 119	Environmental Conservation Lab (if student has credit for BIOL 118)	CHEM 162	Organic Chemistry II
BIOL 126	Field Biology	MATH 115	Finite Mathematics
BIOL 127	Human Biology	MATH 118	Math for Elementary Educators
BIOL 141	Principles of Biology I	MATH121	Elementary Statistics (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	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
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

## Humanities

**3 credits**

ARTS 101	Art Appreciation	JAPN 102	Elementary Japanese II
CHIN 101	Elementary Chinese I	JAPN 103	Intermediate Japanese I
CHIN 102	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
JAPN101	Elementary Japanese I		

## Distributed Requirement

**4 credits**

Select the remainder from any of the courses in categories A,B,C,D.

## 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 at DMACC a minimum of 1/3 of the semester credit hours applicable to the degree being pursued. No more than 43 transfer semester credit hours may be applied toward the degree.
- C. Complete the final 10 semester credit hours at DMACC (or petition 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 119	Technical and Business Writing
ENGL 117	Composition I	OFFC 205	Business English
ENGL 118	Composition II		



# Arts & Sciences

## Social and Behavioral Sciences/Humanities **3 Credits**

AGRI411	Agricultural Economics	LITR 120	Intra 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 (OR BSAD 152 Business Statistics)
BIOL 141	Principles of Biology I	MATH 122	Calculus for Business/Social Science
BIOL 142	Principles of Biology II	MATH 123	Trigonometry
BIOL 144	General Zoology	MATH 124	Precalculus
BIOL 147	Introduction to Botany	MATH 129	Calculus I
BIOL 149	General Microbiology	MATH 130	Calculus II
BIOL 154	General Anatomy and Physiology	MATH 132	Differential Equat/Laplace Trans
BSAD 152	Business Statistics (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 A, B, or C 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**



# Agricultural/Natural Resources

These programs are designed for students interested in careers in the rapidly expanding fields of agri-business, biotechnology, and commercial horticulture.

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, farm management or veterinary technician.

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, and related areas. This program prepares students for various careers from developing improved seed corn to using DNA testing technology in crime labs.

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.



## *Are you a match?*

This activity, "Are You a Match," lists statements describing several skills, values, and subjects that are important for individuals wanting general education. Check the statements that best describe you. Compare the results of this activity with the Personal Career Profile on page 36. If similar strengths and interests are identified, you may want to explore programs offered in this career field. Select the program of study that appears to meet most of the items marked in both activities.

Contact the campus offering the program(s) that interest you and make an appointment with the program advisor/counselor. This visit will provide you with more program details and will help confirm your program choice. If you find yourself still uncertain about your career path, DMACC's Counseling Center can provide more in-depth career planning assistance. To help you with further self-exploration, occupational exploration, decision-making and developing a plan of action, call the counselor/advisor at your campus. The Career Resource Center staff on the Ankeny and Urban Campuses can also provide resources to help you.

Are you intending to transfer to a four-year school? Are you trying to determine a career world that is best for you? Do you need knowledge in a broad area of studies?

### Check the activities that best describe you:

- 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?

# Agricultural/Natural Resources

## Degrees

### 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

#### 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
PSC101	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

### 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.

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.

#### Required Courses

AGRI209*	Soils Laboratory**	1
AGRI219	Soils and Fertilizers**	3
COMH441	Landscape Drafting	1
COMH450	Botany	3
COMH486	Horticulture Equip Safety/Maintenance	1
COMH488	Plant Materials I	2
COMS181	Intro to Computer Literacy	3
COMH410*	Introduction to Greenhouse	3
COMH437	Turf I**	2
COMH440	Landscape Design I	3
COMH454	Horticulture Internship I	3
COMH478	Plant Propagation I	3
COMH453	Landscape Design II	3
COMH457	Fruit and Vegetable Science	3
COMH458	Insects and Diseases	2
COMH489	Plant Materials II	2
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	3
AAS degree core science course		3

#### For the Turf Maintenance Emphasis the following course is required

COMH455	Turf II**	3
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#### For the Greenhouse Production Emphasis the following course is required

COMH490	Greenhouse Production Techniques	3
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# Agricultural/Natural Resources

## 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 Relations & Adj.	Opt3	3
ACCT301*	Accounting Fundamentals	Opt4	3
MKTG103*	Principles of Selling	Opt4	3
<i>Total minimum credits required for the Greenhouse Production emphasis</i>			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)

## 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 exams, 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

*NOTE: Des Moines Area Community College plans to offer the Associate of Applied Science and the diploma program beginning in the fall semester, 2003-04, pending approval from the Iowa Department of Education and the American Veterinary Medical Association.*

### 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

## Veterinary Technician

Veterinary technicians provide professional technical support to veterinarians, biomedical researchers and other scientists. As a vet tech, you will care for hospitalized animal patients; assist the doctor in surgery; perform physical exams, lab work and technical procedures (blood draws, IV placement); take health histories and X-rays; give and monitor anesthesia; provide client education; and perform reception duties. There will be opportunities to work with a variety of animals including dogs, cats, horses, cows, pigs, sheep, birds, snakes, guinea pigs, hamsters and rats.

Most Veterinary Technician graduates find work in small, mixed or large animal practices. Other opportunities exist in humane societies, animal shelters, zoos, specialty veterinary practices, pet shops, biological research labs, animal control agencies, veterinary teaching hospitals, and state and federal agencies.

An Associate of Applied Science (AAS) degree will be awarded to those students who successfully complete the Veterinary 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

*NOTE: Des Moines Area Community College plans to offer the Associate of Applied Science and the diploma program beginning in the fall semester, 2003-04, pending approval from the Iowa Department of Education and the American Veterinary Medical Association.*

### 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.

# Agricultural/Natural Resources

- 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.
- 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

## Certificates of Specialization

### 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





# Agricultural/Natural Resources

## 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

## 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

## 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

## 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 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

## 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

BIOL11B	Environmental Conservation	Opt1	3
COMH450	Botany	Opt1	3

# Art

## *Are you a match?*

This activity, "Are You a Match," lists statements describing several skills, values, and subjects that are important for individuals wanting general education. Check the statements that best describe you. Compare the results of this activity with the Personal Career Profile on page 36. If similar strengths and interests are identified, you may want to explore programs offered in this career field. Select the program of study that appears to meet most of the items marked in both activities.

Contact the campus offering the program(s) that interest you and make an appointment with the program advisor/counselor. This visit will provide you with more program details and will help confirm your program choice.

If you find yourself still uncertain about your career path, DMACC's Counseling Center can provide more in-depth career planning assistance. To help you with further self-exploration, occupational exploration, decision-making and developing a plan of action, call the counselor/advisor at your campus. The Career Resource Center staff on the Ankeny and Urban Campuses can also provide resources to help you.

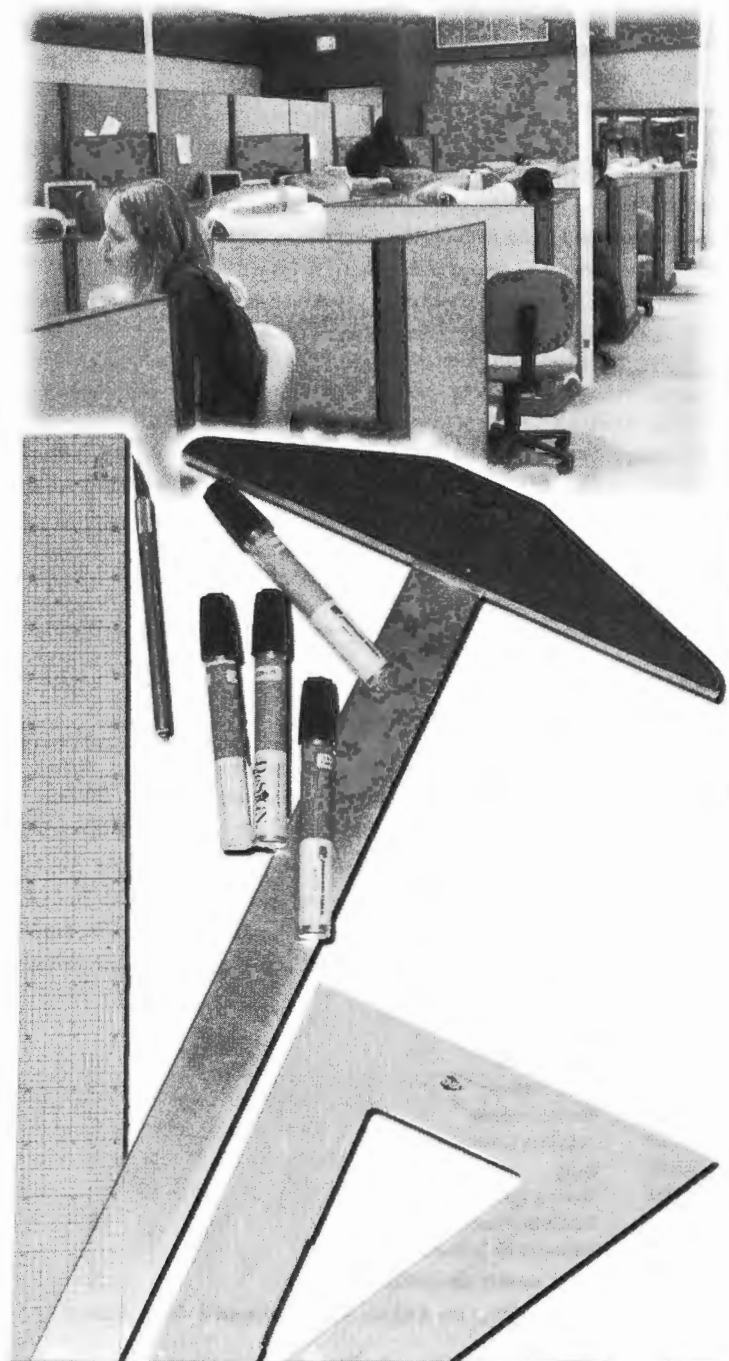
Are you intending to transfer to a four-year school? Are you trying to determine a career world that is best for you? Do you need knowledge in a broad area of studies?

Check the activities that best describe you:

- 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**

These programs provide students with the opportunity to gain experience in several media or to concentrate on a special area of interest. Instruction is offered in desktop publishing, design, typography and illustration, photography, printing, airbrush, lettering and copy preparation.

The development of portfolio quality work is stressed. When the program is completed, students may find employment in art studios, advertising agencies, in-house art departments, printing companies, publishing firms, and other businesses in need of creative communications.



# Art

## Degrees

### 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 photoediting 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
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#### 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**

# Art

## 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**

## Certificates of Specialization

### 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**

### 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**

### 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**

# Business & Information Management

The business curriculum is designed to help students develop critical thinking skills, communication skills, and technical and professional skills with an emphasis toward problem-solving and decision making. Programs offer two-year degrees leading to direct employment as well as degrees designed to transfer to a four-year college or university.



## *Are you a match?*

This activity, "Are You a Match," lists statements describing several skills, values, and subjects that are important for individuals wanting general education. Check the statements that best describe you. Compare the results of this activity with the Personal Career Profile on page 36. If similar strengths and interests are identified, you may want to explore programs offered in this career field. Select the program of study that appears to meet most of the items marked in both activities.

Contact the campus offering the program(s) that interest you and make an appointment with the program advisor/counselor. This visit will provide you with more program details and will help confirm your program choice. If you find yourself still uncertain about your career path, DMACC's Counseling Center can provide more in-depth career planning assistance. To help you with further self-exploration, occupational exploration, decision-making and developing a plan of action, call the counselor/advisor at your campus. The Career Resource Center staff on the Ankeny and Urban Campuses can also provide resources to help you.

Are you intending to transfer to a four-year school? Are you trying to determine a career world that is best for you? Do you need knowledge in a broad area of studies?

### Check the activities that best describe you:

- 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**

# Business & Information Management

## Diplomas and Degrees

### 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

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

#### Graduation Requirements

To earn an Accounting and Bookkeeping diploma, a student must complete the requirements for the degree, 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

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

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

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

### 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

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





# Business & Information Management

## 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 a 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

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

#### Term 2

ACCT102	Principles of Accounting II	4
ACCT351	Financial Accounting/Computers	3
ACCT411	Payroll Accounting	3
ACCT430	Accounting Procedures	4
ENGL11B	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

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

# Business & Information Management

## 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

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

## Term 4--Select 1 Course From Option 3

ACCT103	Intermediate Accounting I	4
ACCT203	Cost Accounting	4
BUSL101	Business Law I	Opt3 3
ECON101	Principles of Macroeconomics	Opt3 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 4

ACCT206	Income Tax	3
ACCT312	Accounting Information Systems	4
ACCT352	EXCEL for Accounting Principles	3
MGMT203	Human Relations in Business	Opt4 3
PSCH101	General Psychology	Opt4 3
ECON102	Principles of Microeconomics	Opt4 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.

### 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

# Business & Information Management

## 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

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
BSAD226	Principles of Real Estate	Opt1	3
BSEN229	Small Business Management	Opt1	3
BUSL102	Business Law II	Opt1	3
MGMT102	Introduction to Management	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
DATE318	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

# Business & Information Management

## 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**

## 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 I	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
DATA321	Assembler/Intermediate	4
DATA334	Applications Programming	6
DATA341	Introduction to Databases	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** **73**

## 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



# Business & Information Management

## 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*	Intra To Desktop Publishing	Opt4	3
COMS181	Intra 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

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

## Elective Courses

Electives	5-6
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**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 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

## 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**

## 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.

### Elective Courses

Electives	5-6
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**Total minimum credits required to complete this program** **72**

# Business & Information Management

## Management Information Systems (MIS)

The Management Information Systems (MIS) program is designed to allow students to transfer to a four-year program and additionally qualifies the students for positions as programmers and programmer analysts. The program emphasizes business applications programming. The student studies several programming languages, various levels of operating systems, various types of computer systems, and the peripheral equipment available in the field.

**Location:** Ankeny, Boone, Newton, Urban

Selected courses in this program are offered at other campuses.

### Program Entry Requirements

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

### Graduation Requirements

To earn a Management Information Systems (MIS) AS degree, a student must complete all course work as prescribed and maintain a 2.0 grade point average.

### Required Courses

Complete AS Degree Core Requirements	28
ACCT101 Principles of Accounting I	4
ACCT351 Financial Accounting/Computers	3
BSAD150 Intro to Business	3
BSAD152 Business Statistics	4
COMS111 Computers and Program Logic	3
COMS125 Business Programming COBOL I	3
COMS126 Business Programming COBOL II	4
COMS181 Intro to Computer Literacy	3
DATA103 Visual BASIC Programming	3
DATA382 Systems Analysis	4
MATH115 Finite Mathematics	4

### Option Courses—Select 1 Course From Option 1

COMS112 Computers and Programming II	Opt1	3
DATA104 Advanced Visual BASIC	Opt1	3
DATA110 Computer Network Literacy	Opt1	3
DATA231 RPG/II	Opt1	3

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

## 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
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**Total minimum credits required to complete this program** 70



# Business & Information Management

## 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	3	Opt1
SPCH117	Interpersonal & Small Group Comm	3	Opt1

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

## 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**

# Business & Information Management

## 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

## 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.

### 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



# Business & Information Management

## 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.*

### 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.*

### 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

# Business & Information Management

## 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*

## 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.*

## 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*

## 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
PSCH10	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.

# Business & Information Management

## 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 Act/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/SQL: 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.*

## 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.*

## 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.*

## 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

# Health

## *Are you a match?*

This activity, "Are You a Match," lists statements describing several skills, values, and subjects that are important for individuals wanting general education. Check the statements that best describe you. Compare the results of this activity with the Personal Career Profile on page 36. If similar strengths and interests are identified, you may want to explore programs offered in this career field. Select the program of study that appears to meet most of the items marked in both activities.

Contact the campus offering the program(s) that interest you and make an appointment with the program advisor/counselor. This visit will provide you with more program details and will help confirm your program choice. If you find yourself still uncertain about your career path, DMACC's Counseling Center can provide more in-depth career planning assistance. To help you with further self-exploration, occupational exploration, decision-making and developing a plan of action, call the counselor/advisor at your campus. The Career Resource Center staff on the Ankeny and Urban Campuses can also provide resources to help you.

Are you intending to transfer to a four-year school? Are you trying to determine a career world that is best for you? Do you need knowledge in a broad area of studies?

Check the activities that best describe you:

- 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

Programs provide opportunities for students to address the various health care needs of individuals, families and communities. Students receive theoretical preparation in the classroom as well as practical clinical experience.

Careers available include dental assistant or hygienist in private dental offices, group practices or clinics; medical assistant or medical laboratory technician in private medical offices, clinics or labs; nurse; and respiratory therapist in hospitals, clinics or home health care agencies. All Health Service programs are fully accredited and lead to appropriate certification.





# Health

## Diplomas and Degrees

### 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	Preclinical 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
<b>Total credits required to complete this program</b>		<b>47</b>

### 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 General Chemistry I 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).

*NOTE: Students must send their final grade report to the Admissions office upon successful completion of Intro to General Chemistry and General Anatomy and Physiology.*

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 complete all course work as prescribed and maintain a 2.0 grade point average. Continuation in the program is dependent on achieving a grade of "C" or better in all DENH courses and maintaining a minimum cumulative grade point average of 2.0 in the program.

#### 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**

# Health

## 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, 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

### 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

## 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 Skills Opt 1	Opt 1	3

### 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**

# Health

## 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). 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
MLTS400	Intro to Medical Laboratory	6
PSCH101	General Psychology	3
Term 2		
BIOL132	Health Science Microbiology	4
CHEM132	Intro to Organic/Biochemistry	4
ENGL117	Composition I	3
MLTS411	Hematology	6
Term 3		
MLTS442	Immunohematology	5
MLTS450	Clinical Practicum I	2
SPCH110	Fundamentals of Speech	3
Term 4		
MLTS422	Clinical Chemistry	8
MLTS431	Clinical Microbiology	6
MATH	Any 100 level MATH	3-5
Term 5		
MLTS455	Clinical Practicum II	12
MLTS460	Clinical Seminar	1
MLTS461	Medical Laboratory Review	1
MLTS463	Professional Development	1
<b>Total credits required to complete this program</b>		<b>77</b>

## 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.

#### 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

# Health

## 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**

# Health

## Associate Degree Nursing

(Curriculum beginning Fall Term 2000)

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**

## 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:

- 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**

# Health

## Certificates of Specialization

### 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
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### 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
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



# Health

## 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

## 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		
<i>The following two courses:</i>		
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

## 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.

### Required Course

PHLE310	Phlebotomy with Practicum	4
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## 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

# Hospitality

## *Are you a match?*

This activity, "Are You a Match," lists statements describing several skills, values, and subjects that are important for individuals wanting general education. Check the statements that best describe you. Compare the results of this activity with the Personal Career Profile on page 36. If similar strengths and interests are identified, you may want to explore programs offered in this career field. Select the program of study that appears to meet most of the items marked in both activities.

Contact the campus offering the program(s) that interest you and make an appointment with the program advisor/counselor. This visit will provide you with more program details and will help confirm your program choice.

If you find yourself still uncertain about your career path, DMACC's Counseling Center can provide more in-depth career planning assistance. To help you with further self-exploration, occupational exploration, decision-making and developing a plan of action, call the counselor/advisor at your campus. The Career Resource Center staff on the Ankeny and Urban Campuses can also provide resources to help you.

Are you intending to transfer to a four-year school? Are you trying to determine a career world that is best for you? Do you need knowledge in a broad area of studies?

### Check the activities that best describe you:

- 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

Programs prepare students for service in the broad-based hospitality industry, which encompasses hotels, motels, clubs, and restaurants. Career opportunities are excellent as nearly one out of every 10 jobs in the U.S. is related to the hospitality industry.

Course work in all three programs emphasizes communications, human relations, and other practical job skills. Positions filled by graduates range from guest services clerk and night auditor (hospitality business) to garde manager and chef (culinary arts).



# Hospitality

## Diplomas and Degrees

### 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/Buffer Decorations	2
CULA451	Culinary Cuisine Lab	4
CULA452	Advanced Culinary Cuisine	2
HRMT367	Beverage Seminar	2

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

### 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**

# Hospitality

## Hotel and Restaurant Management

The Hotel & 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 & 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**

# Industrial Technology

The Industrial Technology curriculum prepares graduates for an ever-changing work place by teaching essential technical skills in a wide range of areas. Extensive laboratory experiences are provided to reinforce classroom theory and to help develop skills that ensure occupational competency.

Employment outlook for program graduates is very good.



## Are you a match?

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Contact the campus offering the program(s) that interest you and make an appointment with the program advisor/counselor. This visit will provide you with more program details and will help confirm your program choice.

If you find yourself still uncertain about your career path, DMACC's Counseling Center can provide more in-depth career planning assistance. To help you with further self-exploration, occupational exploration, decision-making and developing a plan of action, call the counselor/advisor at your campus. The Career Resource Center staff on the Ankeny and Urban Campuses can also provide resources to help you.

Are you intending to transfer to a four-year school? Are you trying to determine a career world that is best for you? Do you need knowledge in a broad area of studies?

Check the activities that best describe you:

- 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

# Industrial Technology

## Diplomas and Degrees

### 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.

#### 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	3
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** 42

### 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 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

### 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.



# Industrial Technology

## 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
<b>Total credits required to complete this program</b>		<b>73</b>

## ASSET - Ford

The Automotive Student Service Education 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
<b>Total credits required to complete this program</b>		<b>73</b>

## 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
<b>Total credits required to complete the diploma</b>		<b>46</b>

## 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
<b>Total credits required to complete the AAS degree</b>			<b>73</b>



# Industrial Technology

## 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 World-Transportation Trades	2
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**Total credits required for the Auto Mechanics AAS degree** 74

## 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

## 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.

# Industrial Technology

## 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
<b>Total credits required to complete this program</b>		<b>74</b>

## 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
<b>Total credits required to complete AAS degree</b>		<b>80</b>

## 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
<i>With faculty approval, students may take the following in place of CET-405:</i>		
CET-407	Field Orientation	2
<i>and</i>		
MGMT203	Human Relations in Business	3
<i>or</i>		
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**

# Industrial Technology

Industrial Technology

## 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 that 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**

## 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**

## 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 MATH092 or ELHT313, or an equivalent course.

Students start fall term.

# Industrial Technology

## 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		
ELHT314	Circuit Analysis I	5
ELHT316	Circuit Analysis I Lab	3
ELHT315	Fabrication Techniques	3
ELHT323	Technical Math II	3
ENGL410	Communication Skills	3

Term 2—Select 1 Course from Option 1		
ELHT332	Digital Electronics	3
ELHT364	Digital Electronics Lab	3
ELHT331	Circuit Analysis II	3
ELHT363	Circuit Analysis II Lab	3
ELHT346	Microcomputer Operating Systems	3
MGMT203	Human Relations in Business	Opt1 3
PSCH101	General Psychology	Opt1 3
SOCY101	Introduction to Sociology	Opt1 3

Term 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

## 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

## 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

# Industrial Technology

## 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 microprocessors for programming and servo control.

The curriculum includes both the fundamental technologies and system applications. Upon program completion students may seek employment with area manufacturers maintaining plant equipment or with companies that produce process control or robotic devices.

**Location:** Ankeny

### Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required information/registration session. High school algebra or equivalent is recommended. 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

ELHT314	Circuit Analysis I	5
ELHT316	Circuit Analysis I Lab	3
ELHT315	Fabrication Techniques	3
ELHT313	Technical Math I	3

#### Term 2

ELHT331	Circuit Analysis	3
ELHT363	Circuit Analysis II Lab	3
ELHT323	Technical Math II	3
ELHT324	Computer Programming	3
ELHT330	Digital Circuits	2
ELHT362	Digital Circuits Lab	2

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

ELHT346	Microcomputer Operating Systems	3
ENGL410*	Communication Skills	3
SOCY101	Introduction to Sociology	Opt1 3
PSCH101	General Psychology	Opt1 3
PSCH106	Psychology of Human Relations & Adj	Opt1 3
MGMT203	Human Relations in Business	Opt1 3

#### Term 4-Select 1 Course from Option 2

ELHT340	Microprocessors	3
ELHT341	Microprocessors Lab	5
HTPC358	Motor Controls	3
ITNA310	Intro to CISCO Networking I	4
BSAD150	Intro to Business	Opt2 3
BUSL101	Business Law I	Opt2 3
ECON101	Principles of Macroeconomics	Opt2 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
HTPC360	Industrial Electronics	2

#### Term 6

CIM-404	Robotics	2
CIM-413	Introduction to FMS Cell	3
HTPC363	Mechanisms	2
HTPC364	Mechanisms Lab	2

**Total credits required to complete this program 81**

## 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

BDM330	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
SPCH11	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 76**



# Industrial Technology

## Information Technology

The Information Technology program is designed to be a flexible technology degree. All students will have a base of technology courses and will then choose from a variety of technology areas such as telecommunications, computer programming, internet training and network administration to build their degrees to the specifications of personal and corporate needs. The degree allows for easy upgrade and adaptability as technology changes over short periods of time.

### Campuses where program is offered: Ankeny, 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 fall term.

### Graduation Requirements

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

### Required Courses

AAS Degree Core Communications Requirement	3
AAS Degree Core Social & Behavioral Science/Humanities	3
COMS111 Computers & Program Logic	3
COMS181 Intro to Computer Literacy	3

### MATH Requirement:

Select the Option 1 Courses, or the Option 2 Courses, or the Option 3 Courses

ELHT313* Technical Math I	Opt1	3
ELHT323* Technical Math II	Opt1	3

ELHT313 and 323 are required for the Telecommunications Emphasis Plan and the Networking Emphasis Plan

MATH410 Math for Technicians I	Opt2	3
MATH411 Math for Technicians II	Opt2	3

MATH410 and 411 are required for the Internet Technology Emphasis Plan

MATH115 Finite Mathematics	Opt3	4
MATH121 Elementary Statistics	Opt3	4

MATH115 and 121 are required for the Programming/Applications Emphasis Plan

Select 1 Course from Option 4

COOP220 Career Seeking Skills	Opt 4	2
COOP301 Portfolio Development	Opt 4	1

Select a Minimum of 6 Credits from Option 5

ACCT101 Principles of Accounting I	Opt 5	4
ACCT301 Accounting Fundamentals	Opt 5	3
BSAD150 Introduction to Business	Opt 5	3
MKTG102 Principles of Marketing	Opt 5	3

In addition to the required and option courses listed above, students must select a minimum of 21 credits from one of the following emphasis plans:

### Telecommunications Emphasis Plan

ELEM451 DC & AC Fundamentals	3
ELEM452 DC & AC Fundamentals Lab	3
ELEM462 Digital Electronics	3
ELEM463 Digital Electronics Lab	3
TELE410 Telecommunications I	3
TELE411 Telecommunications Experience I	4

### Networking Emphasis Plan

ELHT324 Computer Programming	3
ITNA310 Networking Technologies	4
ITNA330 Networking Applications	4
ITNA332 Networking Applications Lab	2
ELHT346 Microcomputer Operating Systems	3
HTCT364 Microcomputer Systems (A+)	3
ITNA320 Technology Implementation	3

ELHT332 Digital Electronics	3
ELHT364 Digital Electronics Lab	3

*It is strongly recommended that all course be taken for this emphasis plan.*

### Internet Technology Emphasis Plan

DATA309 COBOL on the World Wide Web	3
COMS301 Intro to JAVA Programming	3
COMS303 E-Commerce Scripting Languages	3
BSEN305 E-Commerce on the Web	3
BSEN306 E-Commerce Website I	3
BSEN307 E-Commerce Website II	3
LIBS123 Internet Research Techniques	1
MKTG305 Internet Marketing	3

### Programming/Applications Emphasis Plan

DATA110 Computer Network Literacy	3
DATA103 BASIC	3
DATA104 BASIC-Advanced	3
DATA106 Microcomputers in Business	3
DATA309 COBOL on the World Wide Web	3
COMS125 Business Programming COBOL I	3
COMS126 Business Programming COBOL II	4
COMS301 JAVA Programming	3
DATA318 Intro to C++ Programming	3
DATA320 Advanced C++ Programming	3

To complete this AAS degree, additional courses should be chosen from any of the emphasis plans for a minimum of 64 credits.

## Information Technology Network Administration

The ITNA program will provide students with a foundation in the basic technologies of computer networking, both as an objective and measurable skill set, as well as a preface to certification. 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.

### 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 MATH092 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

ELHT332 Digital Electronics	3
ELHT364 Digital Electronics Lab	3
ELHT346 Microcomputer Operating Systems	3
ELHT323 Technical Math II	3
MGMT203 Human Relations in Business	Opt1 3
PSCH106 Psychology of Human Relations & Adjustment	Opt1 3



# Industrial Technology

## Term 2

HTCT364	Microcomputer Systems	3
ITNA310	Intro to CISCO Networking I	4
ELHT324	Computer Programming	3
ENGL410*	Communication Skills	3
ECON101	Principles of Macroeconomics	3

## Term 3

ITNA320	Advanced CISCO Networking II	3
ITNA330	Network Applications	4
ITNA332	Network Applications Lab	2

### For MCSE Specialization students must complete the following:

**Term 4—** In addition to the required courses, students must select a minimum of 2 credits from the list of Option 2 Courses or the Novell required specialization courses. By choosing to take the two CSCO courses listed in Option 2, students may also earn CISCO certification.

#### Required Courses:

MCSE305	Implementing Network Infrastructure	3
MCSE310	MS Windows Professional/Server	5
MCSE320	Implementing Directory Services	3

**Term 5—** Select a minimum of 12 credits from Option 2 Courses (listed below) or the Novell required specialization courses to total at least 65 credits for program completion.

### For NOVELL Specialization, students must complete the following:

**Term 4...** In addition to the required courses, students must select a minimum of 9 credits from the list of Option 2 Courses or the MCSE required specialization courses. By choosing to take the two CSCO courses listed in Option 2, students may also earn CISCO certification.

#### Required Courses:

NECP351	Netware 5 Administration	2
NECP352	Netware 5 Advanced Administration	2

**Term 5—** In addition to the required courses, students must select a minimum of 9 credits from Option 2 or the MCSE required specialization courses to total at least 65 credits for program completion.

#### Required Courses

NECP344	Netware 4.x Design Implementation	2
NECP346	Novell Services and Support	2

#### Option 2 Courses

CSC0340	CISCO Networking III	Opt2	4
CSC0350	CISCO Networking IV	Opt2	4
MCSE312	Designing MS Directory Services	Opt2	2
MCSE314	Designing Security for MS Net	Opt2	2
MCSE316	Designing MS Net Infrastructure	Opt2	2
MCSE318	Upgrading from Windows NT 4.0	Opt2	3
MCSE345	Supporting Windows 9.x	Opt2	3
MCSE375	Implementing an SQL Database	Opt2	3

#### Web Development I

NECP301	Internet Business Strategies	Opt2	1
NECP302	Mastering the Net/ Netscape	Opt2	1
NECP303	Web Authoring Publishing	Opt2	1

#### Web Development II

NECP304	Advanced Web Authoring	Opt2	1
NECP305	Designing Effective Websites	Opt2	1
NECP308	Web Server Management	Opt2	1
NECP306	Java Programming	Opt2	2
NECP307	Advanced Java Programming	Opt2	2
NECP314	Securing Intranets	Opt2	2

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 the Advanced Technology Center at DMACC, 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.

#### 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



# Industrial Technology

<b>Term 5</b>		
BPQI411	Measuring Devices - SPC	1
CADD402	Intermediate CADD-Mechanical	3
CIM-403	Introduction to CAD/CAM	3
HTPC382	Control System Overview	2
MATH411	Mathematics for Technicians II	3
SFTY301	Introduction to Safety Science	3
<b>Total minimum credits required to complete the AAS degree</b>		<b>67</b>

## 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**

## 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 the Advanced Technology Center at DMACC, 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

MFGT41B	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
CIM-403	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**

# Industrial Technology

## 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**

## 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.

### 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**

# Industrial Technology

## Diemaking

### Required Courses

CADD401*	Intro 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

## 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

## Certificates of Specialization

### 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

### 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

# Industrial Technology

## 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
<i>These credits are applicable to the diploma in Welding</i>		

### 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
<i>These credits are applicable to the diploma in Welding</i>		

### Gas Tungsten Arc Welding

WELD493	Gas Tungsten Arc Welding	2
<i>These credits are applicable to the diploma in Welding</i>		

### Blueprint Reading

WELD481*	Blueprint Reading	3
<i>These credits are applicable to the diploma in Welding</i>		

### 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
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# 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

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

# Public & Human Services

Programs prepare students for direct employment in a variety of public service fields or for further study at a four-year institution.

When programs are completed, students find work in day care centers and preschools (child development); corrections facilities (criminal justice); municipal fire departments (fire science); treatment centers, group homes and state or county departments of social services (human services); private law firms (legal assistant); and health spas, YMCAs-YWCAs, retirement communities and public and private institutions (leisure studies).



## *Are you a match?*

This activity, "Are You a Match," lists statements describing several skills, values, and subjects that are important for individuals wanting general education. Check the statements that best describe you. Compare the results of this activity with the Personal Career Profile on page 36. If similar strengths and interests are identified, you may want to explore programs offered in this career field. Select the program of study that appears to meet most of the items marked in both activities.

Contact the campus offering the program(s) that interest you and make an appointment with the program advisor/counselor. This visit will provide you with more program details and will help confirm your program choice.

If you find yourself still uncertain about your career path, DMACC's Counseling Center can provide more in-depth career planning assistance. To help you with further self-exploration, occupational exploration, decision-making and developing a plan of action, call the counselor/advisor at your campus. The Career Resource Center staff on the Ankeny and Urban Campuses can also provide resources to help you.

Are you intending to transfer to a four-year school? Are you trying to determine a career world that is best for you? Do you need knowledge in a broad area of studies?

### Check the activities that best describe you:

- 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

# Public & Human Services

## Diplomas and Degrees

### 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**

Complete AA Degree Core Requirements		48
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

**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	Opt1	3
CRIM236	Internship	Opt1	3
CRIM255	Scientific Investigation I	Opt1	3
CRIM273	Introduction to Security	Opt1	3
CRIM275	Scientific Investigation II	Opt1	3
CRIM285	Criminal Justice Ethics	Opt1	3

**Total minimum credits required to complete the AA degree 72**

**AS Degree**

**Required Courses**

Complete AS Degree Core Requirements		28
<i>(ENGL117, 118 and 119 are required for this AS degree)</i>		
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	Opt1	3

CRIM255	Scientific Investigation I	Opt1	3
CRIM273	Introduction to Security	Opt1	3
CRIM275	Scientific Investigation II	Opt1	3
CRIM285	Criminal Justice Ethics	Opt1	3

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

### Early Childhood Education

The Early Childhood Education program prepares students for careers working with children. By the end of the program, they can assume a position of responsibility in early childhood education.

Course work includes instruction in human development, observation and guidance techniques, curriculum planning, nutrition, and emergency care.

Students will have the opportunity each term to participate in the Des Moines Area Community College Day Care Center and will also complete a practicum for one-half of a term in a community child care program.

When course work is completed, students will be qualified to work in day care centers, preschools, or public and private schools working with infants, preschoolers, or school-aged children. This program also allows a graduate to become a nanny or day care home provider. 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 Exp for Early Childhood Programs	2
CHLD214	Curriculum for Preschool Children	3
CHLD240*	Emergency Care	1
CHLD410	Student Participation I	3
		<b>Total 16</b>

**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
		<b>Total 18</b>	

**Total credits required to complete this program 34**



# Public & Human Services

## Early Childhood Education-Associate

The Child Development Associate program is designed to build on those skills developed in the Child Development 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 Child Development diploma program plus the additional requirements listed will earn a Child Development 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 a Child Development AS Degree, a student must complete the standard core requirements for the degree plus the Child Development 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
	<b>Total</b>	<b>16</b>

### 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
	<b>Total</b>	<b>12</b>

### 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
<b>Total minimum credits required to complete this program</b>	<b>64</b>

## 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 7-9 Credits from Option 6

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



# Public & Human Services

## 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**

## 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.)*

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

# Public & Human Services

## Certificates of Specialization

### 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

### 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

# 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.

<b>Course</b> —	ACCT203	
<b>Course Name</b> —	Cost Accounting	
<b>Course Description</b> —	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

**Credits**  
**Lecture Hours**  
**Lab Hours**  
**Practicum Hours**  
**Course Type**

**Pre or Corequisites**

### 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

Development and remedial courses. Adaptor courses cannot be used to fulfill degree requirements.

### (P/F)

Indicates courses taken pass/fail.

### Prerequisites

Successful completion of a course or other criterion necessary for a student to succeed in a higher level course.

### Corequisites

A course that must be taken concurrently with or prior to the course.

**\*An instructor may deny enrollment in or drop a student from a specific course if the course prerequisite has not been met.**

**\*\* 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 0**  
**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 ACCT courses* *Corequisite: ACCT404*

**ACCT403**      **3 0 0 0 0**  
**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 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 ACC credit courses; permission of the department and demonstrable job readiness with computer literacy.* *Corequisite: ACCT403*

# 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, husbandry 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

<b>AGRI354</b> <b>Veterinary Radiology</b> This course is designed to introduce the student to radiologic imaging. Topics include safety, patient positioning, processing of film, proper machine use and quality control. <i>Prerequisite: AGRI353</i>	<b>2 2 0 0 0</b> <b>Voc/Tech</b>	<b>ANTH121</b> <b>Cultural Anthropology</b> 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.	<b>3 3 0 0 0</b> <b>Core</b>	<b>ARCH472</b> <b>Construction Estimating</b> An orderly process of accounting for the items involved in the construction project.	<b>2 2 0 0 0</b> <b>Voc/Tech</b>	<b>ASDN226</b> <b>Nursing Practice II</b> 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. <i>Prerequisite: BIOL132, 134, ENGL117, NURS224, 225, SPCH117</i>	<b>2 1 2 0 0</b> <b>Open</b>
<b>AGRI411</b> <b>Agricultural Economics</b> A study of economic principles and the application of these principles to the distribution of agricultural supplies.	<b>3 3 0 0 0</b> <b>Voc/Tech</b>	<b>ARCH410</b> <b>Architectural Drafting I</b> An introduction to drafting and related equipment, along with a preliminary look at construction drawings and building codes.	<b>2 2 0 0 0</b> <b>Voc/Tech</b>	<b>ARCH473</b> <b>Building Assemblies I</b> 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.	<b>2 2 0 0 0</b> <b>Voc/Tech</b>	<b>ASDN227</b> <b>Family Health Nursing</b> Provides an in-depth study of pregnancy and its complications, the high risk infant, acute and chronic illnesses of children and young adults. The student participates in health care in a variety of traditional and community-based settings. <i>Prerequisite: BIOL132, 134, ENGL117, NURS224, 225, SPCH117, COREQUISITES: ASDN226</i>	<b>5 3 0 6 0</b> <b>Open</b>
<b>AGRI421</b> <b>Chemical Technology</b> Common features of pests, methods of control, how pesticides work, pesticide labels, application equipment, calibration, laws and regulation governing pesticide use.	<b>3 3 0 0 0</b> <b>Voc/Tech</b>	<b>ARCH420</b> <b>Architectural Drafting II</b> Complete sets of residential working drawings involving plans, elevations, sections, details, and schedules will be developed. <i>Prerequisite: ARCH410</i>	<b>2 2 0 0 0</b> <b>Voc/Tech</b>	<b>ARCH475</b> <b>Technical Report &amp; Specs</b> 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.	<b>2 2 0 0 0</b> <b>Voc/Tech</b>	<b>ASDN228</b> <b>Adult and Older Adult Health</b> 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. <i>Prerequisite: BIOL132, 134, ENGL117, NURS224, 225, SPCH117, COREQUISITES: ASDN226</i>	<b>5 3 0 6 0</b> <b>Open</b>
<b>AGRI430</b> <b>Agribusiness Internship I</b> 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. <i>Prerequisite: AGRI204 or AGRI206</i>	<b>2 0 0 0 8</b> <b>Voc/Tech</b>	<b>ARCH460</b> <b>Architectural Drafting Lab I</b> Practical application of the basic skills of drafting involving the mechanics and the necessary thought process in developing a set of residential drawings.	<b>3 0 6 0 0</b> <b>Voc/Tech</b>	<b>ARTS101</b> <b>Art Appreciation</b> 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.	<b>3 3 0 0 0</b> <b>Core</b>	<b>ASDN229</b> <b>Mental Health Nursing</b> 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. <i>Prerequisite: BIOL132, 134, ENGL117, NURS224, 225, SPCH117, COREQUISITES: ASDN226</i>	<b>5 3 0 6 0</b> <b>Open</b>
<b>AGRI431</b> <b>Veterinary Assistant Internship</b> Students will have the opportunity to experience through participation an internship in a veterinarian related business. <i>Prerequisite: AGRI340, 341</i>	<b>1 0 0 0 4</b> <b>Voc/Tech</b>	<b>ARCH461</b> <b>Architectural Drafting Lab II</b> Practical application of architectural CAD techniques necessary to develop a set of residential drawings. <i>Prerequisite: ARCH460</i>	<b>3 0 6 0 0</b> <b>Voc/Tech</b>	<b>ARTS102</b> <b>Fundamentals of Drawing</b> 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.	<b>3 0 6 0 0</b> <b>General</b>	<b>ASDN230</b> <b>Nursing Management</b> 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. <i>Prerequisite: ASDN226, 227, 228, 229, SOCY101</i>	<b>3 1 0 6 0</b> <b>Open</b>
<b>AGRI432</b> <b>Veterinary Technician Internship</b> Internship experience within a veterinarian related business with emphasis on animal care procedures. <i>Prerequisite: AGRI348, 431</i>	<b>3 0 0 0 12</b> <b>Voc/Tech</b>	<b>ARCH462</b> <b>Architectural Drafting III</b> Commercial building drawings will be developed in CAD. <i>Prerequisite: ARCH420</i>	<b>2 2 0 0 0</b> <b>Voc/Tech</b>	<b>ARTS103</b> <b>Life Drawing</b> Drawing and painting a live model. Emphasis on structure, movement and expression.	<b>3 0 6 0 0</b> <b>General</b>	<b>ASDN231</b> <b>Nursing Seminar</b> 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. <i>Prerequisite: ASDN226, 227, 228, 229, SOCY101</i>	<b>3 1 0 6 0</b> <b>Open</b>
<b>AGRI436</b> <b>Grain Management</b> 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.	<b>2 2 0 0 0</b> <b>Voc/Tech</b>	<b>ARCH463</b> <b>Architectural Drafting Lab III</b> Involvement in the practical drawing of commercial buildings using architectural CAD techniques. <i>Prerequisite: ARCH461</i>	<b>3 0 6 0 0</b> <b>Voc/Tech</b>	<b>ARTS104</b> <b>Fundamentals of Painting</b> Acrylic painting with emphasis on still life, landscape and individual composition.	<b>3 0 6 0 0</b> <b>General</b>	<b>ASEP312</b> <b>Specialized Electronics Training</b> 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. <i>Prerequisite: Admission to Automotive Service Educational Program</i>	<b>4 3 2 0 0</b> <b>Voc/Tech</b>
<b>AGRI455</b> <b>Agribusiness Internship II</b> 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. <i>Prerequisite: AGRI430</i>	<b>2 0 0 0 8</b> <b>Voc/Tech</b>	<b>ARCH464</b> <b>Construction Techniques I</b> An introduction to building materials through the Construction Specification Institutes' accounting and management systems.	<b>2 2 0 0 0</b> <b>Voc/Tech</b>	<b>ARTS105</b> <b>Art in the Elementary School</b> Designed for students in Education and Recreation to assist them with design, construction, and planning of multi-art forms and materials for instructional situations.	<b>3 2 2 0 0</b> <b>General</b>		
<b>ANTH120</b> <b>Introduction to Anthropology</b> 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.	<b>3 3 0 0 0</b> <b>Core</b>	<b>ARCH465</b> <b>Building Assemblies II</b> 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. <i>Prerequisite: ARCH473</i>	<b>2 2 0 0 0</b> <b>Voc/Tech</b>	<b>ARTS109</b> <b>Design: Exploring Art Media</b> 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.	<b>3 3 0 0 0</b> <b>General</b>		
		<b>ARCH470</b> <b>Construction Techniques II</b> An ongoing look into the Construction Specification Institute's system of categorizing building materials. <i>Prerequisite: ARCH464</i>	<b>2 2 0 0 0</b> <b>Voc/Tech</b>	<b>ARTS111 - Adjunct ***</b> <b>Landscape Painting</b> 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.	<b>3 0 6 0 0</b> <b>General</b>		
		<b>ARCH471</b> <b>Construction Techniques III</b> Complete the Construction Specification Institute's uniform system of design. <i>Prerequisite: ARCH470</i>	<b>3 3 0 0 0</b> <b>Voc/Tech</b>				

# Course Descriptions

<b>ASEP317</b> <b>GM Shop Fund &amp; Minor Service</b> 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. <i>Prerequisite: Admission to Automotive Service Educational Program</i>	<b>3 2 2 0 0</b> <b>Voc/Tech</b>	<b>ASEP337</b> <b>GM Tune-Up Proc &amp; Emission Con</b> Diagnosis and service of microprocessor controlled fuel and ignition systems. Oscilloscopes, engine analyzers, digital meters and other high technology instruments will be used. <i>Prerequisite: ASEP336</i>	<b>4 3 2 0 0</b> <b>Voc/Tech</b>	<b>ASST320</b> <b>Technical Internship I</b> Work experience at a sponsoring dealership. The tasks will be consistent with the technician's ability and previous course work. <i>Prerequisite: Admission to Automotive Student Service Ed Training, ASST312, 317</i>	<b>3 0 0 0 18</b> <b>Voc/Tech</b>	<b>ASST344</b> <b>Ford Driveline and 4X4 Diag/Repair</b> 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. <i>Prerequisite: Admission to Automotive Student Service Ed Training</i>	<b>2 1 2 0 0</b> <b>Voc/Tech</b>
<b>ASEP318</b> <b>GM Steering/Suspension/Brakes</b> Instruction in the theory of operation and service procedures used in the maintenance and repair of General Motors steering, suspension and brake systems. <i>Prerequisite: Admission to Automotive Service Educational Program</i>	<b>4 3 2 0 0</b> <b>Voc/Tech</b>	<b>ASEP340</b> <b>Technical Internship III</b> Work experience at a sponsoring dealership. Tasks will be consistent with the technician's ability and previous course work. <i>Prerequisite: ASEP330, 344, 345</i>	<b>3 0 0 0 18</b> <b>Voc/Tech</b>	<b>ASST326</b> <b>Ford Auto Air Conditioning Systems</b> Theory and operation of Ford Motor Company air conditioning systems leading to the diagnosis, service, and repair of current models of vehicles. <i>Prerequisite: Admission to Automotive Student Service Ed Training, ASST328</i>	<b>3 2 2 0 0</b> <b>Voc/Tech</b>	<b>ASST345</b> <b>Ford Manual Transmissions</b> 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. <i>Prerequisite: Admission to Automotive Student Service Ed Training</i>	<b>2 1 2 0 0</b> <b>Voc/Tech</b>
<b>ASEP320</b> <b>Technical Internship I</b> 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. <i>Prerequisite: ASEP312, 317, 318</i>	<b>3 0 0 0 18</b> <b>Voc/Tech</b>	<b>ASEP344</b> <b>GM Manual Drivetrains</b> 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. <i>Prerequisite: ASEP317, AUTO464</i>	<b>4 2 4 0 0</b> <b>Voc/Tech</b>	<b>ASST328</b> <b>Diagnosis/Repair Ford Elec System</b> Instruction in the diagnosis, repair and service of electrical and electronic components and accessories used on current Ford Motor Company vehicles. <i>Prerequisite: Admission to Automotive Student Service Ed Training, ASST312</i>	<b>5 3 4 0 0</b> <b>Voc/Tech</b>	<b>ASST346</b> <b>Ford Transmissions &amp; Transaxles</b> Standard and automatic transmissions and transaxles including all components in front and rear drive power trains and 4-wheel drive vehicles. <i>Prerequisite: Admission to Automotive Student Service Ed Training</i>	<b>4 3 2 0 0</b> <b>Voc/Tech</b>
<b>ASEP326</b> <b>GM Auto Air Conditioning Systems</b> Theory of operation of General Motors air conditioning systems leading to the diagnosis, service and repair of current models of GM vehicles. <i>Prerequisite: ASEP312, 317</i>	<b>3 2 2 0 0</b> <b>Voc/Tech</b>	<b>ASEP345</b> <b>GM Automatic Drivetrains</b> 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. <i>Prerequisite: ASEP317, AUTO464</i>	<b>4 2 4 0 0</b> <b>Voc/Tech</b>	<b>ASST330</b> <b>Technical Internship II</b> Work experience at a participating dealership. The tasks will be consistent with the technician's ability and previous course work. <i>Prerequisite: Admission to Automotive Student Service Ed Training, ASST318, 320, 328</i>	<b>3 0 0 0 18</b> <b>Voc/Tech</b>	<b>ASST350</b> <b>Technical Internship IV</b> Work experience at a participating dealership. The tasks will be consistent with the technician's ability and previous course work. <i>Prerequisite: Admission to Automotive Student Service Ed Training; ASST333, 343</i>	<b>3 0 0 0 18</b> <b>Voc/Tech</b>
<b>ASEP327</b> <b>Minor Service/Repair-GM Engines</b> Principles of operation of General Motors engines. Minor service procedures and engine component repair or replacement will be emphasized. Will also include diagnostic procedures. <i>Prerequisite: ASEP317, AUTO464</i>	<b>3 2 2 0 0</b> <b>Voc/Tech</b>	<b>ASEP350</b> <b>Technical Internship IV</b> Work experience at a participating dealership. Tasks will be consistent with the technician's ability and previous course work. <i>Prerequisite: ASEP340</i>	<b>3 0 0 0 18</b> <b>Voc/Tech</b>	<b>ASST333</b> <b>Ford Engine Diagnosis/Repair</b> Evaluating, reconditioning, and replacing of major components of Ford Motor Company engines. Will include instruction in machining operations performed in Ford Motor Company dealerships. <i>Prerequisite: Admission to Automotive Student Service Ed Training, ASST317</i>	<b>4 2 4 0 0</b> <b>Voc/Tech</b>	<b>ASST354</b> <b>Ford Adv Engine Controls, Elect</b> Instruction in techniques and procedures required to diagnose and service current vehicles. New systems developed by Ford Motor Company will be included. <i>Prerequisite: Admission to Automotive Student Service Ed Training; ASST333, 343</i>	<b>5 3 4 0 0</b> <b>Voc/Tech</b>
<b>ASEP328</b> <b>Diagnosis/Repair-GM Electrical Sys</b> Instruction in the diagnosis, repair and service of electrical and electronic components and accessories used on current GM vehicles. <i>Prerequisite: ASEP312, 317</i>	<b>3 2 2 0 0</b> <b>Voc/Tech</b>	<b>ASEP354</b> <b>Advanced GM Motors Systems</b> Instruction in techniques and procedures required to diagnose and service current vehicles. New systems developed by GM will be included. <i>Prerequisite: ASEP350</i>	<b>5 3 4 0 0</b> <b>Voc/Tech</b>	<b>ASST336</b> <b>Ford Fuel Systems and Injection</b> Theory of carburation 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. <i>Prerequisite: Admission to Automotive Student Service Ed Training; ASST328; Corequisite: ASST337</i>	<b>3 2 2 0 0</b> <b>Voc/Tech</b>	<b>AUTC403</b> <b>Basic Shop Safety</b> 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.	<b>1 1 0 0 0</b> <b>Voc/Tech</b>
<b>ASEP330</b> <b>Technical Internship II</b> Work experience at a participating dealership. The tasks will be consistent with the technician's ability and previous course work. <i>Prerequisite: ASEP320, 328</i>	<b>3 0 0 0 18</b> <b>Voc/Tech</b>	<b>ASST312</b> <b>Ford Automotive Electronics</b> 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. <i>Prerequisite: Admission to Automotive Student Service Ed Training</i>	<b>5 3 4 0 0</b> <b>Voc/Tech</b>	<b>ASST337</b> <b>Ford Tune-Up Proc &amp; Emission Con</b> Diagnosis and service of microprocessor controlled fuel and ignition systems. Oscilloscopes, engine analyzers, digital meters, and other high technology instruments will be used. <i>Prerequisite: Admission to Automotive Student Service Ed Training; ASST328; Corequisite: ASST336</i>	<b>4 3 2 0 0</b> <b>Voc/Tech</b>	<b>AUTC405</b> <b>Basic Shop Operations/Metal</b> Automobile design, the materials used in construction, collision, and corrective forces, and procedures for repair and services are analyzed through class and lab study. <i>Prerequisite: WELD468 must be taken concurrently with or prior to this course.</i>	<b>5 2 6 0 0</b> <b>Voc/Tech</b>
<b>ASEP333</b> <b>Major Service Procedures/GM Engines</b> Evaluating, reconditioning and replacing of major components of GM engines. Instruction will also include diagnostic routines. <i>Prerequisite: ASEP327</i>	<b>3 2 2 0 0</b> <b>Voc/Tech</b>	<b>ASST317</b> <b>Ford Shop Fund &amp; Minor Service</b> 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. <i>Prerequisite: Admission to Automotive Student Service Ed Training</i>	<b>3 2 2 0 0</b> <b>Voc/Tech</b>	<b>ASST340</b> <b>Technical Internship III</b> Work experience at a participating dealership. The tasks will be consistent with the technician's ability and previous course work. <i>Prerequisite: Admission to Automotive Student Service Ed Training; ASST330, 326, 336, 337, PHYL401</i>	<b>3 0 0 0 18</b> <b>Voc/Tech</b>	<b>AUTC408</b> <b>Basic Shop Operations/Paint</b> 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.	<b>5 3 4 0 0</b> <b>Voc/Tech</b>
<b>ASEP336</b> <b>GM Carb &amp; Fuel Induction Sys</b> Theory of carburation principles and current model fuel delivery systems to include diesel fuel systems, electromechanical carburetors and gasoline fuel injection. <i>Prerequisite: ASEP328</i>	<b>3 2 2 0 0</b> <b>Voc/Tech</b>	<b>ASST318</b> <b>Ford Steering/Suspension/Brakes</b> Instruction in the theory of operation and service procedures used in the maintenance and repair of Ford Motor Company steering, suspension, and brake systems. <i>Prerequisite: Admission to Automotive Student Service Ed Training, ASST328</i>	<b>6 2 8 0 0</b> <b>Voc/Tech</b>			<b>AUTC410</b> <b>Basic Estimating</b> 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.	<b>2 1 2 0 0</b> <b>Voc/Tech</b>

\*\* 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

**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.

**AUTO468** 6 2 8 0 0  
**Automotive Electricity** Voc/Tech  
 A course to provide instruction in basic electricity and circuitry used in the automobile. Components, diagnosing, and servicing will be emphasized.

**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 associated with aircraft. Students will study lubrication systems while performing inspections, service, troubleshooting and repair of the system. System components be repaired and serviced according to 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.

**AVIA308 - Adjunct\*\*\*** 2 0 4 0 0  
**Airframe Fuel Systems** Voc/Tech  
 This course covers fueling systems through 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 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. Instruction will include identifying, 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 control systems will be covered. Heat exchangers, superchargers, turbine airflow 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. Airframes 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 configuration flight theory, landing aircraft maneuvers, structure alignment, assembly components, rigging, primary 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 scale recording weights, nomenclature and algebraic signs.

# Course Descriptions

**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.

**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*

**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*

**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 II** Open

Second semester of 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: BIOL161*

**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*

# Course Descriptions

**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.

**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-square 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 MATH109 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

# Course Descriptions

<b>BSAD265</b> <b>Investing in Financial Assets</b> 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.	<b>1 1 0 0 0</b> Open	<b>BSEN304</b> <b>Small Business Start-Up</b> 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.	<b>2 2 0 0 0</b> Voc/Tech	<b>BSEP420</b> <b>Advanced GM Refinishing</b> This course covers the latest preferred methods for repair and refinishing using current colors and chemicals. Color matching, mixing, and blending will be emphasized. <i>Prerequisite: BSEP413</i>	<b>5 2 6 0 0</b> Voc/Tech	<b>BUSL301 - Adjunct***</b> <b>Legal Aspects of Management</b> 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.	<b>3 3 0 0 0</b> Voc/Tech
<b>BSAD266</b> <b>Investing in Real Assets</b> 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.	<b>1 1 0 0 0</b> Open	<b>BSEN305</b> <b>E-Commerce on the Web</b> 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.	<b>3 3 0 0 0</b> Voc/Tech	<b>BSEP421</b> <b>Adv. GM Estimating/Managership</b> 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. <i>Prerequisite: AUTCA10</i>	<b>2 2 0 0 0</b> Voc/Tech	<b>BUSL310</b> <b>Basic Law for the Entrepreneur</b> 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.	<b>2 2 0 0 0</b> Voc/Tech
<b>BSAD267</b> <b>Estate Planning</b> 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.	<b>1 1 0 0 0</b> Open	<b>BSEN306</b> <b>E-Commerce Website I</b> 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. <i>Prerequisite: COMS181 or OFFC355</i>	<b>3 2 2 0 0</b> Voc/Tech	<b>BSEP440</b> <b>GM Unibody Structural Repair</b> 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. <i>Prerequisite: AUTCA14, BSEP405, WELD468</i>	<b>5 2 6 0 0</b> Voc/Tech	<b>BUSL312</b> <b>Law of Purchasing &amp; Sales</b> 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. <i>Prerequisite: BUSL101</i>	<b>3 3 0 0 0</b> Voc/Tech
<b>BSAD268</b> <b>Long Range Financial Planning</b> 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.	<b>1 1 0 0 0</b> Open	<b>BSEN307</b> <b>E-Commerce Website II</b> Introduces Dynamic HTML, cascading style sheets, and XML, work with advanced features of Frontpage and will introduce another website development tool. <i>Prerequisite: BSEN306</i>	<b>3 2 2 0 0</b> Voc/Tech	<b>BSEP450</b> <b>Internship I</b> Work experience at a participating dealership or body shop. <i>Prerequisite: AUTCA03, 410, BSEP405, 408, HLCR314, UPHL433, WELD468</i>	<b>3 0 0 0 18</b> Voc/Tech	<b>BUSL345 - Adjunct***</b> <b>Legal Study Tour</b> 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. <i>Prerequisite: BUSL101</i>	<b>1 0 2 0 0</b> Voc/Tech
<b>BSEN229</b> <b>Small Business Management</b> 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.	<b>3 3 0 0 0</b> Open	<b>BSEP460</b> <b>Internship II</b> Work experience at a participating dealership or body shop. <i>Prerequisite: BSEP412, 413</i>	<b>3 0 0 0 18</b> Voc/Tech	<b>BSEP470</b> <b>Internship III</b> Work experience at a participating dealership or body shop. <i>Prerequisite: ASEP420, 421</i>	<b>3 0 0 0 18</b> Voc/Tech	<b>CAAP312</b> <b>Chrysler Electrical/Electronics</b> 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. <i>Prerequisite: Admission to CAAP (Chrysler Automotive Apprenticeship Program)</i>	<b>4 2 4 0 0</b> Voc/Tech
<b>BSEN301</b> <b>Sm Business Computerized Acct</b> 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. <i>Prerequisite: Basic computer skills; ACCT301 or ACCT101</i>	<b>2 1 2 0 0</b> Voc/Tech	<b>BSEP472</b> <b>A/C &amp; Heating Systems</b> 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.	<b>3 2 2 0 0</b> Voc/Tech	<b>BSEP480</b> <b>Internship IV</b> Work experience in a participating dealership or body shop. <i>Prerequisite: AUTCA14, BSEP440</i>	<b>3 0 0 0 18</b> Voc/Tech	<b>CAAP317</b> <b>Shop Fundamentals &amp; Minor Service</b> 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. <i>Prerequisite: Admission to CAAP (Chrysler Automotive Apprenticeship Program)</i>	<b>4 3 2 0 0</b> Voc/Tech
<b>BSEN302</b> <b>Small Business Management Strat</b> Emphasizes human resource concepts and their applications to small business operations. Leadership development, management styles and decision making strategies are stressed.	<b>3 3 0 0 0</b> Voc/Tech	<b>BSEP480</b> <b>Internship IV</b> Work experience in a participating dealership or body shop. <i>Prerequisite: AUTCA14, BSEP440</i>	<b>3 2 2 0 0</b> Voc/Tech	<b>BUSL101</b> <b>Business Law I</b> 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.	<b>3 3 0 0 0</b> General	<b>CAAP318</b> <b>Basic Brakes</b> Instruction in the theory of operation and service procedures of Chrysler brakes. <i>Prerequisite: Admission to CAAP (Chrysler Automotive Apprenticeship Program)</i>	<b>4 3 2 0 0</b> Voc/Tech
<b>BSEN303</b> <b>Small Business Marketing</b> Discussions and focus is on marketing applications. Workshops and strategies such as: market research, product development, pricing, distribution, promotion, marketing campaigns and budgets.	<b>3 3 0 0 0</b> Voc/Tech	<b>BSEP412</b> <b>GM Refinishing Techniques</b> 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. <i>Prerequisite: BSEP408</i>	<b>4 2 4 0 0</b> Voc/Tech	<b>BUSL102</b> <b>Business Law II</b> Provides an overview of negotiable instruments, debtor/creditor law (collecting judgments,) secured transactions, agency relationships, and selecting the right business formation. <i>Prerequisite: BUSL101</i>	<b>3 3 0 0 0</b> General	<b>CAAP320</b> <b>Technical Internship I</b> 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.	<b>3 0 0 0 18</b> Voc/Tech
		<b>BSEP413</b> <b>GM Plastic Repair/Refinishing</b> 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.	<b>2 1 2 0 0</b> Voc/Tech				



# Course Descriptions

**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

**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

**CADT415** 3 2 2 0 0  
**Engineering Disciplines & Practices** Voc/Tech  
 Types of engineering disciplines and their application of drawings will be examined. Drawing styles, engineering units and professional standards (ANSI, ASME, etc.) will be covered. *Prerequisite:* CADT405, 410

**CADT420** 3 2 2 0 0  
**MicroStation CAD I** Voc/Tech  
 This course will introduce the student to MicroStation CAD software. Basic two-dimensional CAD drawings will be taught. Drawings will be created and plotted.

*Prerequisite:* CADT405, CADT410

**CADT421** 3 2 2 0 0  
**MicroStation CAD 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.

*Prerequisite:* CADT 411, 420, MATH411

**CADT425** 3 2 2 0 0  
**Applied Materials and Processes** Voc/Tech  
 Standard industrial raw materials and forming processes will be examined. Students will see various machining, forming and welding operations. Field trips to industry will be offered.

**CADT426** 3 2 2 0 0  
**Pro/Engineer CAD I** Voc/Tech  
 Pro/Engineer CAD basics will be taught. Solid CAD models will be built and edited. Drawings will be created and plotted. Model rendering and application module interfaces will be discussed.

*Prerequisite:* CADT411, 425, MATH411

**CADT428** 3 2 2 0 0  
**Introduction to CAD Analysis** Voc/Tech  
 This course will introduce CAD students to analysis of simple structures. Analysis shall be examined then verified using computer analysis software in conjunction with CAD. Basic engineering statics will be taught.

*Prerequisite:* CADT412 426

**CADT430** 3 2 2 0 0  
**Networking Systems** Voc/Tech  
 Network system key features and functionality will be covered. System file management will be addressed. Operating systems and hardware will be discussed.

*Prerequisite:* CADT405, 411, MATH411

**CADT431** 3 2 2 0 0  
**Manuf. Interfaces CAD/CAM/CIM** Voc/Tech  
 Computer interfaces between manufacturing and engineering will be the primary focus of the class. File exchange formats, data compilation and machining interpretation of the model file will be addressed. Tool path generation and robotic controls will be discussed. Manufacturing system integration will be covered.

*Prerequisite:* CADT405, MATH410

**CADT451** 3 2 2 0 0  
**Mechanical Systems** Voc/Tech  
 Standard and non-standard fastening systems will be examined. CAD part libraries and applications will be covered. Basics of power train/mechanical components will be introduced. Mechanical bearings and hydraulic/pneumatic sealing systems will be addressed. *Prerequisite:* CADT411, MATH411

**CADT471** 5 2 6 0 0  
**CAD Layouts & Drawings** Voc/Tech  
 Detailing individual parts, types of assembly drawings and parts lists will be covered on an individual basis. Design process and procedures will be discussed. The student shall conform to industry standards for their design project. *Prerequisite:* CADT412, 451

**CADT472** 3 2 2 0 0  
**CAD Rendering & Animation** Voc/Tech  
 This course pertains to all disciplines of drafting. Axonometric, exploded view and perspective drawings will be covered. Renderings of computer models will be created. Emphasis will focus on computer-aided model presentations and catalog illustrations. Animations will be examined and developed. *Prerequisite:* CADT412, 426

**CART363 - Adjunct\*\*\*** 2 1 2 0 0  
**Electronic Photo Editing** Voc/Tech  
 Electronic photo manipulation, scanning and editing. Class covers projects dealing with line art, gray-scale, half tone, and full color photographs. *Prerequisite:* DKTP401

**CART401** 3 3 0 0 0  
**Commercial Art Orientation** Voc/Tech  
 A prerequisite for all commercial art courses. Commercial art terminology, tools and techniques are practiced.

# Course Descriptions

**CART403** 3 2 2 0 0  
**Communication Design I** Voc/Tech  
 This course will create awareness of design use. Topics of lecture and lab study will include design fundamentals, the creative process, principles of design, and basic advertising design formats with application of design theories in simple design projects.

**CART404** 3 2 2 0 0  
**Typography II** Voc/Tech  
 Typography course including the principles and basic skills in typographic design on computer. *Prerequisite:* CART405

**CART405** 3 2 2 0 0  
**Typography I** Voc/Tech  
 A study of the history of typography as it relates to advertising design. Includes emphasis on use of copyfitting and the use of typography in design.

**CART407** 3 2 2 0 0  
**Production Art I** Voc/Tech  
 First of a two-part course which will enable the student to seek an entry-level position in production art. Problems and solutions in the preparation of camera ready art for printing are studied.

**CART410** 3 2 2 0 0  
**Illustration I** Voc/Tech  
 Lab and lecture study of tools and skills necessary for entry level visual communication in a graphic arts studio environment. Emphasis on line art, marker rendering, perspective concepts and basic drawings skills.

**CART411** 3 2 2 0 0  
**Communication Design II** Voc/Tech  
 Lab and lecture study will develop a solid base in technical and creative skills necessary in the field of graphic design. Emphasis on packaging design, continuous page layout and grid design. *Prerequisite:* CART403

**CART414** 3 2 2 0 0  
**Illustration II** Voc/Tech  
 Lab and lecture study of tools and skills necessary to create color marker illustrations. Study includes a variety of surfaces and products as well as the human figure. The illustrations will be conceived within the context of publication advertisements.

**CART415** 3 2 2 0 0  
**Production Art II** Voc/Tech  
 This will add to the student's qualifications from taking Production Art I by emphasizing two-color & advance camera-ready art for printing.  
*Prerequisite:* CART407

**CART419** 2 0 4 0 0  
**Lettering & Sign Art** Voc/Tech  
 The study of traditional letter forms, typography, hand lettering skills and design principles for the production of posters, signs, logos and other graphic images.

**CART421** 2 2 0 0 0  
**Internship Preparation** Voc/Tech  
 Students seeking an internship will be required to develop job interviewing techniques and a presentation portfolio. The student develops a knowledge of human relations in the profession through use of goal setting, interpersonal and group skills.

**CART424** 3 1 0 0 8  
**Commercial Art Internship I** Voc/Tech  
 On-the-job training for commercial art students. Included is a weekly seminar for exchange of information, review and evaluation. *Prerequisite:* CART421

**CART425** 3 1 0 0 8  
**Commercial Art Internship II** Voc/Tech  
 Second semester elective on-the-job training for commercial art students. Included is a weekly seminar for the exchange of advanced techniques and skills learned on the job.  
*Prerequisite:* CART424

**CART426** 3 2 2 0 0  
**Communication Design III** Voc/Tech  
 An advanced course using skills and understanding developed in Communication Design I and II. Emphasis is on image generation, integration of type and design, development of a direct mail advertising campaign and outdoor advertising.  
*Prerequisite:* CART411

**CART428** 3 2 2 0 0  
**Illustration III** Voc/Tech  
 Lab and lecture study of color theory, and various media. Emphasis on creative solutions to specific communication projects.  
*Prerequisite:* CART414

**CART430** 3 2 2 0 0  
**Production Art III** Voc/Tech  
 Computer technology is used in the preparation of material to be printed. Included are lectures and experiences in the production of printed portfolio samples.  
*Prerequisite:* CART415

**CART436** 3 3 0 0 0  
**Portfolio Preparation I** Voc/Tech  
 A student seeking employment must have a well prepared portfolio. Such a portfolio will be developed and reviewed by the Commercial Art Advisory Committee in this course. *Prerequisite:* CART424

**CART437** 3 2 2 0 0  
**Communication Design IV** Voc/Tech  
 Lab and lecture study of advanced design problems with emphasis on the development of professional quality portfolio pieces. Projects will include development of multipage publication, corporate identity package and newspaper advertising.  
*Prerequisite:* CART426

**CART440** 3 2 2 0 0  
**Production Art IV** Voc/Tech  
 To complete the study of production art, emphasis will be on the development of portfolio projects. *Prerequisite:* CART430

**CART444** 3 3 0 0 0  
**Portfolio Preparation II** Voc/Tech  
 "Portfolio night" is the highlight of completing this course. The student will be required to present a completed portfolio to commercial art professionals and prospective employers at the annual event.  
*Prerequisite:* CART436

**CART449** 4 2 4 0 0  
**Airbrush I** Voc/Tech  
 The fundamental principles of airbrush techniques and application to advertising design and use of airbrush as an illustrative tool.

**CART451** 4 2 4 0 0  
**Airbrush II** Voc/Tech  
 Advanced course in airbrush techniques as necessary for portfolio samples. Emphasis in utilization of advanced skills learned in Airbrush I. *Prerequisite:* CART449

**CART459** 3 2 2 0 0  
**Computer Graphics I** Voc/Tech  
 Use of Adobe Illustrator to produce electronic drawings in 2-D in full color. Includes study of typeface as a design and illustration element with all creative projects produced electronically.

**CART462** 3 1 4 0 0  
**Computer Graphics II** Voc/Tech  
 Use of Adobe Illustrator and Adobe Dimensions. Advanced study of electronic drawing programs including graph creation, introduction to color separation and creation of full color art from electronic scanner sources. *Prerequisite:* CART459

**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** 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-315 or department approval



# Course Descriptions

**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 free-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 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 knowledge of soils and materials used in the construction 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 prestressed. *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*

**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.

# Course Descriptions

**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 funding, bookkeeping, business procedures, 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-403** 3 3 0 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. These are to be post processed and downloaded to Computer Numerically Controlled (CNC) machine tools, where the student will cut chips on the shop floor.

**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-405** 3 3 0 0 0  
**Programmable Controllers** Voc/Tech  
 This course is an introduction to programmable logic controllers. The student will examine hardware and software aspects and program various programmable controllers with relay logic, timers, counters and sequencers. *Prerequisite: CIM-421 or HTPC358*

**CIM-406 - Adjunct\*\*\*** 3 3 0 0 0  
**Programmable Controllers II** Voc/Tech  
 A continuation of Programmable Controllers (CIM-405). This course includes analog I/O, networking, remote I/O, non-standard I/O, workstation interfacing and advanced programming techniques. *Prerequisite: CIM-405*

**CIM-408** 3 3 0 0 0  
**Intro to Computer Integrated Mfg.** Voc/Tech  
 Designed to familiarize the student with computer aided design, computerized production planning, and automated shop floor control.

**CIM-409** 3 3 0 0 0  
**Inventory Management/Planning** Voc/Tech  
 This course examines the variety of inventory ordering and lot-sizing techniques available to firms. Includes methods for reducing the investment in inventory without reducing the ability of firm to maintain production or deliver customer orders promptly. Computer spreadsheets for controlling inventory orders and levels are also used.

**CIM-410** 3 3 0 0 0  
**Material Requirements Planning** Voc/Tech  
 This course is designed to present the student with the information to successfully implement and use an MRP system. The course includes a case study problem using a computer-based MRP program.

**CIM-411** 3 3 0 0 0  
**Production & Capacity Management** Voc/Tech  
 This course studies such topics as break-even analysis, time and motion studies, forecasting of demand, scheduling, statistical process control, and make versus buy analysis to provide manufacturing managers with simple but effective tools to control plant operations to maximize productivity and minimize cost.

**CIM-412** 3 3 0 0 0  
**Just In Time Inventory Control Tech.** Voc/Tech  
 This course examines the effects that a JIT environment has on a firm including the topics of setup reduction, inventory control, accounting practices, marketing, quality control, management, plant layout, scheduling and implementation. Industry case studies are used to demonstrate real-world applications and problems.

**CIM-413** 3 2 2 0 0  
**Introduction to FMS Cell** Voc/Tech  
 This course introduces the student to all aspects of a flexible manufacturing system cell. It is designed to familiarize the student with cell software and hardware. It includes labs on all cell components. *Prerequisite: HTPC358 & 359 or instructor permission*

**CIM-417 - Adjunct\*\*\*** 3 3 0 0 0  
**Advanced Purchasing Operations** Voc/Tech  
 This course addresses the issues of material flow, inventory control, basic uses of SPC & MRP, forecasting, supplier relationships, the use of computer systems, and control and disposal issues of materials as they relate to purchasing.

**CIM-418** 5 0 0 0 20  
**IMT Internship** Voc/Tech  
 Supervised work experience with employer based upon individual training plan which enables student to apply his/her skills and knowledge. *Prerequisite: Successful completion of courses in Terms 1, 2, 3 of Integrated Manufacturing Technology program*

**CIM-419 - Adjunct\*\*\*** 3 3 0 0 0  
**Master Planning** Voc/Tech  
 This course covers topics related to the preparation and use of master planning systems in manufacturing companies. It addresses the topic of forecasting, demand management, production planning systems, and the developing and use of a master planning schedule based on product forecasts. This is also an APICS certification review course.

**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, AGR1209, 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.

**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: AGR1209, 219, COMH437*

# Course Descriptions

**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:* AGR1209, 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, AGR1209, 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, AGR1209, 219

**COMH453** 3 1 4 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** 3 0 0 0 15  
**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, AGR1209, 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, AGR1209, 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, AGR1209, 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** 1 0 2 0 0  
**Horticulture Equip Safety/Maint** Voc/Tech

A practical course in the proper care and use of hand tools and power equipment, including the repair and maintenance of the small gasoline engines used in horticulture mechanics.

**COMH488** 2 1 2 0 0  
**Plant Materials I** Voc/Tech

The study of plant materials using the plant materials in their growing environment. Course will cover use of identification keys and plant families. *Corequisite:* COMH441

**COMH489** 2 0 4 0 0  
**Plant Materials II** Voc/Tech

The study of plant materials will be expanded to include annuals and perennials. *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** 3 0 0 0 15  
**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:* COMH499

**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 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

**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

# Course Descriptions

<b>COOP212</b> <b>Coop Career Seminar</b>	<b>1 1 0 0 0</b> <b>Voc/Tech</b>	<b>CRIM101</b> <b>Intro to Criminal Justice</b>	<b>3 3 0 0 0</b> <b>General</b>	<b>CRIM235</b> <b>Survey/Criminal Justice Agencies</b>	<b>3 2 2 0 0</b> <b>Open</b>	<b>CSCO350</b> <b>CISCO Networking IV</b>	<b>4 2 4 0 0</b> <b>Voc/Tech</b>
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. <i>Corequisite: COOP221 or 222 or 223 or 224 or 225 or 226</i>		An in-depth examination of the three components of the criminal justice system and the roles they play in society.		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. <i>Prerequisite: 24 hours of CRIM courses or instructor permission</i>		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. <i>Prerequisite: CSCO340</i>	
<b>COOP220</b> <b>Career-Seeking Skills</b>	<b>2 2 0 0 0</b> <b>Voc/Tech</b>	<b>CRIM103</b> <b>Community Relations</b>	<b>3 3 0 0 0</b> <b>Open</b>	<b>CRIM236</b> <b>Internship</b>	<b>3 0 0 0 12</b> <b>Open</b>	<b>CULA349</b> <b>International Cuisine Lab II</b>	<b>3 0 6 0 0</b> <b>Voc/Tech</b>
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.		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.		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. <i>(P/F) Prerequisite: 24 hrs of CRIM courses with minimum grade of C in each, CRIM235</i>		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. <i>Prerequisite: CULA446, 456</i>	
<b>COOP221</b> <b>Coop Career Experience</b>	<b>1 0 0 0 4</b> <b>Voc/Tech</b>	<b>CRIM104</b> <b>Criminal Law</b>	<b>3 3 0 0 0</b> <b>General</b>	<b>CRIM255</b> <b>Scientific Investigation I</b>	<b>3 3 0 0 0</b> <b>Open</b>	<b>CULA365</b> <b>Advanced Baking/Buffer Decorating</b>	<b>2 0 4 0 0</b> <b>Voc/Tech</b>
Practical experience through on-the-job training in an approved business setting. Tasks will be consistent with student's career objectives, skills, and knowledge. <i>(P/F) Corequisite: COOP212</i>		An examination of the elements of offenses and the procedural safeguards in the criminal process.		An in-depth study of investigative techniques as applied to specific offenses. Court room presentation will also be emphasized.		Advanced principles and procedures of producing baked goods, decorative work and display pieces. <i>Prerequisite: CULA340, 386</i>	
<b>COOP222</b> <b>Coop Career Experience</b>	<b>2 0 0 0 8</b> <b>Voc/Tech</b>	<b>CRIM105</b> <b>Constitutional Law</b>	<b>3 3 0 0 0</b> <b>General</b>	<b>CRIM273</b> <b>Introduction to Security</b>	<b>3 3 0 0 0</b> <b>Open</b>	<b>CULA386</b> <b>Garde Manger</b>	<b>2 0 4 0 0</b> <b>Voc/Tech</b>
Practical experience through on-the-job training in an approved business setting. Tasks will be consistent with student's career objectives, skills, and knowledge. <i>(P/F) Corequisite: COOP212</i>		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.		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.		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. <i>Prerequisite: HRMT316, 320</i>	
<b>COOP223</b> <b>Coop Career Experience</b>	<b>3 0 0 0 12</b> <b>Voc/Tech</b>	<b>CRIM106</b> <b>Juvenile Law</b>	<b>3 3 0 0 0</b> <b>General</b>	<b>CRIM275</b> <b>Scientific Investigation II</b>	<b>3 3 0 0 0</b> <b>Open</b>	<b>CULA446</b> <b>International Cuisine Lab I</b>	<b>3 0 6 0 0</b> <b>Voc/Tech</b>
Practical experience through on-the-job training in an approved business setting. Tasks will be consistent with student's career objectives, skills, and knowledge. <i>(P/F) Corequisite: COOP212</i>		The social and legal aspects of juvenile delinquency, examination of procedures, legislation, juvenile court and prevention programs.		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.		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. <i>Prerequisite: HRMT326, 328</i> <i>Corequisite: CULA456</i>	
<b>COOP224</b> <b>Coop Career Experience</b>	<b>4 0 0 0 16</b> <b>Voc/Tech</b>	<b>CRIM107</b> <b>Theories of Interviewing</b>	<b>3 3 0 0 0</b> <b>Open</b>	<b>CRIM285</b> <b>Criminal Justice Ethics</b>	<b>3 3 0 0 0</b> <b>Open</b>	<b>CULA451</b> <b>Culinary Cuisine Lab</b>	<b>4 0 8 0 0</b> <b>Voc/Tech</b>
Practical experience through on-the-job training in an approved business setting. Tasks will be consistent with student's career objectives, skills, and knowledge. <i>(P/F) Corequisite: COOP212</i>		The process of gathering information from others: the interviewee, the setting, types of questions, non verbal communication, deception, and theories of communication.		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.		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. <i>Prerequisite: HRMT357</i> <i>Corequisite: CULA452</i>	
<b>COOP225</b> <b>Coop Career Experience</b>	<b>5 0 0 0 20</b> <b>Voc/Tech</b>	<b>CRIM110</b> <b>Penology</b>	<b>3 3 0 0 0</b> <b>Open</b>	<b>CRIM410 - Adjunct***</b> <b>Orientation to Public Safety</b>	<b>3 3 0 0 0</b> <b>Voc/Tech</b>	<b>CULA452</b> <b>Advanced Culinary Cuisine</b>	<b>2 2 0 0 0</b> <b>Voc/Tech</b>
Practical experience through on-the-job training in an approved business setting. Tasks will be consistent with student's career objectives, skills, and knowledge. <i>(P/F) Corequisite: COOP212</i>		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.		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.		Discussion of the more intricate and difficult cooking principles and techniques of classical cuisine and planning for advanced culinary cuisine. <i>Prerequisite: HRMT357</i> <i>Corequisite: CULA451</i>	
<b>COOP226</b> <b>Coop Career Experience</b>	<b>6 0 0 0 24</b> <b>Voc/Tech</b>	<b>CRIM211</b> <b>Correctional Treatment</b>	<b>3 3 0 0 0</b> <b>Open</b>	<b>CSCO340</b> <b>CISCO Networking III</b>	<b>4 2 4 0 0</b> <b>Voc/Tech</b>	<b>CULA456</b> <b>International Cuisine</b>	<b>2 2 0 0 0</b> <b>Voc/Tech</b>
Practical experience through on-the-job training in an approved business setting. Tasks will be consistent with student's career objectives, skills, and knowledge. <i>(P/F) Corequisite: COOP212</i>		Institutional options for preventing recidivism. Introduction to therapeutic techniques. Comparison of punishment, freudian treatments and behavior modification systems. Student presentation required.		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. <i>Prerequisite: ITNA320</i>		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. <i>Prerequisite: HRMT326, 328</i> <i>Corequisite: CULA446</i>	
<b>COOP301</b> <b>Building a Professional Portfolio</b>	<b>1 1 0 0 0</b> <b>Voc/Tech</b>	<b>CRIM212</b> <b>Correctional Law</b>	<b>3 3 0 0 0</b> <b>Open</b>	<b>DATA102</b> <b>New Literacy/Intro to Computers</b>	<b>3 3 0 0 0</b> <b>Voc/Tech</b>		
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.		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.		A television course giving a comprehensive introduction to computer principles and presenting a broad overview of data processing concepts.			



# Course Descriptions

**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 equivalents*

**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 2 2 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 specialty 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



# 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 Diesel Fuel Systems** 6 1 10 0 0  
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 Basic Electricity** 5 1 8 0 0  
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 Diesel Electronics** 5 2 6 0 0  
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 Heavy Equipment Repair** 5 1 8 0 0  
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 Truck Repair** 5 1 8 0 0  
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 Air Conditioning** 3 1 4 0 0  
Voc/Tech  
A course on basic air conditioning theory and design. Emphasis will be placed on various system controls and on service operations.

**DISL428 Operation & Maintenance** 5 1 8 0 0  
Voc/Tech  
Instruction in the proper methods of maintaining all equipment. Safety will be emphasized.

**DISL430 Caterpillar Fuel Systems** 4 2 4 0 0  
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 Caterpillar Failure Analysis** 2 1 2 0 0  
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 Caterpillar LS/PC - Hydraulics** 2 1 2 0 0  
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 Caterpillar Service Information Sys** 2 2 0 0 0  
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 Caterpillar Internship** 4 0 0 0 16  
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 Caterpillar Multi-Media** 2 0 4 0 0  
Voc/Tech  
The student will complete Caterpillar computerized tests and review modules.  
*Prerequisite: DISL402, 404, 406, 408*

**DISL470 Advanced Electricity** 4 1 6 0 0  
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 Intro To Desktop Publishing** 3 1 4 0 0  
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 Health Field** 1 1 0 0 0  
Voc/Tech  
Roles of dietary personnel in health facilities, state and federal guidelines. Explore managerial aspects within facilities.

**DMAS351 Food Preparation** 1 0 2 0 0  
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 Sanitation/Meal Service** 2 2 0 0 0  
Voc/Tech  
Methods of efficiently serving safe, pleasing food. An awareness of sanitation will be created for all areas of food service.

**DMAS353 Nutrition Life Cycle** 1 1 0 0 0  
Voc/Tech  
An in-depth study (social, physiological and psychological need) of residents from infancy to geriatric. Explore the therapeutic role of food.

**DMAS354 Modified Diets** 1 1 0 0 0  
Voc/Tech  
Assessment of special diets, using approved diet manual, a review of food guidelines and hints for making modified diets more appetizing.

**DMAS355 Food Production Management** 1 1 0 0 0  
Voc/Tech  
Total production needs, equipment layout, work methods, food storage, food preparation, service, sanitation and use of computers in food service.

**DMAS356 Food Service Management** 2 2 0 0 0  
Voc/Tech  
The management functions required to organize and maintain an efficient quality dietary department are developed.

**DMAS361 Food Prep Field Experience** 1 0 0 0 4  
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 Sanitation/Meal Service Field Exp** 1 0 0 0 4  
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 Nutrition Life Cycle Field Experience** 1 0 0 0 4  
Voc/Tech  
Application/evaluation of nutritional aspects in health care facility. Practical experience in selected health care facility supervised by a registered dietitian. (P/F)

**DMAS364 Modified Diet/Field Experience** 1 0 0 0 4  
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 Food Production Field Experience** 1 0 0 0 4  
Voc/Tech  
Application/evaluation of food production in health care facility. Practical experience in selected health care facility supervised by a registered dietitian. (P/F)

**DMAS366 Food Service Mgmt Field Experience** 1 0 0 0 4  
Voc/Tech  
Application/evaluation of food service management in health care facility. Practical experience in selected health care facility supervised by a registered dietitian. (P/F)

**DRAM110 Introduction to Theatre** 3 3 0 0 0  
Core  
A survey of the elements and techniques of theatre with emphasis on acting, directing and playwrighting. Attendance at dramatic production encouraged.

**DRAM111 Techniques of Acting** 3 3 0 0 0  
General  
Training of the body, voice and mind as acting instruments. Course includes acting exercises, scene analysis, and performance.

**DRAM113 Creative Drama School/Rec** 3 3 0 0 0  
General  
Elements of improvisational acting. Students will learn approaches for participating in as well as leading creative drama activities.

**DRAM114 Theatre Production** 2 0 4 0 0  
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 Theatre Production** 3 0 6 0 0  
General  
See DRAM114

**DRAM116 Theatre Production** 4 0 8 0 0  
General  
See DRAM114

**ECON101 Principles of Macroeconomics** 3 3 0 0 0  
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 Principles of Microeconomics** 3 3 0 0 0  
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 Intro to Education** 3 3 0 0 0  
Open  
Presents a broad overview of the field of education including foundations of American education, roles of teachers and students, history and philosophy, and curriculum. Students will complete a 40 hour practicum at the elementary, middle, or high school level. Recommended for students who plan to major in education.

**EDCR165 Education of Exceptional Learners** 3 3 0 0 0  
Open  
A survey of exceptional learners in the classroom will be explored. History, philosophy, current issues, trends, and mainstreaming will be discussed.

**EDCR207 Internship Teaching Experiences** 2 0 0 0 8  
Open  
Provides opportunity to assist in the school as a teacher aide or to assess one's potential and interest in teaching as a career.  
*Prerequisite: EDCR101*

**ELEM325 General Electricity** 3 3 0 0 0  
Voc/Tech  
For beginners, theory, controlling electricity, voltage, amps, resistance, wattage, series and parallel circuits, DC and AC, batteries, electric lighting, generators, and motors.

# Course Descriptions

<b>ELEM450</b> <b>Related Math</b> Mathematics related to basic electronics. It includes basic algebra, right triangle trigonometry, scientific notation, with applications to DC and AC circuitry.	<b>3 3 0 0 0</b> <b>Voc/Tech</b>	<b>ELHT323</b> <b>Technical Math II</b> Continuation of Technical Math I. Topics include exponents, radicals, quadratic equations, simultaneous equations, trigonometry, graphing, phasor algebra and logarithms.	<b>3 3 0 0 0</b> <b>Voc/Tech</b>	<b>ELHT346</b> <b>Microcomputer Operating Systems</b> 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.	<b>3 3 0 0 0</b> <b>Voc/Tech</b>	<b>ENGL089** Adjunct ***</b> <b>Introduction to Writing Skills-ESL</b> 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.	<b>3 3 0 0 0</b> <b>Adaptor</b>
<b>ELEM451</b> <b>DC &amp; AC Fundamentals</b> An introductory course in DC and AC fundamentals. Subject matter includes Ohm's law, series and parallel circuits, and measuring instruments.	<b>3 3 0 0 0</b> <b>Voc/Tech</b>	<b>ELHT324</b> <b>Computer Programming</b> Basic programming techniques such as writing logical algorithms, drawing of flow charts, and developing programs that include loops and subroutines.	<b>3 3 0 0 0</b> <b>Voc/Tech</b>	<b>ELHT362</b> <b>Digital Circuits Lab</b> 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. <i>Corequisite: ELHT330</i>	<b>2 0 4 0 0</b> <b>Voc/Tech</b>	<b>ENGL090**</b> <b>Basic Writing</b> Introduces students to the writing process of planning, drafting and revising. Covers basic sentence and paragraph structure, grammar, punctuation, spelling and proofreading techniques. Students will compose 3-4 essays, learning to develop main ideas with specific support. Preparation for ENGL091 & 117.	<b>3 3 0 0 0</b> <b>Adaptor</b>
<b>ELEM452</b> <b>DC &amp; AC Fundamentals Lab</b> This laboratory will enable the student to analyze basic L-C-R circuitry. Basic test equipment usage will also be presented. <i>Prerequisite: ELEM451 must be taken concurrently with or prior to this course.</i>	<b>3 0 6 0 0</b> <b>Voc/Tech</b>	<b>ELHT330</b> <b>Digital Circuits</b> 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. <i>Corequisite: ELHT362</i>	<b>2 2 0 0 0</b> <b>Voc/Tech</b>	<b>ELHT363</b> <b>Circuit Analysis II Lab</b> Analysis of solid state circuitry. Includes transistor and integrated circuit experiments. Linear amplifiers and active filters are evaluated. <i>Prerequisite: ELHT314, 316; Corequisite: ELHT331</i>	<b>3 0 6 0 0</b> <b>Voc/Tech</b>	<b>ENGL091**</b> <b>Writing Skills Review</b> An introductory course which prepares students for college-level writing. Confidence and skills are built as students write and revise 4-6 essays, learning to develop and organize material to support main ideas. Students review sentence and punctuation patterns and learn to proofread. For students who have taken ENGL090 or meet that course's objectives.	<b>3 3 0 0 0</b> <b>Adaptor</b>
<b>ELEM462</b> <b>Digital Electronics</b> An introduction to the principles of basic TTL and CMOS digital circuits. Included are basic gates, counters, registers, and multiplexer configurations.	<b>3 3 0 0 0</b> <b>Voc/Tech</b>	<b>ELHT331</b> <b>Circuit Analysis II</b> 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. <i>Prerequisite: ELHT314, 316; Corequisite: ELHT363</i>	<b>3 3 0 0 0</b> <b>Voc/Tech</b>	<b>ELHT364</b> <b>Digital Electronics Lab</b> 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. <i>Corequisite: ELHT332</i>	<b>3 0 6 0 0</b> <b>Voc/Tech</b>	<b>ENGL117</b> <b>Composition I</b> 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. <i>Prerequisite: Satisfactory writing skills</i>	<b>3 3 0 0 0</b> <b>Core</b>
<b>ELEM463</b> <b>Digital Electronics Lab</b> This laboratory consists of experiments on basic TTL and CMOS circuits. Included are gates, counters, registers and multiplexer configurations. <i>Prerequisite: ELEM462 must be taken concurrently with or prior to this course.</i>	<b>3 0 6 0 0</b> <b>Voc/Tech</b>	<b>ELHT332</b> <b>Digital Electronics</b> 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. <i>Corequisite: ELHT364</i>	<b>3 3 0 0 0</b> <b>Voc/Tech</b>	<b>ENGL082***- Adjunct***</b> <b>ESL Listening/Conversation Skills I</b> 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.	<b>3 2 2 0 0</b> <b>Adaptor</b>	<b>ENGL118</b> <b>Composition II</b> Expository and persuasive writing developed through critical reading. The course explores structure, style, research, and documentation. <i>Prerequisite: ENGL117</i>	<b>3 3 0 0 0</b> <b>Core</b>
<b>ELHT313</b> <b>Technical Math I</b> 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.	<b>3 3 0 0 0</b> <b>Voc/Tech</b>	<b>ELHT340</b> <b>Microprocessors</b> 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. <i>Prerequisite: ELHT330, 362, Corequisite: ELHT341</i>	<b>3 3 0 0 0</b> <b>Voc/Tech</b>	<b>ENGL083***- Adjunct***</b> <b>ESL Listening/Conversation Skills II</b> 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.	<b>3 2 2 0 0</b> <b>Adaptor</b>	<b>ENGL119</b> <b>Technical &amp; Business Writing</b> 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. <i>Prerequisite: ENGL117</i>	<b>3 3 0 0 0</b> <b>Core</b>
<b>ELHT314</b> <b>Circuit Analysis I</b> 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-Millman's theorems, impedance, resonance, series and parallel circuits, resistors, capacitors, inductors, batteries and meters. <i>Corequisite: ELHT316</i>	<b>5 5 0 0 0</b> <b>Voc/Tech</b>	<b>ELHT341</b> <b>Microprocessors Lab</b> 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. <i>Prerequisite: ELHT330, 362, Corequisite: ELHT340</i>	<b>5 0 10 0 0</b> <b>Voc/Tech</b>	<b>ENGL084**</b> <b>Communicative Grammar for ESL</b> 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. <i>Prerequisite: Minimum scores on the TOEFL or Michigan Test.</i>	<b>3 2 2 0 0</b> <b>Adaptor</b>	<b>ENGL121</b> <b>Creative Writing</b> 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.	<b>3 3 0 0 0</b> <b>General</b>
<b>ELHT315</b> <b>Fabrication Techniques</b> 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.	<b>3 1 4 0 0</b> <b>Voc/Tech</b>	<b>ELHT345</b> <b>Operating Systems</b> 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.	<b>2 2 0 0 0</b> <b>Voc/Tech</b>	<b>ENGL085**</b> <b>Read English as a Second Language</b> 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. <i>Prerequisite: Minimum scores on the TOEFL or Michigan Test.</i>	<b>3 2 2 0 0</b> <b>Adaptor</b>	<b>ENGL124 - Adjunct ***</b> <b>Fiction Writing</b> 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. Admittance to this course is by permission of instructor only.	<b>3 3 0 0 0</b> <b>General</b>
<b>ELHT316</b> <b>Circuit Analysis I Lab</b> 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. <i>Corequisite: ELHT314</i>	<b>3 0 6 0 0</b> <b>Voc/Tech</b>						

# Course Descriptions

**ENGL125 - Adjunct\*\*\*** 3 3 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. Admittance to this course is by permission of instructor only.

**ENGL410** 3 3 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  
**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  
**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  
**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  
**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  
**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: PHY1121; Corequisite: MATH130 must be taken concurrently with or prior to this course*

**ESST376** 2 2 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  
**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  
**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  
**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  
**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  
**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  
**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  
**Security Systems Lab** Voc/Tech

Installation, maintenance, and troubleshooting of various security systems. *Prerequisite: ESST376, 377 Corequisite: ESST382*

**ESST384** 2 2 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  
**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  
**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  
**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  
**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  
**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  
**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  
**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  
**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  
**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  
**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  
**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  
**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  
**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  
**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  
**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.

# Course Descriptions

<b>FREN102</b> <b>Elementary French II</b> Continued practice of the four basic skills and grammar analysis begun in French 101. Introduction to short prose selections with conversational emphasis. <i>Prerequisite:</i> <b>FREN101</b> or permission of instructor	<b>4 4 0 0 0</b> Core	<b>GERM104</b> <b>Intermediate German II</b> 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. <i>Prerequisite:</i> <b>GERM103</b> or instructor permission	<b>4 4 0 0 0</b> Core	<b>GRPH420</b> <b>Press II</b> 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. <i>Prerequisite:</i> <b>GRPH410, 412, 413</b>	<b>4 2 4 0 0</b> Voc/Tech	<b>HACR453</b> <b>Electricity</b> 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.	<b>5 2 6 0 0</b> Voc/Tech
<b>FREN103</b> <b>Intermediate French I</b> Review of essential grammatical constructions emphasizing major areas of difficulty for English speakers. Use of cultural and literary materials to develop conversational skills. <i>Prerequisite:</i> <b>FREN102</b> or permission of instructor	<b>4 4 0 0 0</b> Core	<b>GLOS199</b> <b>Japan: The Changing Tradition</b> 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.	<b>2 2 0 0 0</b> General	<b>GRPH421</b> <b>Electronic Prepress I</b> 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. <i>Prerequisite:</i> <b>GRPH400, 401, DKTP401</b>	<b>4 2 4 0 0</b> Voc/Tech	<b>HACR454</b> <b>Residential Heating &amp; AC</b> Residential heating and cooling basics. Study of installation and service procedures through class and lab practices. <i>Prerequisite:</i> <b>HACR451</b>	<b>5 2 6 0 0</b> Voc/Tech
<b>FREN104</b> <b>Intermediate French II</b> Continued review of grammatical constructions using cultural materials. Reading, writing, and conversation will be emphasized in the context of cultural issues and current events. <i>Prerequisite:</i> <b>FREN103</b> or permission of instructor	<b>4 4 0 0 0</b> Core	<b>GRPH400</b> <b>Graphic Arts Orientation</b> 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.	<b>4 2 4 0 0</b> Voc/Tech	<b>GRPH425</b> <b>Electronic Image Control</b> 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. <i>Prerequisite:</i> <b>DKTP401, GRPH416</b>	<b>4 2 4 0 0</b> Voc/Tech	<b>HACR455</b> <b>Electrical Controls &amp; Circuits</b> 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. <i>Prerequisite:</i> <b>HACR453</b>	<b>5 2 6 0 0</b> Voc/Tech
<b>GEOG141</b> <b>Intro to Geography</b> 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.	<b>3 3 0 0 0</b> Core	<b>GRPH401</b> <b>Methods of Graphic Arts</b> 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.	<b>3 3 0 0 0</b> Voc/Tech	<b>GRPH426</b> <b>Graphic Arts Design II</b> 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. <i>Prerequisite:</i> <b>GRPH406</b>	<b>4 2 4 0 0</b> Voc/Tech	<b>HACR456</b> <b>Trade Skills II</b> This course covers all types of sheet metal fabrications pertaining to the HVAC profession. <i>Prerequisite:</i> <b>HACR452</b>	<b>3 1 4 0 0</b> Voc/Tech
<b>GEOG147</b> <b>Developed World</b> 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).	<b>3 3 0 0 0</b> Core	<b>GRPH406</b> <b>Graphic Arts Design I</b> 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.	<b>4 2 4 0 0</b> Voc/Tech	<b>GRPH431</b> <b>Electronic Prepress II</b> 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. <i>Prerequisite:</i> <b>GRPH 421</b>	<b>4 2 4 0 0</b> Voc/Tech	<b>HACR457</b> <b>Applied Heating &amp; AC</b> This course covers installation and troubleshooting techniques dealing with residential heating and cooling systems. <i>Prerequisite:</i> <b>HACR454</b>	<b>5 2 6 0 0</b> Voc/Tech
<b>GEOG148</b> <b>Third World</b> 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).	<b>3 3 0 0 0</b> Core	<b>GRPH410</b> <b>Press I</b> 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. <i>Prerequisite:</i> <b>GRPH400, 401</b>	<b>4 2 4 0 0</b> Voc/Tech	<b>GRPH435</b> <b>Graphic Arts Production Methods</b> A management based course designed to actively involve the student in all phases of the graphic arts production process. <i>Prerequisite:</i> <b>GRPH410, 412, 413</b>	<b>4 2 4 0 0</b> Voc/Tech	<b>HACR458</b> <b>HVAC Internship</b> On the job training for Heating, Air Conditioning, Refrigeration Technology program students who have a "C" average or better in the program. <i>Prerequisite:</i> Valid driver's license; <i>Prerequisite:</i> <b>HACR454, 455, 456</b>	<b>4 0 0 16</b> Voc/Tech
<b>GERM101</b> <b>Elementary German I</b> Development of the basic skills of understanding, speaking, and writing German. Grammar analysis, classroom conversational practice, and some exploration of the German culture.	<b>4 4 0 0 0</b> Core	<b>GRPH412</b> <b>Graphic Prepress I</b> 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. <i>Prerequisite:</i> <b>GRPH400, 401</b>	<b>4 2 4 0 0</b> Voc/Tech	<b>GRPH454</b> <b>Graphic Arts Production Methods</b> A management based course designed to actively involve the student in all phases of the graphic arts production process. <i>Prerequisite:</i> <b>GRPH410, 412, 413</b>	<b>4 2 4 0 0</b> Voc/Tech	<b>HACR459</b> <b>Advanced Heating &amp; AC</b> This course covers installation, advanced troubleshooting, maintaining, and repairing of geo-thermal heat pumps, gas, fuel oil, and electric heating systems. <i>Prerequisite:</i> <b>HACR457</b>	<b>5 2 6 0 0</b> Voc/Tech
<b>GERM102</b> <b>Elementary German II</b> Continued practice of the four basic skills and grammar analysis. Introduction of short prose selections with conversational emphasis. <i>Prerequisite:</i> <b>GERM101</b> or instructor permission	<b>4 4 0 0 0</b> Core	<b>GRPH413</b> <b>Graphic Prepress II</b> 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. <i>Prerequisite:</i> <b>GRPH400, 401, 412</b>	<b>4 2 4 0 0</b> Voc/Tech	<b>GRPH456</b> <b>Cost Estimating</b> This course is designed to give the student an overview of information on processes used in estimating production costs, budgets for departments within company. <i>Prerequisite:</i> <b>GRPH410, 412, 413</b>	<b>3 3 0 0 0</b> Voc/Tech	<b>HACR461</b> <b>Air Distribution</b> 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. <i>Prerequisite:</i> <b>HACR457</b>	<b>3 2 2 0 0</b> Voc/Tech
<b>GERM103</b> <b>Intermediate German I</b> Review of essential grammatical constructions emphasizing major areas of difficulty for English speakers. Use of German cultural and literary materials to develop conversational skills. <i>Prerequisite:</i> <b>GERM102</b> or instructor permission	<b>4 4 0 0 0</b> Core	<b>GRPH416</b> <b>Desktop Publishing II</b> 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. <i>Prerequisite:</i> <b>DKTP40 1</b>	<b>3 1 4 0 0</b> Voc/Tech	<b>HACR451</b> <b>Fundamentals of Refrigeration</b> This course consists of the principles of refrigeration, domestic systems and equipment.	<b>5 2 6 0 0</b> Voc/Tech	<b>HACR462</b> <b>Commercial HVAC &amp; Refrigeration</b> This course covers basic commercial refrigeration systems, components and their use, applications, methods of installation, maintenance, diagnosis and repairs. <i>Prerequisite:</i> <b>HACR459, 461</b>	<b>5 2 6 0 0</b> Voc/Tech
				<b>HACR452</b> <b>Trade Skills I</b> This course covers all types of soldering and brazing used in the heating, air conditioning, refrigeration industry.	<b>3 1 4 0 0</b> Voc/Tech	<b>HACR463</b> <b>Computer Load Calculations</b> 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. <i>Prerequisite:</i> <b>HACR461</b>	<b>2 1 2 0 0</b> Voc/Tech

\*\* 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

**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 terminology will be covered, along with skills needed to make simple scaled drawings.

**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.)

**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.

**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.

**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.

**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.

**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.

**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.

# Course Descriptions

**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) certification.

**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.

**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.

**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.

**HNR5100** 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*

**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, entrees, 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 entrees 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*



# Course Descriptions

**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*

**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.

# Course Descriptions

<b>HUMS213</b> <b>Pract: Chemical Depend Counsel I</b>	<b>6 0 0 0 27</b> <b>Open</b>	<b>ITNA310</b> <b>Intro to CISCO Networking I</b>	<b>4 2 4 0 0</b> <b>Voc/Tech</b>	<b>JNAD121</b> <b>Basic Reporting Principles</b>	<b>3 3 0 0 0</b> <b>Open</b>	<b>LEGA248</b> <b>Real Estate Law</b>	<b>3 3 0 0 0</b> <b>Open</b>
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		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		Designed to provide students with experiences in gathering, organizing, and writing news stories.		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	
<b>HUMS214</b> <b>Pract: Chemical Depend Counsel II</b>	<b>3 0 0 0 12</b> <b>Open</b>	<b>ITNA320</b> <b>Advanced CISCO Networking II</b>	<b>3 2 2 0 0</b> <b>Voc/Tech</b>	<b>JNAD123</b> <b>Publications Production</b>	<b>3 1 4 0 0</b> <b>Open</b>	<b>LEGA249</b> <b>Probate Procedure</b>	<b>3 3 0 0 0</b> <b>Open</b>
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		Includes network standards, LANs, WANs, OSI models, routers, router programming, ethernet and IP protocol addressing, and decision making and problem solving techniques. Prerequisite: ELHT310		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.		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	
<b>HUMS216</b> <b>Survey of Addictive Disease</b>	<b>3 3 0 0 0</b> <b>Open</b>	<b>ITNA330</b> <b>Network Applications</b>	<b>4 4 0 0 0</b> <b>Voc/Tech</b>	<b>JNAD125</b> <b>Principles of Advertising</b>	<b>3 3 0 0 0</b> <b>Open</b>	<b>LEGA250</b> <b>Legal Internship &amp; Ethics</b>	<b>4 1 0 0 15</b> <b>Open</b>
A historical and theoretical background to current concepts of addiction. A variety of addictive behaviors are examined with special focus on psychoactive drug dependency.		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		Course explores advertising as a tool and socioeconomic force.		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. (PIF) Prerequisite: Minimum of "C" in all LEGA courses & complete minimum 8 LEGA classes	
<b>HUMS217</b> <b>Psychosocial Rehabilitation</b>	<b>3 3 0 0 0</b> <b>Open</b>	<b>ITNA332</b> <b>Network Applications Lab</b>	<b>2 0 4 0 0</b> <b>Voc/Tech</b>	<b>LEGA240</b> <b>Introduction to Law</b>	<b>3 3 0 0 0</b> <b>Open</b>	<b>LEGA251</b> <b>Wills, Estate Planning &amp; Taxation</b>	<b>3 3 0 0 0</b> <b>Open</b>
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.		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		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.		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	
<b>ITAL101</b> <b>Elementary Italian I</b>	<b>4 4 0 0 0</b> <b>Core</b>	<b>JAPN101</b> <b>Elementary Japanese I</b>	<b>4 4 0 0 0</b> <b>Core</b>	<b>LEGA242</b> <b>Torts &amp; Litigation I</b>	<b>3 3 0 0 0</b> <b>Open</b>	<b>LEGA252</b> <b>Administrative Practice</b>	<b>3 3 0 0 0</b> <b>Open</b>
Development of the basic skills of understanding, speaking, reading, and writing Italian. Grammar analysis, classroom conversational practice, and some exploration of the Italian culture.		Development of the basic skills of understanding, speaking, reading, and writing Japanese. Grammar analysis, classroom conversational practice, and some exploration of the Japanese culture.		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		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	
<b>ITAL102</b> <b>Elementary Italian II</b>	<b>4 4 0 0 0</b> <b>Core</b>	<b>JAPN102</b> <b>Elementary Japanese II</b>	<b>4 4 0 0 0</b> <b>Core</b>	<b>LEGA243</b> <b>Torts &amp; Litigation II</b>	<b>3 3 0 0 0</b> <b>Open</b>	<b>LEGA254</b> <b>Evidence: Theory &amp; Practice</b>	<b>3 3 0 0 0</b> <b>Open</b>
Continued practice of the four basic skills and grammar analysis. Introduction of short prose selections with conversational emphasis. Prerequisite: ITAL101 or instructor permission		Continued practice of the four basic skills and grammar analysis. Introduction of short prose selections with conversational emphasis. Prerequisite: JAPN101 or instructor permission		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		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	
<b>ITAL103</b> <b>Intermediate Italian I</b>	<b>4 4 0 0 0</b> <b>Core</b>	<b>JAPN103</b> <b>Intermediate Japanese I</b>	<b>4 4 0 0 0</b> <b>Core</b>	<b>LEGA244</b> <b>Family Law</b>	<b>3 3 0 0 0</b> <b>Open</b>	<b>LEGA256</b> <b>Debtor/Creditor Law</b>	<b>3 3 0 0 0</b> <b>Open</b>
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		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		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		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	
<b>ITAL104</b> <b>Elementary Italian II</b>	<b>4 4 0 0 0</b> <b>Core</b>	<b>JAPN104</b> <b>Elementary Japanese II</b>	<b>4 4 0 0 0</b> <b>Core</b>	<b>LEGA246</b> <b>Business &amp; Corporate Law I</b>	<b>3 3 0 0 0</b> <b>Open</b>	<b>LEGA258</b> <b>Computerized Legal Research</b>	<b>1 1 0 0 0</b> <b>Open</b>
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		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		Study of fundamentals of law of contracts, uniform commercial code and rights of creditors in transactions.		Introduction to computer assisted legal research. Training in legal research search strategies using both the Lexis and Westlaw systems. Prerequisite: LEGA260	
<b>JNAD120</b> <b>Intro to Mass Communication</b>	<b>3 3 0 0 0</b> <b>Open</b>	<b>JNAD120</b> <b>Intro to Mass Communication</b>	<b>3 3 0 0 0</b> <b>Open</b>	<b>LEGA247</b> <b>Business &amp; Corporate Law II</b>	<b>3 3 0 0 0</b> <b>Open</b>		
An introduction to mass communication in a global market place. Emphasizes print and electronic media, advertising and public relations, ethics and new technology.		An introduction to mass communication in a global market place. Emphasizes print and electronic media, advertising and public relations, ethics and new technology.		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			

\*\* 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

**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.

**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 critical survey of speculative fiction.

Primarily, short literacy works are used to examine basic issues and themes pertaining to humankind.

**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 writers, primarily of the twentieth century. A broad range of female authors from a variety of cultural and ethnic groups is presented.

**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 equivalents 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*

# Course Descriptions

<b>MCSE305</b> <b>Implementing Network Infrastructure</b> 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. <i>Prerequisite: ITNA320, 330, 332</i>	<b>3 3 0 0 0</b> <b>Voc/Tech</b>	<b>MCSE330</b> <b>Internetworking MS TCP/IP</b> This course covers the current curriculum in Microsoft courses for Internetworking TCP/IP. For more information contact the Advanced Technology Center or <a href="http://www.dmacc.edu">www.dmacc.edu</a> (ITNA program) <i>Prerequisite: MCSE310</i>	<b>3 3 0 0 0</b> <b>Voc/Tech</b>	<b>MCSE375</b> <b>Implementing an SQL Database</b> This course covers the current curriculum for implementing a database in Microsoft SQL Server. For more information contact the Advanced Technology Center or <a href="http://www.dmacc.edu">www.dmacc.edu</a> (ITNA program) <i>Prerequisite: MCSE305, 310, 320</i>	<b>3 3 0 0 0</b> <b>Voc/Tech</b>	<b>MEDA471</b> <b>Human Body-Health &amp; Disease II</b> The study of the body systems is completed. Prerequisite: Grade of "C" or better in MEDA461	<b>4 4 0 0 0</b> <b>Voc/Tech</b>
<b>MCSE310</b> <b>MS Windows Workstation and Server</b> 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	<b>5 2 6 0 0</b> <b>Voc/Tech</b>	<b>MCSE335</b> <b>Supporting MS Windows 95</b> This course covers the current curriculum in Microsoft Windows 95. For more information contact the Advanced Technology Center or <a href="http://www.dmacc.edu">www.dmacc.edu</a> (ITNA program) <i>Prerequisite: MCSE310</i>	<b>3 3 0 0 0</b> <b>Voc/Tech</b>	<b>MCSE380</b> <b>MS SQL System Administration</b> This course covers the current curriculum for System Administration on Microsoft SQL Server. For more information contact the Advanced Technology Center or <a href="http://www.dmacc.edu">www.dmacc.edu</a> (ITNA program) <i>Prerequisite: MCSE375</i>	<b>3 3 0 0 0</b> <b>Voc/Tech</b>	<b>MEDA472</b> <b>Diagnostic Radiography I</b> 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. <i>Prerequisite: MEDA464</i>	<b>2 2 0 0 0</b> <b>Voc/Tech</b>
<b>MCSE312</b> <b>Designing MS Directory Services</b> This course covers the current curriculum for designing MS directory services. For more information contact the Advanced Technology Center or <a href="http://www.dmacc.edu">www.dmacc.edu</a> (ITNA program) <i>Corequisite: MCSE305, 310, 320</i>	<b>2 2 0 0 0</b> <b>Voc/Tech</b>	<b>MCSE340</b> <b>Microsoft Exchange Server</b> This course covers the current curriculum in the Microsoft Exchange Server series. For more information contact the Advanced Technology Center or <a href="http://www.dmacc.edu">www.dmacc.edu</a> (ITNA program) <i>Prerequisite: MCSE310</i>	<b>4 3 2 0 0</b> <b>Voc/Tech</b>	<b>MEDA461</b> <b>Human Body-Health &amp; Disease I</b> 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.	<b>4 4 0 0 0</b> <b>Voc/Tech</b>	<b>MEDA473</b> <b>Medical Office Management II</b> 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. <i>Prerequisite: Grade of "C" or better in MEDA466</i>	<b>4 3 2 0 0</b> <b>Voc/Tech</b>
<b>MCSE314</b> <b>Designing Security for MS Network</b> This course covers the current curriculum for Designing Security for an MS Network. For more information contact the Advanced Technology Center or <a href="http://www.dmacc.edu">www.dmacc.edu</a> (ITNA program) <i>Corequisite: MCSE305, 310, 320</i>	<b>2 2 0 0 0</b> <b>Voc/Tech</b>	<b>MCSE345</b> <b>Supporting MS Windows 9.X</b> This course covers the current curriculum in Microsoft Windows 98. For more information contact the Advanced Technology Center or <a href="http://www.dmacc.edu">www.dmacc.edu</a> (ITNA program) <i>Corequisite: MCSE305, 310, 320</i>	<b>3 3 0 0 0</b> <b>Voc/Tech</b>	<b>MEDA462</b> <b>Medical Terminology</b> 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.	<b>1 0 2 0 0</b> <b>Voc/Tech</b>	<b>MEDA474</b> <b>Medical Laboratory Procedures II</b> 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. <i>Prerequisite: Grade of "C" or better in MEDA466</i>	<b>3 2 2 0 0</b> <b>Voc/Tech</b>
<b>MCSE316</b> <b>Designing MS Net Infrastructure</b> This course covers the current curriculum for Designing the MS Network Infrastructure. For more information contact the Advanced Technology Center or <a href="http://www.dmacc.edu">www.dmacc.edu</a> (ITNA program) <i>Corequisite: MCSE305, 310, 320</i>	<b>2 2 0 0 0</b> <b>Voc/Tech</b>	<b>MCSE350</b> <b>Supporting MS SNA Server</b> This course covers the current curriculum in Supporting Microsoft SNA Server Operation. For more information contact the Advanced Technology Center or <a href="http://www.dmacc.edu">www.dmacc.edu</a> (ITNA program) <i>Prerequisite: MCSE310</i>	<b>3 3 0 0 0</b> <b>Voc/Tech</b>	<b>MEDA464</b> <b>Medical Laboratory Procedures I</b> 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. <i>Corequisite: MEDA465</i>	<b>4 3 2 0 0</b> <b>Voc/Tech</b>	<b>MEDA475</b> <b>Medical Office Procedures II</b> 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. <i>Prerequisite: Grade "C" or better in MEDA465; Corequisite: MEDA474</i>	<b>3 2 2 0 0</b> <b>Voc/Tech</b>
<b>MCSE318</b> <b>Upgrading from WIN NT 4.0</b> This course covers the current curriculum for upgrading to the newest version of Windows Workstation/Server software from WIN NT 4.0. For more information contact the Advanced Technology Center or <a href="http://www.dmacc.edu">www.dmacc.edu</a> (ITNA program) <i>Corequisite: MCSE305, 310, 320</i>	<b>3 3 0 0 0</b> <b>Voc/Tech</b>	<b>MCSE355</b> <b>MS Systems Management Server</b> This course covers the current curriculum in administering and deploying the Microsoft Systems Management Server. For more information contact the Advanced Technology Center or <a href="http://www.dmacc.edu">www.dmacc.edu</a> (ITNA program) <i>Prerequisite: MCSE310</i>	<b>4 3 2 0 0</b> <b>Voc/Tech</b>	<b>MEDA465</b> <b>Medical Office Procedures I</b> 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. <i>Corequisite: MEDA464</i>	<b>3 2 2 0 0</b> <b>Voc/Tech</b>	<b>MEDA480</b> <b>Professional Development III</b> 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. <i>Corequisite: MEDA485</i>	<b>1 0 2 0 0</b> <b>Voc/Tech</b>
<b>MCSE320</b> <b>Implementing Directory Service</b> This course concentrates on the specifics of active directory administration. Includes setting up, maintaining and administering the active directory services of current windows server products. <i>Prerequisite: ITNA320, 330, 332</i>	<b>3 2 2 0 0</b> <b>Voc/Tech</b>	<b>MCSE360</b> <b>MS Internet Information Server</b> This course covers the current curriculum for creating and managing a web server. For more information contact the Advanced Technology Center or <a href="http://www.dmacc.edu">www.dmacc.edu</a> (ITNA program) <i>Prerequisite: MCSE350</i>	<b>2 2 0 0 0</b> <b>Voc/Tech</b>	<b>MEDA466</b> <b>Medical Office Management I</b> 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.	<b>2 1 2 0 0</b> <b>Voc/Tech</b>	<b>MEDA482</b> <b>Diagnostic Radiography II</b> A continuation of Diagnostic Radiology I with emphasis on evaluation of films exposed by the student under supervision in a physician's office. <i>Prerequisite: Grade of "C" or better in MEDA472 Corequisite: MEDA485</i>	<b>2 2 0 0 0</b> <b>Voc/Tech</b>
<b>MCSE322</b> <b>Design/Implement Data Warehouse</b> This course covers the current curriculum for Designing and Implementing MS Data Warehouse. For more information contact the Advanced Technology Center or <a href="http://www.dmacc.edu">www.dmacc.edu</a> (ITNA program) <i>Prerequisite: MCSE310</i>	<b>3 3 0 0 0</b> <b>Voc/Tech</b>	<b>MCSE365</b> <b>Microsoft Proxy Server</b> This course covers the current curriculum for MS Proxy Server. For more information contact the Advanced Technology Center or <a href="http://www.dmacc.edu">www.dmacc.edu</a> (ITNA program) <i>Prerequisite: MCSE360</i>	<b>1 1 0 0 0</b> <b>Voc/Tech</b>	<b>MEDA467</b> <b>Professional Development I</b> Emphasizes professional opportunities and responsibilities of the Medical Assistant. Medical specialties 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.	<b>3 3 0 0 0</b> <b>Voc/Tech</b>		
		<b>MCSE370</b> <b>Implementing MS Internet Explorer</b> This course covers the current curriculum for implementing MS Internet Explorer. For more information contact the Advanced Technology Center or <a href="http://www.dmacc.edu">www.dmacc.edu</a> (ITNA program) <i>Prerequisite: MCSE310</i>	<b>1 1 0 0 0</b> <b>Voc/Tech</b>				



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**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.

**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 experience.  
*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.

# Course Descriptions

<b>MILL444</b> <b>Advanced Equipment Techniques</b> This course will provide the students with maintenance experience and advanced machining skills. <i>Prerequisite:</i> MILL440, 441, 442, 443	<b>3 2 2 0 0</b> Voc/Tech	<b>MKTG231</b> <b>Fashion Analysis &amp; Design</b> 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.	<b>3 3 0 0 0</b> Voc/Tech	<b>MKTG321</b> <b>Retail Management I</b> Course examines developments in retailing, organization of retail institutions, merchandise handling processes, understanding retail customers, and future directions in retailing.	<b>3 3 0 0 0</b> Voc/Tech	<b>MLTS411</b> <b>Hematology</b> A review of basic procedures, followed by a study of normal and abnormal blood smears as they relate to anemia and leukemia. Hematology instrumentation, quality control and coagulation are studied. <i>Prerequisite:</i> MLTS400	<b>6 4 4 0 0</b> Open
<b>MILL445</b> <b>32 Millimeter Cabinet Techniques</b> This course is an introduction to the rationale of cabinet making and millwork. <i>Prerequisite:</i> MILL440, 441, 442, 443	<b>3 2 2 0 0</b> Voc/Tech	<b>MKTG232</b> <b>Advanced Selling Strategies</b> 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. <i>Prerequisite:</i> MKTG103	<b>3 3 0 0 0</b> Voc/Tech	<b>MKTG322</b> <b>Retail Management II</b> A problem-solving approach to the operating principles and methods in the retail field. Management decision making is emphasized. <i>Prerequisite:</i> MKTG321	<b>3 3 0 0 0</b> Voc/Tech	<b>MLTS422</b> <b>Clinical Chemistry</b> Study and analysis of electrolytes, protein, lipids, enzymes, hormones, drugs and kidney and liver function. Test results related to the patient's condition. <i>Prerequisite:</i> MLTS400	<b>8 6 4 0 0</b> Open
<b>MILL446</b> <b>Millwork Techniques</b> This course is an introduction to the initial steps of applying various millwork techniques to projects. <i>Prerequisite:</i> MILL440, 441, 442, 443	<b>3 2 2 0 0</b> Voc/Tech	<b>MKTG233</b> <b>Design Concepts</b> 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.	<b>3 3 0 0 0</b> Voc/Tech	<b>MKTG323</b> <b>Visual Merchandising/Design</b> 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.	<b>2 1 2 0 0</b> Voc/Tech	<b>MLTS431</b> <b>Clinical Microbiology</b> A study of clinically important microorganisms. Techniques used to isolate and identify pathogenic bacteria, parasites and fungus. <i>Prerequisite:</i> BIOL132	<b>6 4 4 0 0</b> Open
<b>MILL447</b> <b>Introduction to Application</b> This course will allow students to begin combining their knowledge of the previous courses in Architectural Millwork to produce mock up projects. <i>Prerequisite:</i> MILL440, 441, 442, 443	<b>3 2 2 0 0</b> Voc/Tech	<b>MKTG234</b> <b>Interior Design Analysis</b> 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.	<b>3 3 0 0 0</b> Voc/Tech	<b>MKTG324</b> <b>Fashion Buying</b> 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.	<b>3 3 0 0 0</b> Voc/Tech	<b>MLTS442</b> <b>Immunohematology</b> Principles of immunohematology with the practices of blood banking are presented. ABO and RH typing and pre-transfusion testing procedures are performed. Blood group antigens and antibodies are studied. <i>Prerequisite:</i> MLTS411	<b>5 3 4 0 0</b> Open
<b>MILL448</b> <b>Advanced Millwork Application I</b> This course will combine the skills learned from the previous courses to begin producing completed projects. <i>Prerequisite:</i> MILL444, 445, 446, 447	<b>5 1 8 0 0</b> Voc/Tech	<b>MKTG235</b> <b>Interior Design Planning</b> 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. <i>Prerequisite:</i> MKTG234	<b>3 3 0 0 0</b> Voc/Tech	<b>MKTG331</b> <b>Fashion Coordination/Promotion</b> 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. <i>Prerequisite:</i> MKTG231	<b>3 3 0 0 0</b> Voc/Tech	<b>MLTS445</b> <b>Clinical Practicum I</b> Students report to a local hospital to join the phlebotomy team to practice patient approach and to draw blood specimens. <i>Prerequisite:</i> MLTS400	<b>2 0 0 0 8</b> Open
<b>MILL449</b> <b>Advanced Millwork Application II</b> This course will combine the students' previous courses to produce a completed project from beginning to installation. <i>Prerequisite:</i> MILL448	<b>5 1 8 0 0</b> Voc/Tech	<b>MKTG236</b> <b>Internet Marketing</b> 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.	<b>3 3 0 0 0</b> Voc/Tech	<b>MKTG332</b> <b>Textiles</b> 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.	<b>3 3 0 0 0</b> Voc/Tech	<b>MLTS455</b> <b>Clinical Practicum II</b> 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. <i>Prerequisite:</i> Completion of first four terms of MLTS curriculum; MLTS442	<b>12 0 0 0 48</b> Open
<b>MKTG102</b> <b>Principles of Marketing</b> 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.	<b>3 3 0 0 0</b> General	<b>MKTG305</b> <b>Internet Marketing</b> 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.	<b>3 3 0 0 0</b> Voc/Tech	<b>MKTG333</b> <b>Textiles</b> 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.	<b>3 3 0 0 0</b> Voc/Tech	<b>MLTS460</b> <b>Clinical Seminar</b> Students share their experience in the clinical area and present topics of interest. Case studies are presented for knowledge and review. <i>Corequisite:</i> MLTS455	<b>1 1 0 0 0</b> Open
<b>MKTG103</b> <b>Principles of Selling</b> 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.	<b>3 3 0 0 0</b> Open	<b>MKTG306</b> <b>Sports/Entertainment Marketing</b> 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.)	<b>3 3 0 0 0</b> Voc/Tech	<b>MKTG334</b> <b>Textiles</b> 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.	<b>3 3 0 0 0</b> Voc/Tech	<b>MLTS461</b> <b>Medical Laboratory Review</b> Medical laboratory subjects are reviewed; a mock registry examination is given. <i>Corequisite:</i> MLTS463	<b>1 1 0 0 0</b> Open
<b>MKTG104</b> <b>Advertising/Sales Promotion</b> 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.	<b>3 3 0 0 0</b> Open	<b>MKTG307</b> <b>Business Marketing</b> Presents functional methods of business-to-business marketing. Examines all forms of wholesaler service and manufacturer type marketing activities.	<b>3 3 0 0 0</b> Open	<b>MKTG335</b> <b>Textiles</b> 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.	<b>3 3 0 0 0</b> Voc/Tech	<b>MLTS463</b> <b>Professional Development</b> The student studies human relations, job seeking skills, continuing education opportunities, legal responsibilities, and professional organizations. <i>Corequisite:</i> MLTS461	<b>1 1 0 0 0</b> Open
<b>MKTG211</b> <b>Business Marketing</b> Presents functional methods of business-to-business marketing. Examines all forms of wholesaler service and manufacturer type marketing activities.	<b>3 3 0 0 0</b> Open	<b>MKTG308</b> <b>Business Marketing</b> Presents functional methods of business-to-business marketing. Examines all forms of wholesaler service and manufacturer type marketing activities.	<b>3 3 0 0 0</b> Open	<b>MKTG336</b> <b>Textiles</b> 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.	<b>3 3 0 0 0</b> Voc/Tech	<b>MUSI130</b> <b>Music Appreciation</b> 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.	<b>3 3 0 0 0</b> Core

\*\* 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

**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*

**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 as 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 low skilled facilities. Meets OBRA87 standards.

**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.

# Course Descriptions

<b>NURS224</b> <b>Health: Birth to Middle Adult</b> 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. <i>Prerequisite: NURS221, 222, 223, PSCH101, 103</i>	<b>5 3 0 6 0</b> Open	<b>OFFC222</b> <b>Medical Terminology II</b> Continues to build a medical language vocabulary by studying body systems such as musculoskeletal, endocrine, nervous, and integumentary systems. <i>Prerequisite: OFFC221</i>	<b>3 3 0 0 0</b> Voc/Tech	<b>OFFC325</b> <b>Medical Computer Applications</b> 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.	<b>3 2 2 0 0</b> Voc/Tech	<b>OFFC350</b> <b>PowerPoint</b> 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.	<b>1 0 2 0 0</b> Voc/Tech
<b>NURS225</b> <b>Older Adult Health</b> 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. <i>Prerequisite: NURS221, 222, 223, PSCH101, 103</i>	<b>4 2 0 6 0</b> Open	<b>OFFC223</b> <b>Medical Transcription III</b> 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. <i>Prerequisite: OFFC431</i>	<b>3 2 2 0 0</b> Voc/Tech	<b>OFFC326</b> <b>Medical Insurance</b> 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. <i>Prerequisite: OFFC221</i>	<b>3 3 0 0 0</b> Voc/Tech	<b>OFFC351</b> <b>Access</b> Introduction to Access database management system. Topics include creating, editing, querying, using forms, reports, customizing and managing data and files.	<b>1 0 2 0 0</b> Voc/Tech
<b>NURS232</b> <b>Passport to ADN Nursing</b> 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. <i>Prerequisite: Acceptance into Advanced Standing Program</i>	<b>2 1 2 0 0</b> Open	<b>OFFC304</b> <b>Legal Typing</b> Preparation of a wide range of legal documents with continuing emphasis on increasing production rates. <i>Prerequisite: OFFC 305</i>	<b>3 2 2 0 0</b> Voc/Tech	<b>OFFC328</b> <b>Internship for Medical Secretaries</b> Work in a medical facility to learn the many office procedures and policies as they exist in a job situation. <i>(P/F) Prerequisite: OFFC222, 320, 431, 433</i>	<b>4 0 0 0 16</b> Voc/Tech	<b>OFFC352</b> <b>CPS Review Sec. I-Economics &amp; Law Voc/Tech</b> 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.	<b>1 1 0 0 0</b>
<b>OFFC204</b> <b>Office Procedures</b> 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. <i>Prerequisite: OFFC205, 305</i>	<b>3 2 2 0 0</b> Voc/Tech	<b>OFFC305</b> <b>Word Processing Skill Dev I</b> 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	<b>4 2 4 0 0</b> Voc/Tech	<b>OFFC329</b> <b>Keyboarding I</b> Basic instruction on a personal computer to learn the touch system for the alphabetic keyboard, number keyboard, and ten-key numeric pad.	<b>1 0 2 0 0</b> Voc/Tech	<b>OFFC353</b> <b>CPS Review Sec. II - Office Systems Voc/Tech</b> 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.	<b>1 1 0 0 0</b>
<b>OFFC205</b> <b>Business English</b> The fundamentals of proofreading grammar, spelling, punctuation, word usage, capitalization, abbreviations, and number usage.	<b>3 3 0 0 0</b> Voc/Tech	<b>OFFC306</b> <b>Word Processing Skill Dev II</b> 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. <i>Prerequisite: OFFC305 or 325</i>	<b>3 2 2 0 0</b> Voc/Tech	<b>OFFC331</b> <b>Legal Terminology</b> Provides training in spelling, defining and pronouncing terms common in the legal field.	<b>3 3 0 0 0</b> Voc/Tech	<b>OFFC354</b> <b>CPS Review Sec. III - Management Voc/Tech</b> 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.	<b>1 1 0 0 0</b>
<b>OFFC206</b> <b>Business Correspondence Tech</b> 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. <i>Prerequisite: OFFC205, 355</i>	<b>3 3 0 0 0</b> Voc/Tech	<b>OFFC312</b> <b>Data Entry</b> 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	<b>3 0 6 0 0</b> Voc/Tech	<b>OFFC332</b> <b>Legal Office Transcription</b> Designed to prepare the student to transcribe legal dictation using realistic office-style dictation. The correct formatting for various legal documents will be incorporated. Emphasis will be on English skills, formatting decisions and the application of reference materials to produce mailable business documents. <i>Prerequisite: OFFC205, 306, 331</i>	<b>3 2 2 0 0</b> Voc/Tech	<b>OFFC355</b> <b>Computer Applications</b> 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.	<b>3 2 2 0 0</b> Voc/Tech
<b>OFFC207</b> <b>Administrative Office Applications</b> 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. <i>Prerequisite: OFFC204, 356</i>	<b>3 2 2 0 0</b> Voc/Tech	<b>OFFC320</b> <b>Human Body-Health and Disease</b> 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. <i>Prerequisite: OFFC221</i>	<b>3 3 0 0 0</b> Voc/Tech	<b>OFFC333</b> <b>Citations &amp; Legal Procedure</b> Study of proper citation forms used in legal writing. Students develop a working knowledge of universally accepted methods of referring to federal, state and local law including statutes, cases and administrative materials. Procedures and sequencing of document filing discussed. <i>Prerequisite: OFFC331</i>	<b>3 3 0 0 0</b> Voc/Tech	<b>OFFC356</b> <b>Advanced Computer Applications</b> 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. <i>Prerequisite: OFFC355 or COMS181</i>	<b>3 2 2 0 0</b> Voc/Tech
<b>OFFC221</b> <b>Medical Terminology I</b> Builds a medical vocabulary through an understanding of anatomic roots for words denoting body structures, prefixes, suffixes, and body functions.	<b>3 3 0 0 0</b> Voc/Tech	<b>OFFC324</b> <b>Office Calculators</b> 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.	<b>1 0 2 0 0</b> Voc/Tech	<b>OFFC334</b> <b>Legal Office Overview</b> An overview of substantive areas of law and applicable procedure. Topics include criminal practice, domestic relations, income tax, probate, wills, trust and estate planning, real estate, business organization and torts. <i>Prerequisite: OFFC331</i>	<b>3 3 0 0 0</b> Voc/Tech	<b>OFFC357</b> <b>Emerging Technologies</b> 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.	<b>3 3 0 0 0</b> Voc/Tech
				<b>OFFC349</b> <b>WORD</b> Hands-on instruction using Word in the Windows environment. Special features include working with windows, speller, Thesaurus, merge and sort.	<b>1 0 2 0 0</b> Voc/Tech		

# Course Descriptions

**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.

**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*

**OFFC421** 4 0 0 0 16  
**Legal Internship** Voc/Tech  
 Part-time placement in a legal environment working with an employer and under the supervision of legal teaching coordinators.  
*(P/F) Prerequisite: OFFC306, COOP220*

**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 well 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.

**PHLE310** 4 2 2 0 6  
**Phlebotomy with Practicum** Voc/Tech  
 Student learn to perform techniques of blood collection: venipuncture, syringe draws and finger puncture. Practicum takes place at a local hospital with phlebotomy staff, where students draw blood from patients. Applicable communication skills, terminology, ethics and safety precautions are taught.

**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*

**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.

# Course Descriptions

**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 Adjunct\*\*\*** 2 2 0 0 0  
**Personal Wellness** General

This course will aid in the enhancement of knowledge, skills and attitudes necessary to promote positive life-long wellness decisions. Students will look at the physical, social, intellectual, emotional, occupational, and spiritual components of wellness.

**PHYL106** 4 3 2 0 0  
**Survey of Physical Science** 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.

**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.

**READ087\*\*** 3 3 0 0 0  
**Developmental 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  
**Developmental Reading II** Adaptor

For students who want to improve reading and reasoning skills for college work. Reading material includes newspaper and magazine articles as well as textbook passages. Emphasis is on strengthening comprehension and vocabulary. *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*

\*\* 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

**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.

**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 hack 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 contaminants such as dusts, vapors, gases and fibers. Various body systems affected by these contaminants 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.



# Course Descriptions

## 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 Polar 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.

## 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*

## 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 1 1 0 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 Lab 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*



# Course Descriptions

**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.

**TOOL490** 7 0 14 0 0  
**Machine Tool Operations Lab III** Voc/Tech  
Practical experience with surface grinders. Writing programs for and running CNC Mill and CNC Lathe.  
*Prerequisite: TOOL487; TOOL491 must be taken concurrently with or prior to this course.*

**TOOL491** 4 4 0 0 0  
**Machine Tool Operations III** Voc/Tech  
Theoretical explanation of procedures in surface grinding. CNC lathe and milling and manual programming of CNC mill.  
*Prerequisite: TOOL485*

**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*

**WELD460** 3 2 0 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 arounds, 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*

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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
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 (IVTGT)\*
- 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](http://www.dmacc.edu/financial.htm).

**Note: The FAFSA is a separate application from the DMACC Admission application.**

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:

 -  - 

Are you home schooled? Yes  No

Did you have a high school diploma? Yes  No   
Graduation Date:

 -  - 

Have you earned the GED? Yes  No   
(High School Equivalency Test)

 -  - 

If you have received your high school diploma from DMACC or another community college enter the name of the college in the blank above.

Previous College(s)

LIST ALL COLLEGES (INCLUDING DMACC) PREVIOUSLY ATTENDED FOR CREDIT COURSES IN ORDER OF ATTENDANCE		FROM	TO	TYPE OF
COLLEGE NAME	COLLEGE CITY, STATE	MONTH/YEAR	MONTH/YEAR	DEGREE EARNED

**+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 discriminate on the basis of race, color, national origin, creed, religion, gender, age, disability or, to the extent covered by law veteran status. Any inquires may be directed to the EEO/AA Coordinator at (515) 964-6408. 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.



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](http://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

Boone

Carroll

Newton Polytechnic

Urban/Des Moines

West